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Faisal Bari **Nazish Afraz**

Nadia Mukhtar **Usman Khan**

Syed Turab Hussain **Umbreen Fatima**

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List of Acronyms

ADC	Automotive Development Committee
AFTA	ASEAN Free Trade Agreement
AIDB	Auto Industry Development Board
AIDC	Auto Industry Development Committee
AIDP	Auto Industry Development Plan
AMP	Auto Mission Plan
APM	Auto parts manufacturers
APMA	Automotive Parts Manufacturers' Association
APTTA	Afghanistan Pakistan Transit Trade Agreement
ARAI	Automotive Research Association of India
ASDC	Automotive Skill Development Council
ASTM	American Standards
ATDF	Auto Component Technology Development Fund
BIS	Bureau of Indian Standards
CAGR	Compound annual growth rate
CARS	Central Asian Republics
CASA-1000	Central Asia- South Asia-1000 power project
CBU	Completely Built Unit
CCP	Competition Commission of Pakistan
CGO	Customs General Order
CIF	Cost insurance and freight
CKD	Completely Knocked Down
CMI	Census of Manufacturing Industries
CPEC	China Pakistan Economic Corridor
ECC	Economic Coordination Committee
EDB	Engineering Development Board
EFS	Export Finance Scheme
EPO	Export Policy Order
EPZ	Export Processing Zones
ERP	Effective Rate of Protection
EXIM	Export Import (Bank)
FBR	Federal Board of Revenue
FDI	Foreign direct investment
FED	Federal Excise Duty
FOB	Freight On Board
FTA	Free Trade Agreement
FY	Financial Year
GD	Goods Declaration
GOP	Government of Pakistan
GVC	Global Value Chain
HEV	Hybrid Electric Vehicle
HHI	Herfindahl-Hirschman Index
HP	Horsepower
HS	Harmonized system

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HSL	Highly Sensitive List
I-0	Input output
IDA	Initial Depreciation Allowance
ILAC	International Laboratory Accreditation Cooperation
IPO	Import Policy order
ISDP	Industry Specific Deletion Program
ISI	Import Substitution Industrialization
ISO	International Organization for Standardization
ITP	Import Trade price
JAMA	Japan Automobile Manufacturers Association
JIS	Japanese International Standards
JV	Joint Venture
L/C	Letters of credit
LCR	Local content requirement
LPI	Logistics Performance Index
LTFF	Long-term Financing Facility
MFN	Most Favored Nation
MIGA	Multilateral Investment Guarantee Agency
MKD	Medium Knock Down
MoF	Ministry of Finance
MOFCOM	Ministry of Commerce
MoIP	Ministry of Industry and Production
MOP	Margin of Preference
MoST	Ministry of Science and Technology
MVR	Motor Vehicle Rules
NDMA	Non-Discriminatory Market Access
NDRC	National Developmeny and Reform Commission
NEQS	National Environmental Quality Standards
NIP	National Industrial Park
NOC	No Objection Certificate
NRI	Non-Resident Indian
NTB	Non-Tariff Barrier
NTC	National Tariff Commission
NTM	Non-Tariff Measure
OECD	Organization for Economic Cooperation and Development
OEM	Original Equipment Manufacturer
OICA	Organisation Internationale des Constructeurs d'Automobiles
OTRI	Overall Trade Restrictiveness Index
PACO	Pakistan Automotive Corporation
PAII	Productive Asset Investment Incentive
PAMA	Pakistani Automotive Manufacturers Association
PAMADA	Pakistan Automobile Assemblers Dealer Association
PME	Plant, Machinery and Equipment
PPD	Public-Private Sector Dialogue
PPP	Public Private Partnerships
PSDP	Product Specific Deletion Program
PSDP	Public Sector Development Program

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PSQCA	Pakistan Standards and Quality Control Authority
PTA	Preferential Trade Agreements
PTO	Power Take Off
PTC	The Pakistan Tractors Corporation
QCC	Quality Control Center
QR	Quality Restrictions
RC	Revealed Competitiveness
RCA	Revealed Comparative Advantage
RD	Regulatory Duty
ROPS	Roll-over Protection Standards
RTA	Relative Trade Advantage
RXA	Relative Export Advantage
SAARC	The South Asian Association for Regional Cooperation
SAE	Society of Automotive Engineers
SAFTA	South Asian Free Trade Agreement
SAIC	State Administration for Industry and Commerce
SBP	State Bank of Pakistan
SDC	Standards Development Center
SECP	Securities and Exchange Commission of Pakistan
SEZ	Special economic zone
SKD	Semi Knock Down
SPS	Sanitary and Phyto-sanitary Measures
SPV	Special Purpose vehicle
SRO	Statutory Regulatory Orders
SSL	SAFTA Sensitive List
STPF	Strategic Trade Policy Framework
TA	Technology acquisition
TAD	Temporary Admissions Document
TAI	Thailand Automotive Institute
TASF	Technology Acquisition Support Fund
TBS	Tariff Based Scheme
TBT	Technical Barriers to Trade
TIR	Transport Internationaux Routiers
TiVA	Trade in Value-Added
TLP	Tariff Liberalization Program
TR	Transfer of Residence
TRIMS	Trade Related Investment Measures
TSC	Technical Services Center
TTTA	Trilateral transit trade agreement
UNECE	United Nations Economic Commission for Europe
VAT	Value-added Tax
VR	Valuation Ruling
VRDE	Vehicle Research and Development Establishment
WeBoC	Web Based One Custom
WHT	Withholding tax
ZTBL	Zarai Tarqayati Bank Limited

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Executive Summary

Introduction

The auto industry of Pakistan is at a crossroads and policy makers now have two options for catalyzing change in the status quo. They could take the direction of increasing consumer choice by opening imports of cars, thereby letting the domestic auto industry atrophy. Alternatively, they could take the direction of increasing commitment to an auto sector in Pakistan by providing not just continued tariff protection, but adding to it the full complement of supporting policies. The existing system of implementing just the tariff protection part of the AIDP package has proven to be counter-productive, generating rents and discouraging investment and competition at the cost of consumers. Consequently, the status quo of a highly concentrated industry, low market size, low exports and limited consumer choice has prevailed in the automobile market. Even after decades of tariff protection, the Pakistani car industry cannot sustain itself without protection.

At the same time, despite frequent and ad-hoc changes to the policy environment and a poor business climate, the auto sector has managed to create employment and engineering capacity throughout its value chain, and has also been able to tap export markets for motorcycles, tractors and auto parts. Certainly the possibility of the auto industry living up to its' full promise of an engine for national economic growth still exists. The impediments faced by the industry are not insurmountable. No auto industry in the world has been able to achieve competitiveness without a well-articulated vision and a strong set of consistent, long-term government policies to foster it, and Pakistan's example is no different. This report discusses the competitiveness of the industry, the impediments faced and the policies required to shift the trajectory of the auto industry from the infant stage to maturity, such that it delivers competitive products for domestic consumers and high quality jobs in production, fits into global value chains, and fuels export growth.

Overview

Pakistan's auto sector produces 1.7 million motorcycles, 150,000 cars, 50,000 auto rickshaws, 46,000 tractors and over 37,000 commercial vehicles and has 2000 auto parts manufacturers specializing in a range of production technologies. As a whole, the auto sector represents 16 per cent of the manufacturing sector of Pakistan, directly employing 200,000 people.

Policy framework

The industry operates under an obsolete policy framework. A new auto policy was due in 2012 but four years later, it has still not been announced. The last auto policy (2007-2012) was not implemented, with the exception of the first year of the tariff plan. The tariff plan comprises two major components:

- A "cascading structure" of tariffs that starts out highest for CBUs and is lower for inputs to each stage of the value chain. CBUs with larger engine sizes also face higher tariffs. In addition, there are different rates for localized and non-localised parts
- A set of SROs which create exceptions to the tariff structure for hybrid electronic vehicles, used cars, and parts for auto parts manufacturers and OEMs

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The tariff plan is not economically efficient and distorts production incentives. It also increases the vulnerability of the system to lobbying, and increases administrative costs for both government and firms. These administrative costs can be prohibitively high for small producers.

Passenger cars

After a period of sluggish growth, Pakistan has seen a sharp upward trend in the number of locally manufactured cars, registering an increase of approximately 31 per cent between 2013-14 and 2014-15. However, at just above 150,000 the market size is still far below the 500,000 units required for economies of scale.

The passenger car market exhibits a highly concentrated structure. Market share is shared between three OEMs with Japanese principals: Toyota, Honda and Suzuki. While there have been several attempts to enter the market, these have been short-lived.

The cars produced have achieved localization levels between 40 to 75 per cent, depending on the car produced.

Pakistani Toyota and Honda cars are competitively priced compared to China, India and Thailand while Suzuki is priced higher in Pakistan than it is in China and India.

There are several impediments to the growth of the passenger car segment:

- Local demand is well below that required for economies of scale, and domestic as well as regional markets will need to be tapped more effectively to facilitate a self-sustaining passenger car industry. The absence of an attractive leasing market further dampens domestic demand.
- The policy environment is characterized by frequent ad hoc changes, which has been a severe impediment to investment planning in this industry. The automobile industry requires large-scale investments several years prior to the launch of a new model, for which policy stability is crucial.
- The absence of a regulatory body that sets and enforces standards is also a major impediment, as it means that there is no check on vehicles that are not road worthy, except for those engaged in voluntarily by the OEMs.

Motorcycles

The motorcycle segment has seen a massive increase in volume, increasing thirty fold in the last fifteen years. The most important consequences of this have been the achievement of economies of scale, high levels of localization and low prices, which have further fueled expansions in market size. Although there are close to 70 active motorcycle manufacturers/assemblers, the market is heavily segmented between Honda, which produces a higher quality product at a higher price, and the remaining manufacturers, which produce a lower priced product. Despite the large number of manufacturers, market structure remains highly concentrated with volumes shared largely between a handful of players. There are low barriers to entry as the supply chain in non-exclusive and supplies can be bought on credit. However, exit rates are also high, as price competition amongst the lower priced motorcycle assemblers is intense. Another interesting characteristic of the motorcycle market is the ubiquitous presence of the 70 cc motorcycle, which is largely absent elsewhere in the world.

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While Pakistan's motorcycles are competitively priced, Pakistan currently exports just 1.4 per cent of its motorcycles.

The main impediments to growth in the motorcycle market are:

- Poor implementation of domestic standards, and the low quality that consequently prevails in the market.
- Smuggling - although motorcycle volumes are now large enough to benefit from economies of scale and allow technology transfer to the value chain, most of the "Honda clone" assemblers use smuggled Chinese parts. These unregulated imports are typically low price and low quality, which precludes investment by Pakistani auto part manufacturers. This leads additionally to a loss of revenue for the exchequer.
- Import valuation is weight based, with different values depending on country of origin. The determination of rates has been a bone of contention between both types of motorcycle assemblers and the government. It is important that imports be valued correctly and transparently, to ensure a level playing field for the industry
- SROs are a further cause for friction, as they create a disproportionate burden on small assemblers. Frustration with the administrative burden, coupled with the relative ease of smuggling inputs creates a further incentive to smuggle.
- Procedural difficulties and red tape in export clearances
- While PSQCA has set standards for two- and three-wheelers, these are not implemented effectively. This keeps the quality of the product produced low and reduces incentives to innovate and invest. This also affects the ability of firms to export to markets that set minimum quality standards and have stringent emissions requirements

Tractors

The market for tractors is shared largely between two manufacturers – Al Ghazi and Millat, with the remaining few manufacturers accounting for less than 30 per cent of the market share. Localization in tractor production has been the highest of all vehicles manufactured in Pakistan, largely due to the slow changing nature of the Pakistani market. Tractor models have been unaltered for decades, which allows the recovery of fixed investment despite the relatively small volume of sales, as compared the passenger car market where models change every few years.

Tractors in Pakistan are significantly cheaper than in India, with price differentials in the range of 35 – 55 percent (though differences in standards might explain at least part of this differential). Pakistani tractors are priced competitively and are exported informally, after being purchased by middlemen, rather that directly by the manufacturers, particularly to Afghanistan.

There are several impediments faced by tractor manufacturers:

- As with passenger cars, there are no quality or emissions standards in Pakistan. The Pakistani tractor uses 2nd generation technology while globally tractors are now using 7th generation technology. In addition diesel of the grade required for Euro II engines is not currently available, which further decreases the incentive to produce an emissions complaint engine
- One of the major impediments to exporting tractors is the licensing requirement of the principals (Massey Furgussen in the case of Millat and New Holland in the case of Al- Ghazi)

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which permit the Pakistani manufacturer to produce for the local market only. Al Ghazi has recently negotiated a special license for Afghanistan only but otherwise exports cannot to sent directly by the manufacturers

- Export potential also gets affected by infrastructure and logistics issues. Currently tractors are not allowed to go to India through the Wagah-Attari border and must go through seaports only. If allowed by land, Pakistani manufacturers could potentially exploit any price differential within India due to its large size

- Unstable government policies, such as the imposition and changes to General Sales Tax, substantially influence the price of the tractor and affect sales volumes. In addition, unscheduled delays in the implementation of announced schemes means that farmers are holding out for the scheme. This shrinks volumes for the manufacturers in the interim and triggers lay offs and closures throughout the value chain
- An under-developed finance market for farmers also dampens demand

Auto parts

Auto parts manufacturers in Pakistan specialize in a range of production techniques, such as forging, casting, plastic molding and sheet metal. There are two segments of the auto parts market: the value chain of domestic OEMs and the replacement market. In the replacement market, several auto part manufacturers are competitive enough to have established export markets. There are numerous technical assistance agreements with global Tier 2 firms that facilitate technology spillovers to Pakistan, and Pakistani auto parts manufacturers are being able to produce successively more complicated parts as the market size has grown.

However, seen in the context of global value chains, Pakistani auto parts are still in the lower value addition part of the spectrum – manufacturing and assembly, rather than the higher value addition processes such as R&D, innovation and branding. They are also restricted to the value chain of the domestic OEMs, rather than the global value chains for parent OEMs.

Entry into GVCs is an incremental process and the Pakistani auto parts industry is at the inception stage. In order to progress to successful GVC integration there needs to be an attractive business environment and smooth and reliable logistics, which includes physical infrastructure. An important development that is likely to improve Pakistan's logistics and domestic and international connectivity is the planned China Pakistan Economic Corridor (CPEC), which promises transport infrastructure from Kashgar to Gwadar. Proximity to China, an established light engineering base and a good trading relationship with China, could make Pakistan an attractive partner for Chinese firms looking to outsource, particularly in the face of China's rising labor costs.

Pakistan does not have locally developed standards, and the firms follow the standards set by the OEMs internationally. At the moment, since there are only Japanese cars manufactured locally, the suppliers typically conform to Japanese International Standards (JIS)

Sector impediments

- There are substantial issues with under-invoicing and outright smuggling and the market is flooded with low priced parts of unregulated quality. This seriously undermines legal businesses, and since customs channels are circumvented in their entirety, the

government loses out on tariff payments. This severely restricts market size for domestic producers and prevents local firms from achieving economies of scale, and acts as a disincentive to invest in quality production

- Non-availability of electricity and gas are major barriers to achieving greater competitiveness, as the use of diesel generators increase costs
- Lack of financing limits technology acquisition. Imported machinery is typically second hand, discarded by global firms as they move on to new cutting-edge technologies
- Technological innovation is stifled by the federal excise duty that is levied on the royalty and licensing fees that local producers must pay technology providers
- Custom rules and irregularities are a major cause of complaint for both auto parts manufacturers and legal traders. The import tariffs for many goods are calculated by weight, and importers argue that these do not reflect rising production and input costs. Also the rate at which the material is valued is arbitrary and does not reflect international prices.
- Traders report deliberate impediments placed in the way of customs clearance as a means of generating side payments, as customs officials exercise discretionary power. In contrast, informal trade is more reliable and less costly. These transaction costs (including delays) act as a deterrent to formal trade

Regional policy comparison

A comparison of policies across countries that have successful auto sectors shows several common trends. These countries have all pursued active industrial policies, using a variety of consistent instruments such as protection and incentives to encourage local content, investment and transfer of technology. As the auto sector has developed, the level of protection to the auto sector has been reduced in these countries. Using the historical paths of other countries with developed auto sectors to inform Pakistan's policies, a set of consistent policies that provide investment and transfer of technology incentives in a stable policy environment with continued tariff protection would be recommended. It is essential that the full complement of policies be provided to ensure that the auto sector is able to utilize the tariff protection effectively. Without the complementary policies, tariff protection alone is unlikely to allow the auto sector to develop, and would in fact contribute to an uncompetitive market structure with reduced choice and elevated prices for consumers.

Policy recommendations

A cross-cutting set of policy recommendations are as follows

1. Pakistan's auto sector needs a strong vision, which specifies where the auto sector seeks to position itself in terms of vehicle types, volumes, technology acquisition, employment targets, rejection rates and investment. This would be useful in determining support strategies required from the government, in benchmarking progress and in positioning the industry globally.
2. The auto policy needs to be implemented as a comprehensive whole rather than in parts. It would also not be useful to implement certain policies (e.g. enforcing standards) without the requisite investment policies that assist the industry in developing the capacity to produce higher quality products. When implemented partially, as has been done so far, it can actually distort incentives and reduce competition and choice without the associated benefits of market maturity
3. Fitting in a GVC requires smooth and quick movement of goods. With new infrastructural developments such as the CPEC, it will be easier for Pakistan to enter GVCs in China. Policy

makers should focus on negotiating terms within the Pak-China FTA, and remove impediments to provide better opportunities for Pakistani auto parts manufacturers

4. Pakistan currently has a small market for cars, but with a population of 20 million this could easily be expanded in the future. Efforts, such as facilitating finance, should be made to incentivize demand. Taxes also need to be rationalized gradually, to support demand
5. High quality national standards need to be set up for the existing players. Standards are important, as lower quality standards in the vending chain prevent global players from coming to Pakistan. Enforcement of standards would also assist in curbing the substantial smuggling. To prevent industry capture, it is important to seek independent advice and benchmark with auto regulatory bodies in better developed markets
6. Parallel heavy investments for setting up a dedicated auto sector laboratory should be undertaken
7. Auto policy should be medium to long term. The issues of market size, standards, investment policy, and financing are all inter-connected and have a gestation period. Therefore the minimum time frame for the auto policy should be ten years
8. Tariffs should not be used as the main policy instrument. Streamlining tariffs creates efficiency. The objective of the tariff policy should be to bring the tariff variation down, both between products and between types of importers, to a uniform and low level within a pre-announced time frame
9. Tariffs should be reduced to the range of 0-10 per cent for components, assemblies and sub-assemblies. CKD tariffs should be uniform and be phased out in a stakeholder agreed upon schedule of rates, with a maximum tariff of 30 per cent in the next ten years
10. The auto sector is integrally linked to other industries and therefore complementary policies should also be implemented. For example, in order to meet Euro II standards of engine compliance, the quality of fuel suitable for Euro II engines needs to available
11. Policies need to be consistent. Whether in terms of investment incentives or tariffs, policies should be announced in advance, so that there is no uncertainty for the industry
12. There should be more informed consultations with the industry and independent capacity building by the government

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1 Overview of the auto sector

In this chapter, Sections 1.1 and 1.2 describe the historical development of the Pakistani auto industry, and its place in the global auto industry. Section 1.3 discusses the tariff and investment policies as they pertain to the auto industry. Industry standards are discussed in Section 1.4, highlighting the constraints faced by the sector in the export market.

1.1 Auto industry of Pakistan: A brief history

The auto sector is considered the sixth largest manufacturing sector in Pakistan and is therefore of prime importance to the economy of Pakistan.[1] Pakistan's automotive industry started with an automobile plant set up by General Motors in 1949. It built the first assembling plant in Karachi, which started to manufacture semi knocked down (SKD) units of Vauxhall passenger cars and Bedford trucks.[2] Ford products were also assembled at this time by Ali Automobiles, set up by a collaboration of US automakers and Pakistani entrepreneurs, while Haroon Industries was assembling Chrysler's Dodge cars.[3]

In the 1960s, Rover jeeps and Massey Ferguson tractors started to be assembled, and in 1963 Hyesons started the assembly operation of Mack Trucks.[4] By this time, the General Motor plant was acquired by Ghandhara Industries Limited and within three years they started to manufacture Bedford trucks and buses in Pakistan.[5] The fast paced environment of automotive manufacturing created demand for auto parts and laid the foundation for the vending industry in Pakistan. In 1972, nationalization of industries took place through the Economic Reform Order and the auto sector was reorganized under the Pakistan Automotive Corporation (PACO). For tractors, Pakistan Tractor Corporation was formed. By this time, Suzuki and Toyota were assembling pick-up trucks on a small scale. PACO, in collaboration with Suzuki, and Yamaha with Honda, started progressive manufacturing of two wheelers. A decade later PACO invited private sector participation primarily to support the thriving auto parts manufacturing sector. This was made possible by allowing the manufacture of Japanese cars by assemblers in Pakistan on the condition of achieving 75 per cent local content levels in five years. This is commonly referred to as the Deletion Program, which was based on Industry Specific Deletion Programs (ISDP) as well as Product Specific Deletion Program (PSDP). This policy culminated in a number of successful projects. Pak Suzuki Motors was established by PACO and Suzuki. The company started to assemble passenger cars, pickups, vans, and jeeps. Other collaborations included those with Honda, Toyota and Daihatsu. In the tractor segment, Fiat tractors were manufactured by Al-Ghazi Tractors Limited under the management of the Habib Group Republic Motors Co.

In order to achieve 75 per cent local content levels, auto manufacturers started to look for local sourcing. They also started to provide auto parts manufacturers with technical assistance to ensure quality and uninterrupted supply, which led to the development of the auto vending industry.

[1] (Ahmed & Batool, 2015)
[2] (JICA, 2011)
[3] (Pasha, 2013)
[4] (JICA, 2011)
[5] (Pasha, 2013)

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The 90s were marked by privatization of the state run enterprises under PACO. In 1992, Suzuki became the majority shareholder of Pak Suzuki Limited and built a new assembly plant with integrated production lines. In the same year, Atlas Group collaborated with Honda Motor Company and Honda Atlas Cars Pakistan was established which started the commercial production of City and Civic cars in 1994. Simultaneously Atlas Honda Limited was also established which started the production of 70cc, 100cc and 125cc motorcycles in Pakistan. In 1993, Indus Motor Company Limited was established as a joint venture between Toyota Motor Corporation, Toyota Tsusho Corporation and Habib Group — which is now the manufacturer of the Toyota Corolla cars in Pakistan. Other collaborations were based on technology only, not linked with equity. Ghandhara Nissan Limited was provided technical assistance by both Nissan Motor and Nissan Diesel, while Deewan Farooq Motors Limited was supported by Hyundai Motor (Korea) and Kia Motors (Korea).[6]

Currently Pakistan's auto sector produces a range of products, listed below in Table 1-1.

Table 1-1 Auto Sector Production in Pakistan, 2014-15

	Number of units produced
Motorcycles	1,699,764
Cars	152,524
Auto Rickshaw	48,573
Tractors	45,862
Pick-Up/LCV/ Van	30,154
Trucks	4,744
Jeeps	1,109
Buses	933

Source: EDB, 2015

The current market structure of each sub-sector is described in the corresponding chapters.

1.2 A snapshot of the global auto industry

The global market leaders in car manufacturing are China, Japan, Germany, USA and South Korea.

As shown in Figure 1-1, China produces the highest number of cars globally, manufacturing almost 20 million cars in 2014. Japan, the second highest producer, made less than half that number. On the OICA data set used in this figure, Pakistan ranks 35th (not shown), producing less than one per cent of China's volume.

[6] (JICA, 2011)

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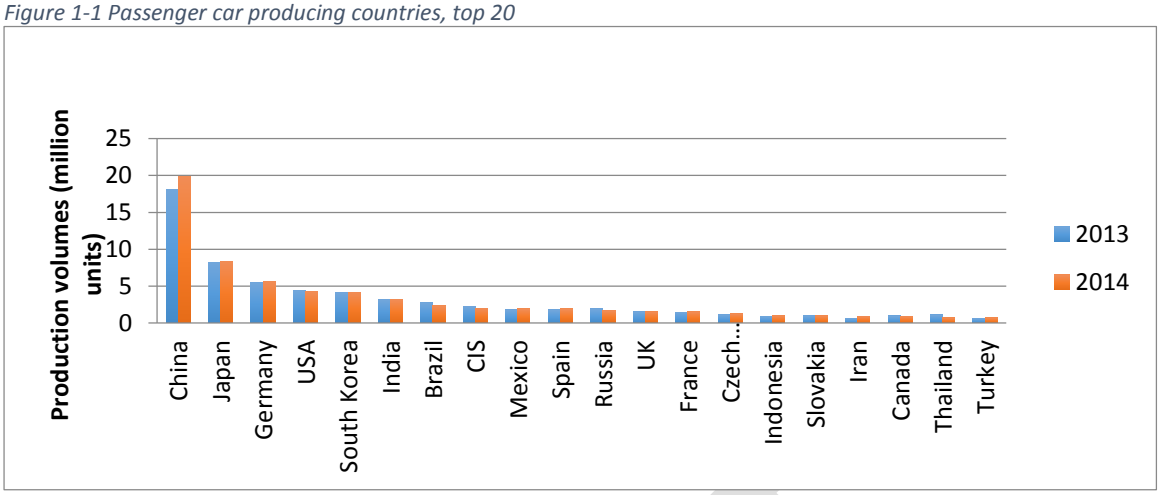
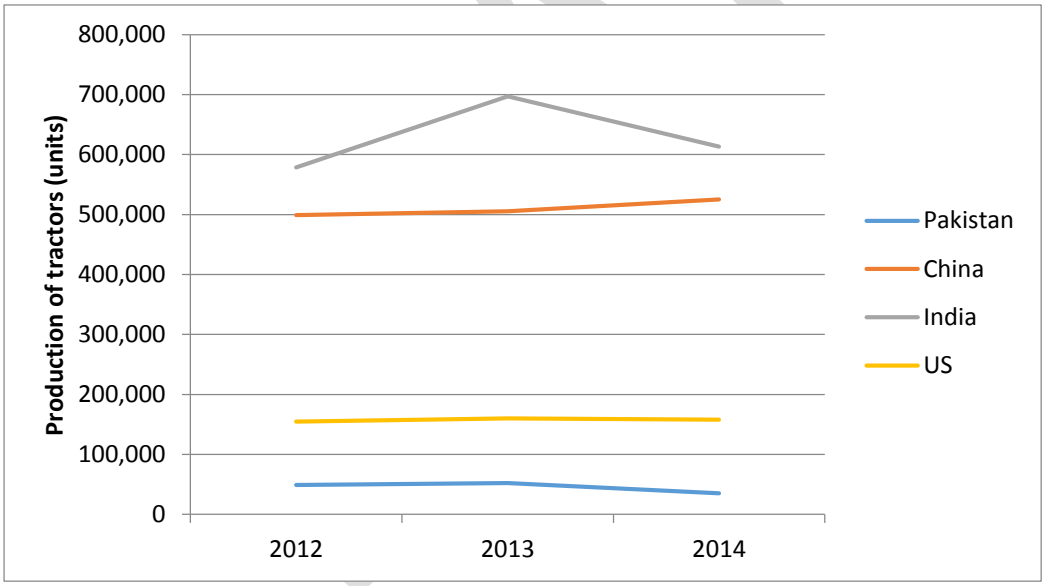
Figure 1-1 Passenger car producing countries, top 20



Source: OICA, 2014

For the tractor industry, the European Union is considered to be the largest producers of tractors in the world with the production value of €7.3 billion in 2006[7]. Germany is the largest exporter of tractors has a share of 21 per cent in total world exports of tractors in 2011[8]. Italy, France and the UK each have a share of about 10 per cent in the world exports of tractors. Regionally the biggest tractor markets continue to be China and India. Figure 1-2 compares Pakistan's tractor production with that of a selection of countries, to demonstrate the relatively small size of the domestic tractor industry.

Figure 1-2 Tractor production in selected countries



Source: VDMA, 2015 and EDB, 2015

The auto parts industry accounts for 3.6 per cent of total production of the global manufacturing industry. In 2012, global auto parts production reached US$ 1400 billion, with Asia Pacific having the largest share (55.5 per cent), followed by North America and EU. This is shown in Table 1-2 below.

[7] (Eurostat, 2009)
[8] (Verband Deutscher Maschinen- und Anlagenbau (VDMA) [German Engineering Federation], 2012)

Table 1-2 Auto parts production, 2012

Region	Production 2012 million US$	Share (per cent)
Asia-Pacific	776271	55.5
North America	309328	22.1
European Union	185625	13.3
Latin America	52269	3.7
Others	75808	5.4
Total	**1399302**	**100**

Source: Pompa, 2013

If we examine the global trends in the motorcycle industry we find that in 2013 the global motorcycle manufacturing industry reached a value of US$ 61.5 billion.[9] Motorcycle production is dominated by Asia, which has 77 per cent of the world's share. The next in line is Europe, which is far behind Asia with 14 per cent of the share. The rest of the market is divided between Latin America, North America, Africa, and Middle East.[10] Within Asia, the key players are China, India and Indonesia as shown in Table 1-3 below.

Table 1-3 Motorcycle production, global comparison 2008

Key Players	Production (in millions)
China	20.54
India	8.38
Indonesia	4.46
Japan	1.77
Taiwan	1.41
Brazil	1.41
Thailand	1.33
Vietnam	0.79
Italy	0.70
Malaysia	0.43

Source: OECD, 2008

1.3 Policy framework

1.3.1 Auto Policy

The auto policy in Pakistan is developed and implemented by the EDB. The last Auto Industry Development Policy (AIDP) was approved in November 2007, after over a year of consultations with the industry and the government. The new AIDP 2015-2019 is under deliberation, as of 21st August 2015, in the Economic Coordination Committee (ECC), and will be tabled for approval in the next ECC meeting.

AIDP 2007-12 was published in 2008, immediately after the episode of high auto industry growth. The underlying objective of the AIDP was to cultivate growth through long-term investment, innovation, and domestic competition, with a focus on fitting into the global automotive sector value chain. It was agreed that the used vehicles import policy would be regulated to protect the auto

[9] (Lewis, 2014)
[10] (OECD,2008)

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industry. This was to provide a stable and predictable policy environment for the local auto industry. With this in view, there were several important pillars to the AIDP (see Table 1-4).

Table 1-4 Auto Industry Development Policy 2007-12

Important Pillars of the AIDP
A Five-Year Tariff Plan
Human Resource Development
Productive Asset Investment Incentive
Technology Acquisition Support Scheme
Auto Cluster Development
Auto Industry Investment Policy
Auto Industry Development Committee

Source: Government of Pakistan, 2008

1.3.1.1 Productive Asset Investment Incentive (PAII)

This scheme was targeted towards encouraging the production of high value added components which were not already localized, but which the industry was planning to develop locally.[11]

The structure of the investment scheme was to generate customs duty credits in proportion to the value of productive assets installed by eligible auto manufacturers. These credits could be used to offset duty on eligible imports of other inputs. Qualifying assets varied from jigs, dyes and molds to productive testing equipment etc., but did not include land, building, software, transport, and office equipment. Therefore the investment incentive was very specifically geared towards manufacturing equipment.

The AIDP did not determine the exact ratio for the calculation of customs duty credits. Instead, the Ministry of Industries and Production (MoIP) and Federal Board of Revenue (FBR) were directed to jointly determine the exact details for this system. However, this never transpired, as the ECC and FBR dropped this policy before the details were even finalized, let alone implemented.

1.3.1.2 Technology Acquisition Support Fund (TASF)

Like the PAII, the TASF also aimed to provide investment support to improve the performance of existing auto parts and to introduce new technologies. Physical productive assets were not included in this scheme (as they were already covered under the PAII). Instead, the focus was on the procurement of technologies through licensing and patents or manufacturing rights.

The structure of this scheme was such that a 50 per cent matching grant would be given by the government to financially support the investment made by a private sector firm. The Ministry of Science and Technology (MoST) was to provide budgetary support for this scheme. However, there was no such head formed under the Ministry of Finance's (MoF) budget, and therefore no funds were available to run this scheme.

[11] These components included alternators, starter motors, water pumps, fuel pumps, fuel filter, seat reclining, power steering, engines and transmissions for cars and LCVs.

1.3.1.3 Auto Cluster Development

The cluster development program was intended to bring together the fragmented auto parts manufacturers in two clustered locations in Karachi and Lahore so that they could benefit from mutual support and learning and operate more efficiently as a linked chain, supplying to each other and jointly to the car manufacturers.

These two clusters did get made, one at Bin Qasim, Karachi and the other at Rachna Industrial Estate in Lahore.[12]

1.3.1.4 Auto Industry Investment Program

The policy targeted potential new entrants in the vehicle assembly/manufacturing sector. It was intended for Original Equipment Manufacturers that were already well established globally, and offered them allowance to import 100 per cent CKD kits, at the applicable customs duty, for a period of three years.

1.3.1.5 Auto Industry Development Committee (AIDC)

The AIDC was envisaged to be a forum for government-industry dialogue, and encourage private–public partnerships in the auto sector. In particular, this committee was meant to deliberate on quality and standards, identify opportunities for trade and provide advice on WTO commitments, investment, trade policy etc. In addition, they were meant to form two Centers of Excellence in Karachi and Lahore. Although the committee did get formed, the Centers did not.

Two other important recommendations of the auto policy that were not met were, firstly, that the policy was meant to be updated in 2012, and secondly that used car imports would not be used as a policy instrument.

Even today, the auto policy is still at the stage of being announced "any day" and the industry is operating in an outdated and unstable policy environment. For example, in December 2010, the allowable age of used cars was changed from three years to five years, and as Figure 1-3 shows, this led to an immediate surge in the market share of imported used cars. In August 2012, this policy was reversed and the allowable age was changed back to three years[13].

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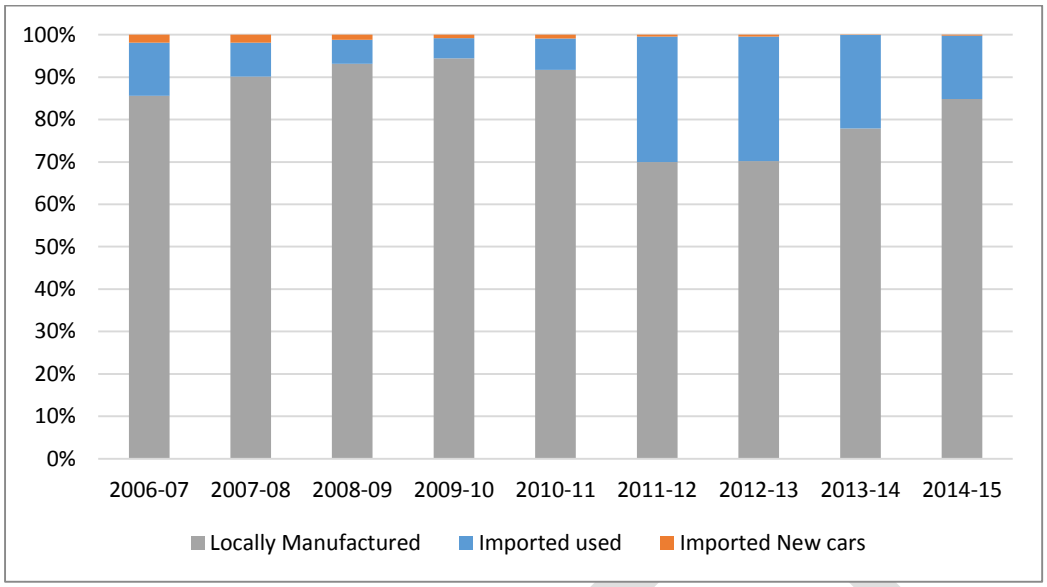
[12] Following the dip in demand for the auto sector, the auto industrial park at Lahore was renamed "Rachna" and the scope widened to include other industrial manufacturers too.
[13] This policy was to be applicable from December, 2012

Figure 1-3 Market shares, including imported cars, 2006-15



Source: EDB, 2015

1.3.1.6 AIDP 2007-12: An evaluation

The AIDP 2007-12 was a well-crafted policy document that could have changed the trajectory of the sector, had it been properly implemented. As mentioned earlier, many of the policies were not followed through. Moreover, the FBR did not honor the credits scheme under the PAII, and refused to redeem points earned (through the import of machinery by manufacturers) for raw materials. The scheme was eventually discarded by the ECC. The only aspect of the previous AIDP that was implemented was the Five-Year Tariff Plan, but that too, only for the first year as discussed in detail below.

Even though the AIDP gave incentives to new entrants in terms of imports under SRO 655, SRO 656 and the conducive schemes of the AIIP, entry did not occur. This could be attributed to imports of used cars, poor implementation of proposed schemes and general uncertainty in the investment climate.

The auto policy envisaged that by 2012 Pakistan would become a global player, engaging actively in the global value chain by having well-established Tier 1 and Tier 2 vendors. In this way the auto industry would have "remain(ed) a star player and (would have) led large scale manufacturing growth" (AIDP 2008). The unfortunate reality of the AIDP 2007-12 was that it was followed by a change in government, and there was no subsequent ownership and implementation. Benazir Bhutto's assassination, and the global financial crisis also transpired that year, both contributing to an unstable business environment. Consequently, the implementation of the AIDP and the growth of the auto industry suffered. The theoretical and practical details of the policy are discussed in Sections 1.3.2 and 1.3.3.

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1.3.1.7 New AIDP 2015-2019

Many international car manufacturers, including Renault-Nissan, Volkswagen, Fiat and General Motors, are awaiting the new auto industry policy.[14] The new entrant policy is a contentious issue, as existing OEMs operating in Pakistan want the same treatment as new entrants if they make green field investments.[15] Some international manufacturers, such as Volkswagen, want allowances for the import of a new category of kits—medium-knocked down units.[16] There has been newfound interest in investment in light of the China-Pakistan Economic Corridor (CPEC), with car manufacturers foreseeing benefits of introducing assembly operations in the country. However, OEM concerns pertaining to equal treatment and entry conditions for new players are keeping the policy from approval. Although the AIDP 2015-2019 has not been made public, media reports suggest certain expected features that we comment on below.

The AIDP 2015-2019 looks to bridge the gap between small cars and motorcycles by providing cheap financing for small cars. Pakistan holds an affordability rank that ranges from 49 to 58 out of 59,[17] which reveals that for most car models, Pakistan remains one of the most expensive countries to own a car. Access to finance for small cars will help low-income consumers, and correct the current dominance of bigger cars in the Pakistani market. Small car manufacturers are expected to face 2-3 per cent less sales tax. Duties on localized and non-localized parts of CKD kits could become uniform at 10 per cent for two years (and then 35 per cent for remaining three years for non-localized parts) for new entrants to engender more competition. This is hotly contested by existing OEMs who would continue to face 50 per cent for localized parts and 32.5 per cent for non-localized parts. Quality concerns and shorter delivery times seem to make this a consumer-oriented AIDP.[18]

A Technology Support Fund is also being considered, with 50 per cent contribution from the government and the option for public-private partnerships (PPPs). The aim is to raise technology levels in the sector, which are often lagging by two to three generations with respect to the world technological frontier. To that end, financing may be provided from both the Export Development Fund and the Public Sector Development Program (PSDP). The new AIDP is expected to propose that Pakistan should become a member of the United Nations Economic Commission for Europe (UNECE) World Forum for Harmonization of Vehicle Regulations to ensure and uphold vehicle and environmental safety, while introducing latest technologies that economize on fuel. A vehicle safety certificate would be required of all auto manufacturers. In order to promote vehicle safety, installation of alarm systems at production, as well as a company recall policy, are being considered in the new plan. Technical and vocational training for skill upgradation in the auto sector is proposed through the establishment of two training centers in Lahore and Karachi using donor funding.[19]

The AIDP will most likely reduce customs duties, such that new entrants will face 80 per cent less duties for 5 years, while incumbents can enjoy those duties only for two years. It is also under consideration that innovation in models will be made compulsory after every ten years, including

[14] (Khan A. S., Global vehicle makers await new auto policy, 2015)
[15] (Ghumman, New auto policy 2015-16: Minister fails to resolve issues, 2015)
[16] (Rana, 2015)
[17] (Competition Commission of Pakistan, 2013)
[18] (Muhammad, 2015)
[19] (Haider, 2015)

shape and design.[20] Green field investment incentives for new entrants might also be put forward. Chinese firms are interested in this, but current auto manufacturers say that there is not enough demand to warrant entry, as 50 per cent of existing capacity lies idle. There is also some interest in using currently idle plants by new investors, but this will depend on policies. It appears that the used car policy will remain the same in principle (used cars allowed only under personal baggage, transfer of residence and gift schemes), but implementation will be stricter to avoid misuse.[21]

It is expected that the tariffs on motorcycles and Completely Built Units (CBUs) of cars will remain the same, except for cars exceeding 1800cc, which might now face a lower Regulatory Duty (RD) of 25 per cent instead of the existing 50.[22] It is interesting to note that the new AIDP is expected to incorporate the 2007-12 tariff schedule for auto parts.

The government is also considering a uniform tariff across sub-components and components for auto parts production, as opposed to the current rates of 0 to 10 per cent.[23]

1.3.2 Trade Policy

The automotive sector of Pakistan has long claimed that it has been severely penalized by the *ad hoc*, contradictory, and market-unfriendly policies followed by the government. These claims have been assessed by an analysis of existing trade and industrial policies that govern the auto sector, including development plans. Additionally, this section examines the duty, tariff, regulatory and standards regimes prevalent in Pakistan.

1.3.2.1 Trade policies: A closer look

The automotive sector is governed by a number of policies and regulations. In general, Pakistan's international trade is governed by the Import and Export Policy Orders (IPO and EPO), as notified in the Strategic Trade Policy Framework 2012-15. The Import Policy Order 2013 also includes the 1209 items (at the HS-8 digit level) in the Negative List for India, as well as the Positive List for India that specifies 137 items that may be imported through the land route (Appendix-G-1). In addition, it also contains the conditions for the import of used cars.[24] The EPO 2013 outlines the parameters for export promotion (drawback on custom duty schemes, rebates on central excise duty, and restrictions on exportable items), as well as conditions for transit trade through Afghanistan to the Central Asian Republics (CARs) from Pakistan. In addition, it also includes the Negative List under the Afghanistan Pakistan Transit Trade Agreement (APTTA) in Schedule III.[25]

The automotive sector is provided some support in the form of export development initiatives through both the Industrial Policy 2011 and the Strategic Trade Policy Framework 2012-15.

[20] As of 19th April, 2015, it has been reported in the media that this proposal has been withdrawn after pressure from the sector.
[21] (Haider, 2015)
[22] (Ghumman, Auto industry: Zubair forced to withdraw proposal, 2015)
[23] (Bhutta, 2015)
[24] (MOC, Government of Pakistan, 2013a)
[25] (MOC, Government of Pakistan, 2013b)

Table 1-5 Policy Framework for the auto sector

The Industrial Policy 2011	The Trade Policy Framework 2012-15
The Finance Acts that control the fiscal and tariff regimes; the Statutory Regulatory Orders (SROs) and the Customs General Orders (CGOs)	The Auto Industry Development Program (AIDP) 2007-12
The Tariff Based Scheme (TBS)	Pakistan Standards and the National Environmental Quality Standards (NEQS)

Pakistan has had a checkered trade record over the past fifteen years as a result of its unpredictable trade policies that fluctuate between protectionism and liberalization. These issues are compounded by a poor business environment, weak economic governance, energy shortages and inadequate infrastructure. As a result, Pakistan's predominantly labor-intensive light manufacturing exports exhibit weak growth and sophistication in the last decade, underperforming in the region—here exports grew by a factor of ten, as compared to a 25-fold increase for the rest of South Asia. The overall trade-to-GDP ratio, a measure of openness, has also fallen over the last ten years.[26] The year on year fall in exports of HS chapter 87 (Vehicles other than railways or tramways) between March 2014 and March 2015, is 23.7 per cent. Total auto exports for FY 2014-15 are US$33.7 million, down from US$42 million in FY 2013-14.[27] Total exports of Pakistan have marginally increased between FY 2013 and FY 2014, at US$24.5 billion and US$25.1 billion, respectively. This growth was largely driven by the textile sector.[28] Export diversification is minimal, sophistication remains low and geographic concentration of markets has improved only slightly. Pakistan has traditionally relied on Japan for auto parts imports, but has recently imported from Turkey (tractors), Singapore and Thailand (cars and parts thereof), China (motorcycles) and South Korea (trucks). Exports destinations include Afghanistan and Bangladesh for motorcycles, Italy and the USA for auto parts, and Nigeria and Kenya for tractors. Pakistan does not export any cars.

Figure 1-4 below shows the growth rate of exports and imports of the sector, and indicates that except for parts and accessories of motor vehicles and motorcycles, exports stagnated between FY 2012 and FY2013. And while imports of tractors have fallen, Pakistan relies heavily on imports of motorcycles in CKD form. Imports of cars registered the second largest increase.

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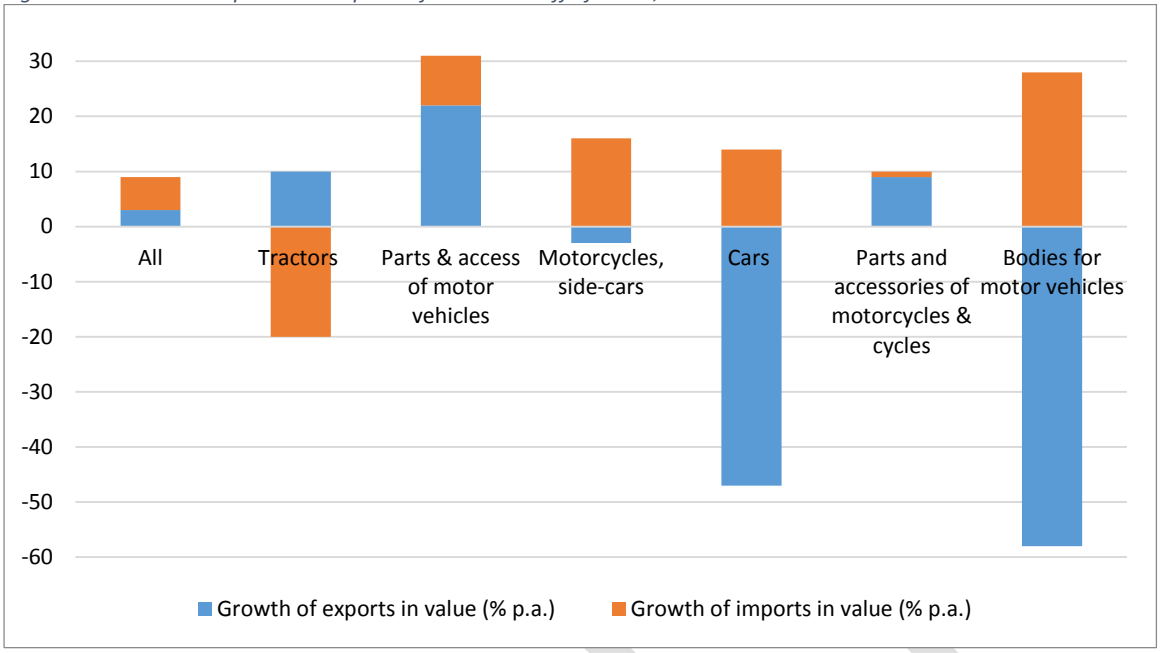
[26] (Reis & Taglioni, 2013)
[27] (State Bank of Pakistan, 2015)
[28] (WTO, 2015c)

Figure 1-4 Growth in imports and exports of selected tariff of HS 87, 2013



Source: ITC, Trade Competitiveness Map, 2013 [29]

Trade policy in Pakistan can be characterized by two phases, a liberalization phase between 1997 and 2003, and increased protectionism using import substitution industrialization policies, beginning in 2005. The first phase saw unilateral and multilateral trade reforms, whereby the number and duty rates of tariffs were reduced and quantity restrictions (QRs) were removed. Under the second phase, import substitution polices began to dominate and tariff coverage under the guise of SROs was given to agriculture and local industries. This resulted in an increase in protection of their processing margins, mostly at the cost of small producers, as in 91 per cent of cases of SROs, a monopoly producer benefitted.[30] This may be seen in the Overall Trade Restrictiveness Index (OTRI) of Pakistan, which has risen from 9.0 in 2004 to 9.9 in 2010 (on a scale of 0-16, with a higher index indicating trade unfriendliness). This places Pakistan in the 88th percentile in terms of countries with the most restrictive trade regimes.[31]

1.3.2.2 The Strategic Trade Policy Framework (STPF) 2012-15

The Strategic Trade Policy Framework (STPF) 2012-15 aims to increase total exports to US$95 billion by 2015, with regional trade identified as a priority area. [32] STPF 2012-15 has stipulated that Euro II standards be applied to all automotive sector imports, as fuel standards currently conform to this level, however this view has not been supported by the industry. While petrol of the requisite grade is available, the quality of diesel for Euro II standards is not available in Pakistan. Auto parts have been given financial support by two schemes. The first can be availed for up to ten years, and reduces the interest rate to nine per cent for users of the State Bank of Pakistan's Long-term Financing Facility (LTFF).[33] The second allows preferential access to credit at 7.5 per cent per annum under the Export Finance Scheme (EFS) and also applies to existing loans in the auto sector, which

[29] (ITC Trade Map , 2015)
[30] (Pursell, Khan, & Gulzar, 2011)
[31] (Reis & Taglioni, 2013)
[32] WTO, 2015c
[33] (MOC, Government of Pakistan, 2014)

will be re-priced accordingly.[34] In addition, duty drawback on local taxes and levies amounting to four per cent of freight-on-board (FOB) prices will be allowed on export shipments in order to compensate automotive and automotive parts producers for costs incurred due to energy shortages (Annex-1 of SRO 415 (I)/2015 Drawback of Local Taxes and Levies Order). However, only those exporters that have registered growth of ten per cent between 2012-13 and 2013-14 will be eligible for this support.[35]

The STPF 2012-15 has also recognized the need to strengthen exports in order to reduce the trade deficit. This will require reforms of the regulatory, institutional and financial export policies. In order to ensure quality of imported items, the IPO 2013 adds that all imported items must meet PSQCA standards. More recently, the government has created a Pakistan Land Port Authority under the STPF 2012-15 that will look after port and border infrastructure to improve connectivity with China, Turkey, Iran and Afghanistan (Economic Cooperation Organization countries) and CARs. In addition, the Export Import Bank (EXIM) proposed under the STPF 2012-15 will provide cheaper export credit and export guarantees that should be helpful for OEMs and APMs as high interest rates make financing costly.[36]

1.3.3 Tariff framework

Tariffs are declared through the Finance Acts, as part of the annual budget. Required modifications are made through Customs General Orders (CGOs) and the Statutory Regulatory Orders (SROs) as issued under the Customs Act of 1969. The Finance Act 2014-2015 and the updated Customs Act form the main body of legislation that determines the tariff regime of Pakistan. Manufacturers and assemblers must comply with the Tariff Based Scheme (TBS), and meet at least Euro II standards, for both imported and local cars.

1.3.3.1 SROs

SROs have been used since 1988 in the engineering sector of Pakistan. Current SROs are reported to amount to 0.34 per cent of GDP in tax exemptions and concessions. Although 56 SROs in total were issued in 2013, no new SROs have been issued in 2014, and the government has introduced legislation in the FY 2014-15 budget to end this practice. This proposal is scheduled for approval in December, 2015. Meanwhile, existing SROs will be treated in two ways: a small number will be legalized, while most will be phased out in the next three years. As a result, GDP is anticipated to rise by 1-1.5 per cent.[37] Currently, the five SROs that pertain to the automotive and parts sector include SROs 499(I)/2013 (for Hybrid Electronic Vehicles), SRO 562(I), 2014 (duties on used car), 655(I)/2006 (duty concessions for auto parts manufacturers), 656(I)/2006 (duty concessions for OEMs), and SRO 693(I)/2006 (additional customs duty). For details see Table 1-7.

1.3.3.2 Local content requirements

In order to develop the domestic automotive and parts industry, policies had been introduced to ensure indigenization. Pakistan had been imposing local content requirements (LCRs) on its domestic auto producers to use a certain proportion of local inputs in their production process. This

[34] ibid
[35] (MOC, Government of Pakistan, 2015a)
[36] (MOC, Government of Pakistan, 2015b)
[37] (IMF, 2014)

proportion was agreed upon in consultation with stakeholders. However, LCRs are not permissible under WTO rules, as they are not a part of Trade Related Investment Measures (TRIMS). [38] To ensure TRIMS compliance, deletion policies were introduced to promote domestic value-addition. This meant that OEMs were required to ensure a certain proportion of local content in their products to continue to qualify for imports of CKDs and CBUs under the Deletion Program. This deletion program was in place from 1987 to 2003, first under the purview of the Deletion Cell of the Ministry of Industry and Production (MoIP) and later, the Engineering Development Board (EDB). Pakistan then replaced its deletion program in 2003 with an Industry Specific Deletion Program and Product Specific Deletion Program for the auto sector. By the end of the ISDP in 2006, some indigenization had taken place and the targets achieved are shown in Table 1-6.

Table 1-6 Indigenization levels in the local auto sector, 2006

Category	Description	ISDP target achieved (%)
Car	Up to 800cc	70
Car	801cc - 1200cc	58
Car	Exceeding 1200cc	53
Tractor	40 - 55 HP (2X2)	85
Tractor	55 - 80 HP (2X2)	62.5
Motorcycles	Up to 100cc	85
Motorcycles	100cc - 175cc	83

Source: Pasha, 2013

1.3.3.3 The Tariff Based Scheme (TBS)

Pakistan faced increasing pressure to remove its deletion program as it was again not TRIMS compliant, and as a result, the deletion programs for 18 products in the auto sector were phased out by July 2006, and replaced by the WTO-approved TBS. Tariffs were formally notified in the Five-Year Tariff Plan of the AIDP in December 2007 to outline the customs duties to be levied on imports of automotive vehicles and components. The main features of the TBS included

1. High duties on CBUs, defined by engine capacity
2. High tariffs on components and replacement parts, on the basis of localization
3. Low tariffs— ranging from 0 to 10 per cent— on the raw materials, components, and assemblies required as inputs by licensed vendors for auto parts for auto parts producers.
4. New entrant policy that outlines stringent conditions, including a “progressive manufacturing” plan, that ensures new entrants will use local components and/or develop local capabilities.

1.3.3.4 The Five-Year Tariff Plan

There are 480 tariff lines in the auto sector, of which 418 pertain to auto parts and were created in the Five-Year Tariff Plan. This plan was the operationalization of the TBS that was included in the

[38] “Measures requiring the purchase or use by an enterprise of domestic products, whether specified in terms of particular products, in terms of volume or value of products, or in terms of a proportion of volume or value of its local production” is a violation of GATT Article III: 4.

AIDP 2007-12. It outlined a phased reduction in import duties for CBUs, CKD kits and components between 2007 and 2012. Owing to the long time it takes for auto producers to amortize their investment and fixed costs, stability was to be provided through a pre-declared tariff schedule for the next five years. Moreover, as the auto sector has many forward and backward linkages, upstream vendors also benefitted from a consistent tariff regime.

To encourage development of the local vendor industry despite the heavy protection afforded by the Five-Year Tariff Plan, the government then issued three SROs for licensed vendors, OEMs and all members of the auto sector (see Table 1-7). The main features of the TBS included allowing CKD imports by only those car OEMs and APMs with suitable in-house manufacturing and assembling capabilities (as defined in Annex A of SRO 656). Components that had been localized by June 2004 would be imported at a higher rate of customs duty of 50 per cent, while non-localized parts could be imported by OEMs at the CKD rate of 32.5 per cent. [39]

In addition, car OEMs would qualify for concessional imports of components, whereas motorcycle OEMs would face ten per cent reduced duties if they met localization targets. Licensed vendors could also import inputs for non-localized auto parts at subsidized rates (SRO 655). Additional customs duties were imposed on auto parts for tractors, cars and motorcycles, ranging from 15 to 35 per cent as per SRO 693 as summarized in Table 1-8.

Table 1-7 SROs for the automotive and parts sector

SRO	Coverage
SRO 655(I)/2006	APMs: Partial exemption from customs duty on import of raw materials, sub-components, components, sub-assemblies and assemblies not manufactured locally
SRO 656(I)/2006	OEMs: Partial exemption from customs duty on components (which include sub-components, components, sub-assemblies and assemblies but excludes consumable) and direct materials
SRO 693(I)/2006	All: Levy of additional customs duty on import of goods for assembly/manufacture of vehicles.

Source: Government of Pakistan, EDB. [40]

Additional customs duties on cars (CBUs) and motorcycles were detailed in SRO 693, ranging from 17.5 to 35 per cent.[41] Regulatory duties were also levied on CBUs, bodies, parts and accessories for motor vehicles (HS 8703, HS 8707, and HS 8708).

Under the TBS, existing OEMS are governed by SRO 656 (non-localized components), and SRO 693 (localized components), while new OEMs must conform to the new entrant policy of the AIDP. In both cases, OEMs must submit to EDB checks (input-output requirements, suitable in-house production facilities, etc.) in order to qualify for the concessionary imports.

[39] (Government of Pakistan, Engineering Development Board)
[40] (Government of Pakistan, Engineering Development Board)
[41] (PITAD, 2007)

Table 1-8 Duties under TBS Scheme and various SROs

		Agricultural tractors (HS 8701)	Vehicles (HS 8703)	Motorcycles (HS 8711)
SRO 655(I)/2006 Rate of duty (%)	Raw materials	0	0	0
	Sub-components	0	5	5
	Components	0	10	10
	Sub-assemblies	0	20	20
Rate of Duty on CKD on non-localized parts (%)	SRO 656 (I)	0	32.5	15
	Statutory	35	35	20-35
SRO 693(I)/2006 (%)	Duty on localized parts under SRO and/or Statutory	35	50	47.5
1st Schedule of Customs Act 1969	CBU (%)	15 (0 in SRO 567)	50-100*	65

*Note: *Detailed break-up of duty on CBUs by cc is given below*
Source: EDB, 2012

As Table 1-9 below shows, tariffs on car CBUs under AIDP 2007-12 were to vary by the size of the engine and also over time, which has led to distortions in the market. This is different from most other regional countries, which have a single tariff rate for cars irrespective of the engine size.

Table 1-9 Duties on cars, as per AIDP 2007-12

Passengers cars Capacity (cc)	**Customs duty on new CBU (%)**				
	2007-08	2008-09	2009-10	2010-11	2011-12
Up to 800	50	50	50	50	50
801-1000	55	55	55	55	55
1001-1500	60	60	55	55	55
1501-1800	75	75	70	70	70
Exceeding 1800	90	90	85	85	85

Source: Government of Pakistan, 2008

As may be seen from Table 1-9, phased reduction of duties on CBUs as intended by AIDP did not take place, and tariffs, by and large, remain at the 2007-08 level, i.e. the Tariff Plan was only implemented in the first year. In addition, the existing tariff structure is characterized by tariff escalation, with low duties on inputs and high ones on final products.

In practice, the TBS continues to provide tariff and non-tariff protection to the automotive and parts sector through high tariffs on outputs and reduced duties on inputs. Moreover, the government has issued SROs, based on which partial exemptions on raw materials, sub-components, and sub-assemblies are common. In 2010-11, more than half (54 per cent) of the total number of tariff lines were subject to at least one special condition announced in an SRO. Most of these are confined to specified groups of firms, isolating other importers, in particular, commercial importers,[42] resulting

[42] (Ernesto Sanchez-Triana, 2014)

in many situations where different import duties are paid for identical product depending on who is importing it.[43]

These SROs have also significantly complicated the tariff system making it difficult to trace the likely changes in effective protection rates, along with adding uncertainty since they vary by product and final use. Furthermore, a system that allows such liberal use of concessions keeps the trade policy regime vulnerable to interest group pressures, undermining tariff reform efforts.[44] Such measures are ways to earn revenue by the government and keep the car sub-sector protected and go against the spirit of the WTO regulations (Table 1-10 and Table 1-11). In addition, SROs have been arbitrarily used as a tool by the executive, that is, the Federal Board of Revenue (FBR) to decide taxation affairs, bypassing the Parliament when, in fact, this task has been constitutionally assigned to the Parliament. This has resulted in lack of transparency since exemptions ought to be routed through the system of Parliamentary oversight.[45]

Additionally, from the political economy perspective, specific exemptions to OEMs reduce their incentive to lobby for a general lowering of tariffs on inputs. This leads to higher prices for small non-formal firms and consumers, and rents are transferred away from them towards large OEMs. This is damaging for innovation and competition, and encourages smuggling by the non-formal firms and traders that are not eligible to imports under the preferential rates.

Table 1-10 Duty structure on car assembly (%)

		Duty (%)
SRO 655(I)/2006	Rate of duty on raw materials	0
	Rate of duty on sub-components	5
	Rate of duty on components	10
	Rate of duty on sub-assemblies	20
Rate of Duty on CKD on non-localized parts	SRO 656(I)/2006	32.5
	Statutory	35
SRO 693(I)/2006	Duty on localized parts under SRO and/or Statutory	50
1st Schedule of Customs Act 1969	(new CBU by cc)	50-100

Source: EDB, 2012

As the difference between the statutory and SRO (concessionary) rates is quite high, it is important to ensure that the list of localized components is regularly updated. The benchmark year for localization was 2004, and the relevant items, as determined by the EDB and important stakeholders from the automotive and parts sector, were included in CGO 11/2007. The EDB is responsible for sharing this list with Pakistan Customs, and in case of any doubt of localization, the leading local manufacturer resolves the issue. The list of localized components last updated in 2004 is in the process of being revised, and the EDB has asked local manufacturers to submit evidence of their localized product for inclusion in the new list.

As mentioned above, qualifying for concessionary imports is a tedious process for both vendors and OEMs. Licensed vendor and OEM status is approved by the EDB each year. Moreover, permission to import components and raw materials at concessionary rates is given by the EDB according to

[43] (Pursell, Khan, & Gulzar, 2011)
[44] (World Bank , 2006)
[45] (Jamali, 2014)

producer-supplied information on inputs and outputs. This means that the EDB determines not only the quantities and rates of parts and raw materials that can be imported, but also who qualifies as a "licensed" vendor. In theory, this was done to prevent parallel sales of cheaply imported auto goods in the domestic market. Effectively however, the EDB became prone to import licensing. Its main role in the auto sector remains limited to determining which parts are to be placed on the low tariff non-localized list, when they are moved to the high tariff localized list, and who is allowed to import. Put simply, the requirement for EDB approval for imports amounts to a *de facto* licensing regime that is not TRIMS compliant, and negates the TBS.

Table 1-11 Duty structure on car assembly (%), by engine capacity, 2015

	Customs duty (%)		
Passengers Cars Capacity (cc)	CBU	CKD: Localized	CKD: Non-localized
Up to 800	50	50	32.5
801-1000	55	50	32.5
1001-1500	60	50	32.5
1501-1800	75	50	32.5
Exceeding 1800	125*	50	32.5

*Note:*This includes a 50 per cent Regulatory Duty*
Source: EDB, 2015

1.3.3.5 MFN tariffs of Pakistan

There are 480 tariff lines in the auto sector, comprising seven per cent of total tariff lines,[46] while in HS chapter 87 there are 196 lines.[47] MFN tariffs are the highest rates that countries can impose on trading partners that are members of the WTO. Pakistan gives MFN treatment to all its trading partners except India. At the 6-digit HS level classification, as of 2014, 99 per cent of non-agricultural items have binding coverage.[48]

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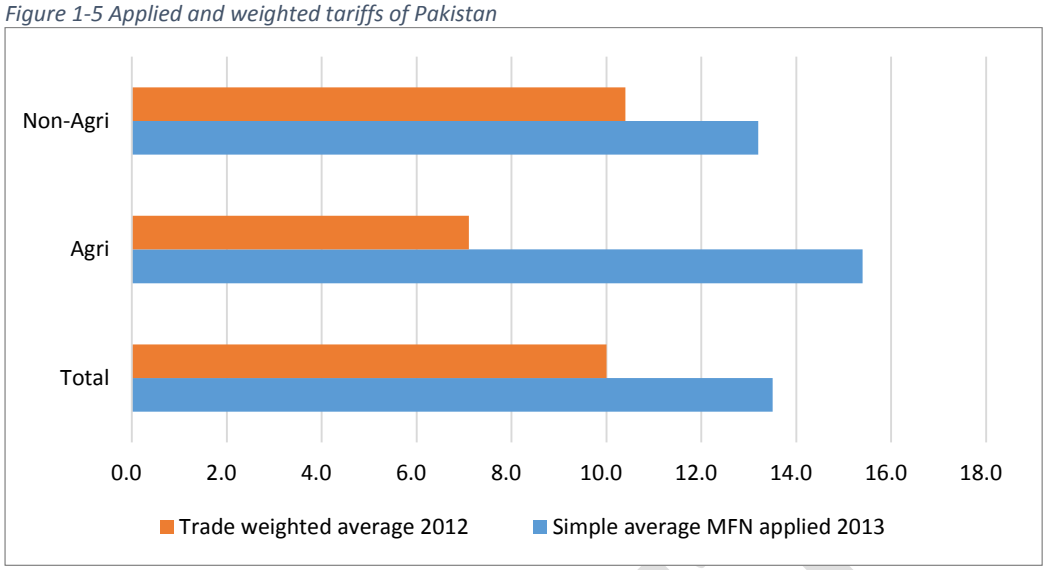
[46] (Government of Pakistan, 2008)
[47] (WTO , 2015)
[48] According to WTO World Tariff Profiles, binding coverage is the "share of HS six-digit subheadings containing at least one bound tariff line. Full binding coverage is indicated by 100 without further decimals. If some tariff lines are unbound but the result still rounds to 100 this is reflected by maintaining one decimal, i.e. 100.0."

Figure 1-5 Applied and weighted tariffs of Pakistan



Source: WTO, 2015

Table 1-12 Average bound and MFN applied rates for agriculture and non-agriculture

Summary	Total	Agriculture	Non-Agriculture
Simple average final bound	60.0	95.5	54.8
Simple average MFN applied (2014)	13.5	14.6	13.2

Source: WTO, 2015a[49]

There are 16 distinct ad valorem tariff lines, spanning 0 to 150 per cent, while specific duties are imposed on 47 products. The average applied MFN tariff across all goods in 2014 was 13.5 per cent (see Figure 1-5 above), whereas the applied MFN trade weighted tariff average was 14.7 per cent in 2008, and fell to 10 per cent in 2012.[50] As a comparison, the average MFN applied tariff in India was 13.7 per cent in 2012, while its trade weighted average was 7.7 per cent in 2011.[51] The MFN (applied) tariff escalation, which is the difference between duties on finished goods and raw materials, was 9.3 per cent for non-agriculture in 2007. The difference between the MFN bound and MFN applied rates, also known as the trade policy space or overhang is rather large and typical of LDCs at 46.4 per cent (the low income country average is 48.5 per cent), but indicates a more volatile trading policy regime. Moreover, the tariff overhang has risen from 2000-04, when it was 33.8 per cent.[52] This means that there is more room for tariff cuts, because the difference between available and actual protection is quite high.

In many cases, if two countries also have a free trading agreement (FTA) with each other, then those tariffs would apply. Pakistan has many FTAs with other countries, which gives Pakistan access to different tariff rates for the same product and trade partner. In practice, the effective applied tariff will lie between the maximum bound tariff and the preferential tariff, if an FTA is in play. The MFN tariff falls between the two rates. The preference margin is the difference between the MFN tariff and the preferential tariff under FTAs. This is a critical aspect for Indo-Pak trade, because both countries are part of the South Asian Free Trade Agreement (SAFTA). Once MFN is granted to India by Pakistan, the SAFTA preferential rates will be applied to imports from India.

[49] (WTO, 2015a)
[50] (WTO, 2013b).
[51] (WTO, 2014a)
[52] (WTO, 2009)

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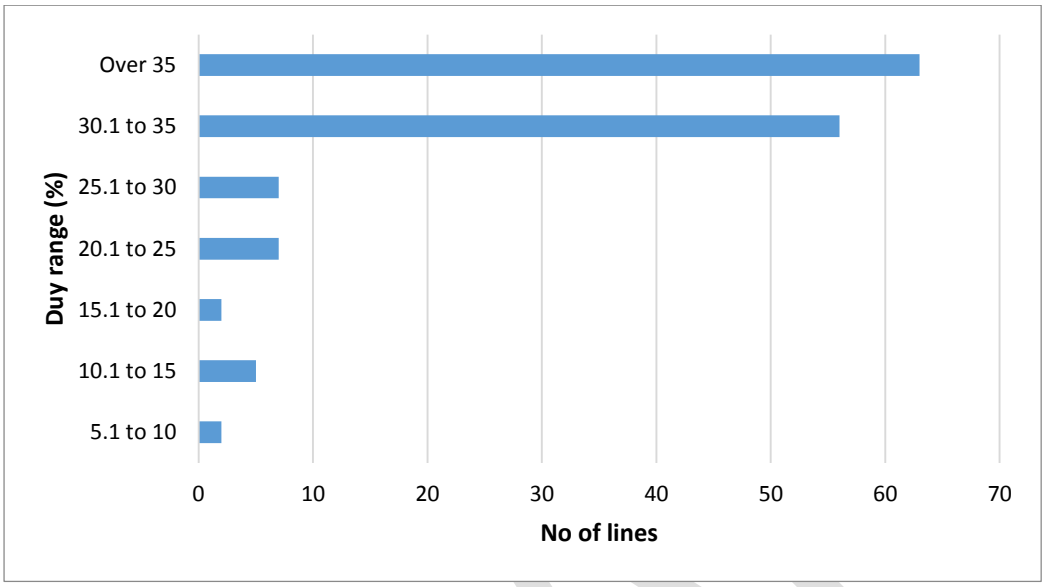
Most of the tariffs in the auto sector are *ad valorem* tariffs (i.e. customs duty is calculated as a percentage of the cost insurance and freight (cif) value of the imports), but there are also some non-*ad valorem* taxes, that are levied on the basis of quantity (specific tax). Compound tariffs are imposed on both value and quantity, while in the case of mixed tariffs, the higher of the ad valorem or quantity-based tax is applied. Of the selected tariff lines, 44 per cent face MFN duties of more than 35 per cent, or alternatively, 83 per cent of auto products face duties exceeding 30 per cent (see Figure 1-6 below).

Figure 1-6 MFN applied duty rates by range and number of lines, 2013



Note: Selected lines include the following headings: HS 8701; 8703; 8706; 8707; 8711; 8714
Source: WTO, 2015d[53]

The simple applied average MFN for chapter HS 87 is 42.37 per cent. The highest rate is on passenger cars in HS 87. The maximum bound tariff in the automotive sector is 75 per cent.[54] However, most auto products are not bound (see Table 1-13), with the exception of parts and accessories for 87.01 to 87.05, as well as of motorcycles.

[53] (WTO, 2015d)
[54] (WTO, 2014b)

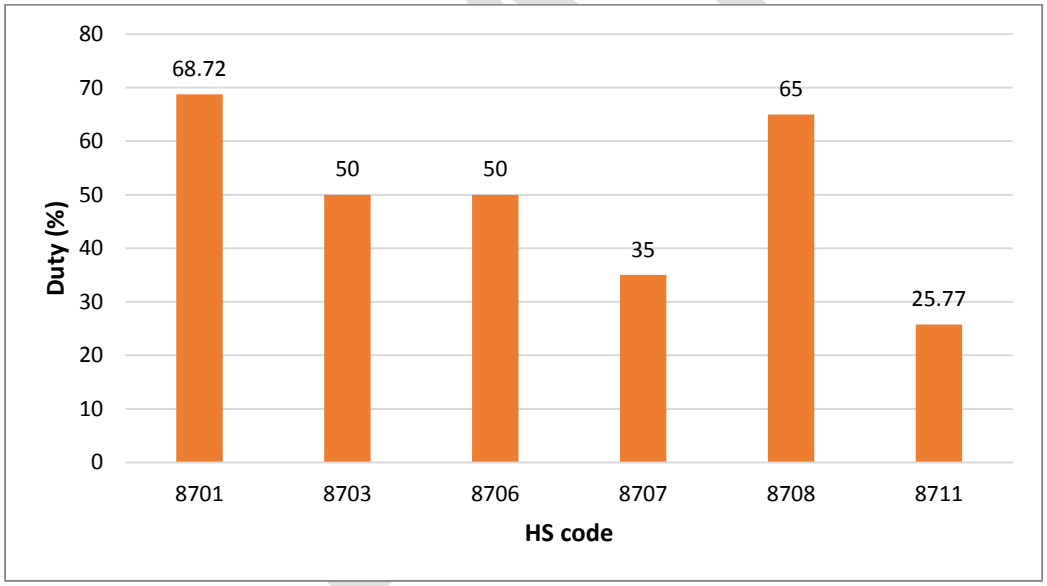
Table 1-13 Tariff rates by status

Type	Status
Tractors (other than 87.09).	U
Cars	U
Cars less than 1000cc	U
Cars 1001-1500cc	U
Cars 1501-3000cc	U
Cars >3000cc	U
Chassis fitted with engines, for 87.01 to 87.05.	U
Bodies (including cabs), for 87.01 to 87.05.	U
Parts and accessories for 87.01 to 87.05.	B
Motorcycles (including mopeds) and cycles fitted with auxiliary motor	U
Parts and accessories of motorcycles, incl. mopeds, n.e.s.	B

Note: U=unbound; B=bound*
Source: WTO, 2015b[55]

The average of *ad valorem* MFN applied duties for this sector is 36.8 per cent.[56] For selected auto products such as tractors, motorcycles, cars, as well as their parts, the MFN applied tariff is 47.7 per cent, ranging from 5 to 100 per cent for individual tariff lines (see Figure 1-7). In terms of all HS sub-chapters at the 6-digit level included in this chapter, the maximum tariff is 100 per cent for 13 products. Protection has risen since 2009-10, when the maximum rate was 60 per cent.

Figure 1-7 MFN applied duties on auto sector, 2013



Source: WTO, 2015d[57]

1.3.3.6 Tariff dispersion

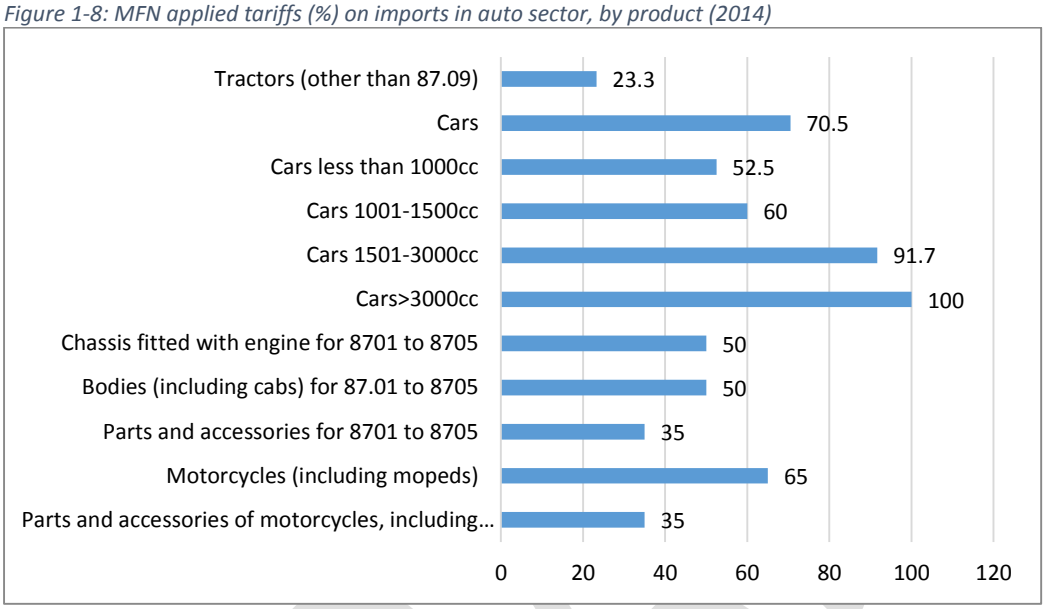
Tariff dispersion is a measure of the spread between the maximum and minimum tariffs for different product categories of the economy. It is measured by the standard deviation from the average tariff

[55] (WTO, 2015b)
[56] (WTO, 2015b)
[57] (WTO , 2015d)

rate of the economy. A wider dispersion is indicative of inefficiencies in the tariff regime, making it difficult to administer and easier to modify. This makes such tariff structures prone to discretionary tariff applications.[58] For the auto sector, tariff dispersion in Pakistan is 23.12 per cent and the coefficient of variation is 0.63. This indicates that tariff dispersion within the auto sector is high.

It is important to note that none of the concessions granted through SROs, including input concessions, are included in the measures of tariff dispersion. If included, the level of tariff variation in the economy would increase.

Figure 1-8: MFN applied tariffs (%) on imports in auto sector, by product (2014)



Source: WTO, 2015b[59]

Customs valuation rules were changed in 2000, and have since been contested by the auto sector, as assessment rules are poorly defined and often assessment is on the basis of pre-determined minimum values, rather than the transaction value declared by importers. In 2009, Customs also started to levy a Rs. 5000 fine per shipment container if the original invoice and packing list is not included in the container. As invoices and lists may originate from a different location than the container or be available after the shipment is dispatched, this poses a serious problem for the auto importers.

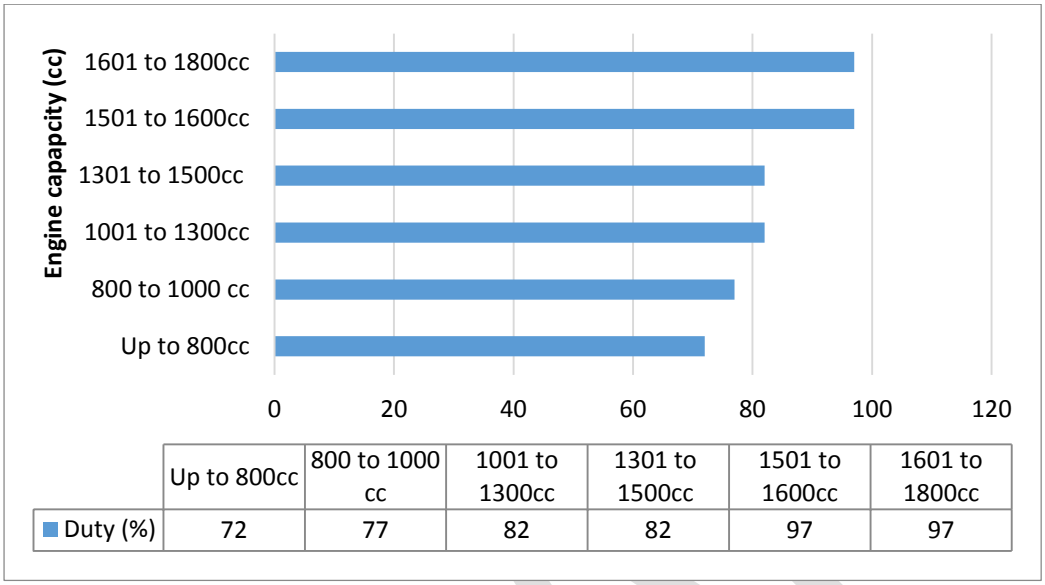
1.3.3.7 Other import tariffs and taxes

A host of regulatory duties (RDs) were introduced on 397 items in August 2008 in addition to customs duties in order to maintain protection at previous levels, following the move towards TRIMS compliance.[60] Although they were reduced to 60 items in 2011-12, they still apply on the automotive sector, raising c.i.f. prices by 50 per cent. As tariffs on inputs were lowered, this creates varying levels of effective protection in the economy (see more on ERPs in section 1.3.3.8). In effect, the tariff regime in the automotive sector is typified by large discrepancies between statutory and applied rates, on account of concessions, exemptions, cascading tariffs (with lower tariffs on inputs and higher on outputs), and even additional taxes. At the HS 8-digit level, the Gini Coefficient

[58] (Vaidya, 2015)
[59] (WTO , 2015)
[60] (Pursell, Khan, & Gulzar, 2011)

measuring tariff dispersion for the automotive sector was 0.45 for applied duty rates and 0.36 for statutory duty rates.[61] This means that there is more deviation in applied rates, which is consistent with our analysis thus far. The government has also levied taxes on royalty and franchise payments made by OEMs to their principals.[62] However, the government has removed the 10 per cent Federal Excise Duty (FED) it introduced in the FY 2014 budget on local cars above 1800cc, and retained it for used imported cars. Demand may not increase by as much as expected despite this, because most car purchases are below 1800cc.[63]

Figure 1-9 Total duty (%) on CBUs, 2015



	Up to 800cc	800 to 1000 cc	1001 to 1300cc	1301 to 1500cc	1501 to 1600cc	1601 to 1800cc
Duty (%)	72	77	82	82	97	97

Note: This includes custom duty, sales tax, and withholding tax but excludes the 50 per cent Regulatory Duty on 1800cc cars.
Source: EDB, 2015.

1.3.3.8 Effective rates of protection

Protection to the import-competing auto sector was given to domestic producers to help establish domestic processing, especially the local vending industry. However, nominal import tariffs on finished goods present an incomplete picture of protection. As the auto sector uses imported intermediate inputs, the actual protection given to the sector is measured in terms of domestic processing. The effective rate of protection (ERP) quantifies the extent of protection given to producers, in the form of duty protection (tariffs) available on intermediate inputs and finished outputs. The comparison is made relative to how much of domestic value addition has only taken place due to protection. It is the percentage increase in domestic value added over the free-trade level and is calculated by computing the difference between the total value of goods produced and the value of imported inputs, at respective tariffs. The ERP of product *i* is defined as the difference between its value added (per unit of output) at domestic prices, (i.e., inclusive of tariffs on the finished product and the intermediate inputs) and its corresponding value added at world price (i.e., price prevailing under free trade).

$$g_j = \tau_j - a_{ij}\tau_i / 1 - a_{ij}$$

[61] (Reis & Taglioni, 2013)
[62] (Indus Motor Corporation, 2015)
[63] (BMI Research, 2015)

where g_j = effective protective rate for activity *j*;

a_{ij} = share of *i* is cost of *j* at free trade prices;

τ_j = nominal tariff rate on *j*;

τ_i= nominal tariff rate on *i*.

The ERP tells us that for every $1 of value added at international prices, domestic manufacturers receive the equivalent of $(1+$g_j$ %) in the domestic market. This means that domestic producers can charge $(1+$g_j$ %) and still compete with imported goods, due to protection. For a detailed discussion of ERPs, see Appendix 10.2.

There are many data constraints when trying to estimate ERPs. Technical coefficients a_{ij} are calculated from Input-Output (I-O) tables as the share of the intermediate inputs (domestic and imported) in the final output. Recently, Federal Board of Revenue, Pakistan in conjunction with the World Bank, has constructed a new I-O (81*81 sector) matrix for the economy. However, these tables are outdated as they are based on relationships obtained in a 1965 survey.

Calculating ERPs for the automotive sector would entail data collection on world and domestic prices, and constructing updated Input-Output tables. Data on world prices is not forthcoming due to the issue of transfer pricing. Other studies that have attempted this exercise have either used the Census of Manufacturing Industries (CMI) 2005-06 data (see Pasha et al., 2012), and/or made assumptions on value added at domestic and world prices (see Pursell et al., 2011). However, our attempts to calculate input cost shares using the CMI 2005-06 run into problems due to internal inconsistencies within the CMI. Moreover, even if it were possible, there would be little value in repeating this exercise as no new CMI has been conducted, although data is currently being collected for a new one. The methodology used in Pursell et al. (2011) that makes assumptions about input-output ratios in terms of world prices on the basis of another study [Kemal, 2004] would also be outdated and not offer any new insights. Therefore we have used the formula for ERPs that is being used by the GOP in order to calculate rough estimates using survey-based data provided by the industry.

The formula used by the Competition Commission of Pakistan to calculate ERPs in light of data limitations is given below:

$$gj = \left(\tau_{CBU} - \%Import * \tau_{CKD}\right) \middle| \left(100 - \%\, Import\right)$$

This reflects the ERP principle of

$$g_j = \tau_f - \tau_i / VA_{int}$$

where:

τ_f is the total tariff paid, theoretically or actually, on the final product

τ_i=total tariffs paid, theoretically or actually, on the importable inputs used to make the product

VA_{int} is the international value added

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Our analysis is based on the assumption that it does not matter if the inputs or final outputs are actually imported. As long as they are importable, the domestic price of inputs will have risen by the equivalent tariff. This means that we assume that domestic prices are raised to the level of tariff protection offered in the TBS, so that the difference between world and domestic prices is the same as the tariffs. In turn this implies that all inputs and outputs in the domestic market that have been localized will be sold on the market at a price that is 50 per cent higher, while non-localized domestic inputs will be priced 32.5 per cent higher, and the local price of CBUs will reflect protection rates. The ERPs thus calculated are for assembly, and provide maximum or potential ERPs, as they are based on the assumption that all tariffs are binding. However, our regional price analysis of cars shows that Pakistani prices are not priced up to the available protection. This indicates that firstly, implicit nominal protection is lower than explicit or available protection, and secondly, that available effective protection is much higher than actual effective protection. This implies that there is some cushion in tariff policies, whereby tariffs may be reduced without affecting the actual protection that is being offered to the producers. Such tariff reduction should not create any opposition from the automotive sector, because they are currently only using a part of the protection they are being offered under the TBS.

It must be noted that this study does not attempt to estimate ERPs for the auto parts segment, because the inputs vary by part produced, and therefore there are as many ERPs as there are auto parts. We have attempted to get the required information in our stakeholder interviews, but the level of detail that the producers are able or willing to provide does not allow us to make useful calculations.

Various estimates of ERPs for the automotive sector differ by i. assumptions on domestic value added and ii. input cost shares (Pasha, 2013); or whether i. domestic input prices fully rise to tariff levels and ii. manufacturers fully price up to the level of protection available on CBUs (Pursell et al., 2011).

Table 1-14 Previous estimates of ERPs in the auto sector

	ERPs (%)	
Car Assembly	**Pasha (2013)**	**Pursell et al. (2011)**
800cc	98.5	Ranges from 48 to 104*
800 - 1000cc	113.2	-
1000 - 1500cc	153.4	-
1500 - 1800cc	374.2	-
Motorcycles	196.1	-
Parts	78.3	-
Data source	Uses CMI 05-06 to compute domestic value; input shares are assumed	Assumes input-output ratios at world prices, roughly based on Kemal (2004)

Note: The study calculates the ERPs for assembly, for vendors and then the integrated car production process. It also calculates the actual ERP using the price differential between cars in the world and Pakistan*
Source: Pursell, Khan, & Gulzar, 2011 ; Pasha, 2013.

It can be seen from Table 1-14, that effective protection across the sector is quite high as estimated by Pasha (2013), ranging from 98.5 to 374 per cent.

Our calculations are summarized in Table 1-15 and illustrated in Figure 1-10 below. Since the CBU duty varies by engine size, the effective protection too varies by engine size. Also, the impact of the

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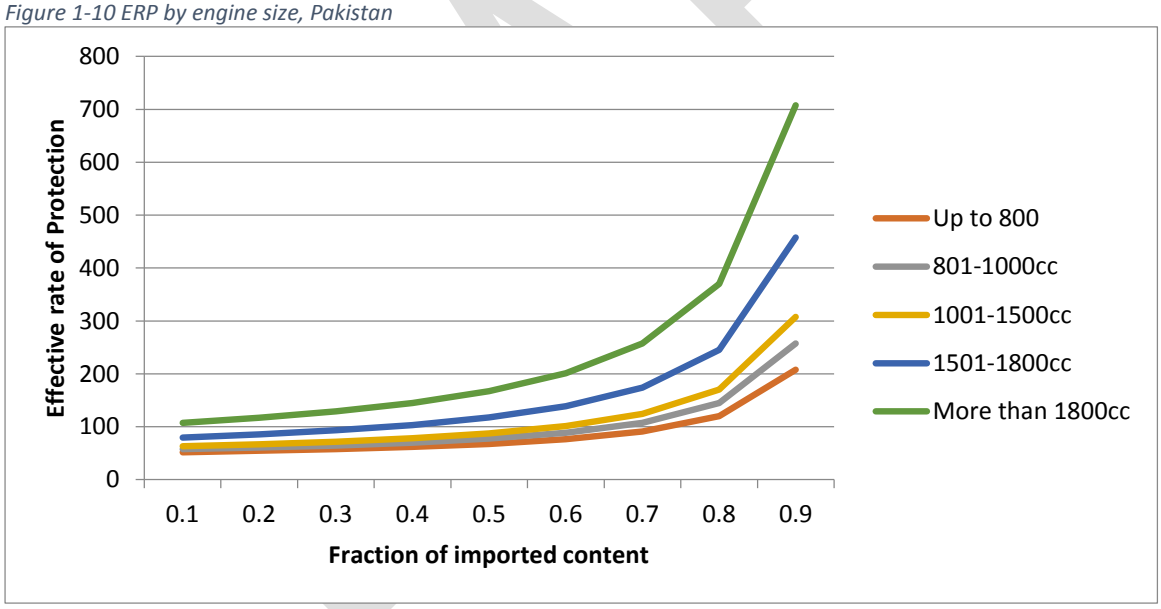
import tariff is higher for cars that have higher import content. Since reliable, consistent data on import content is not available, the table presents ERP for a range of local content levels. In bold is the actual range of local content in Pakistan. The effective protection is high. However, when seen in the context of effective protection in the auto industry globally and regionally (detailed in section 6), it is clear that Pakistan's auto industry is not an outlier – the auto industry is protected more heavily than other industries globally for the backwards and forward linkage effects that it is expected to produce.

Table 1-15 Effective Protection rates

Fraction Imported (%Import)	Up to 800	801-1000cc	1001-1500cc	1501-1800cc	More than 1800cc
0.1	52	58	63	80	108
0.2	54	61	67	86	117
0.3	58	65	72	93	129
0.4	62	70	78	103	145
0.5	68	78	88	118	168
0.6	76	89	101	139	201
0.7	91	108	124	174	258
0.8	120	145	170	245	370
0.9	208	258	308	458	708

Source: Author's calculations

Figure 1-10 ERP by engine size, Pakistan



Source: Author's calculations

Owing to tariff escalation, downstream industries in the auto sector producing final goods benefit from higher effective protection. And while we are unable to estimate the ERP for auto parts manufacturers, it is expected that upstream industries will enjoy lower protection. In fact, given the rampant informal trade in auto parts that takes place through Pakistan's porous borders, the tariff actually paid on many auto parts is zero, and consequently there is negligible protection for the auto parts manufacturers in Pakistan.

1.3.3.9 ERPs and the AIDP

The effective protection available to the auto sector should have decreased given that output tariffs on CBUs were reduced marginally, but as duties on components also fell, ERPs rose. Comparisons of ERPs during the Five-Year Tariff Plan suggest that ERPs only declined for cars in the 1000-1500cc range, from 73 to 68 per cent between 2007 and 2012. Over the same time, ERPs for the small car category (up to 800cc) increased from 55 to 57 per cent, and also rose by three percentage points for cars in the 800-1000cc category.[64] This is not surprising as the Five-Year Tariff Plan was only implemented in the first year, as discussed above.

The selective implementation of the AIDP discouraged the development of the auto sector by generating high ERPs for the car sub-sector and few incentives to develop the vending chain. This contributed to the poor business environment set by macro-economic factors including terrorism and security threats. The AIIP stipulated that new entrants would not be required to localize components as long as their in-house production facilities exist as verified by the EDB. New entrants were allowed to import 100 per cent CKD parts at 32.5 per cent duty for three years. Similarly, for localized parts, imports were allowed at 32.5 per cent duty as 100 per cent CKD, whereas OEMs paid 50 per cent duty on such imports. The existing OEMs argue that this protection attracts assemblers, not manufacturers, which leads to a hollowing out of local engineering capacities. However, there is a time restriction of three years for these special concessions for new entrants, and if implemented strictly, would allow the new entrants some space to develop local capacity such that they could engage in progressive manufacturing locally, following the same path as the entrenched OEMs. Non-tariff incentives like cheap land, raw materials, infrastructure and utilities can also be offered to offset the first mover advantage of OEMs and counter their excess capacities.

1.3.3.10 Tariff rationalization

Tariff rationalization refers to the process of reducing the number and range of actual tariff rates that can be applied and also limiting the use of discretionary exemptions. The current tariff structure and the concessions provided under the TBS pose serious challenges. High taxes discourage investment. Rationalization of the tariff structure is an objective of the STPF 2012-15. This will enhance competitiveness, remove anti-export biases, promote domestic and foreign investment, and achieve industrial development.[65]

The Planning Commission of Pakistan has made certain policy recommendations regarding the tariff structure of the economy in order to promote exports and increase competitiveness. These include elimination of Regulatory Duties, overall cuts in tariffs to the 10 per cent levels of 2002-03, starting with a smaller increase to 25 per cent from top to bottom, and specific reductions for the automotive sector. These include an initial uniform 35 per cent tariff on all auto products, followed by further reductions in a phased manner as part of an overhaul of auto tariffs. Export subsidies will also be reconsidered.

Local OEMs have demanded tax reforms for the automotive sector in the 2015 budget, including a reduction in turnover and withholding tax (WHT), suggesting that turnover tax paid by authorized dealers on the sale of cars must be cut from 1 to 0.2 per cent. Similarly, they would like to abolish withholding tax on cars at the time of sale (currently at 3.5 per cent according to Section 153 of the

[64] (Pasha, 2013)
[65] (MOC, Government of Pakistan, 2015b)

Income Tax Ordinance 2001), and replace it with withholding tax at the time of registration of new and used imported cars, to offset the advantages that used car importers are getting. They also want the government to levy import duties on used cars at global rates. Since many stakeholders have liquidity issues due to the fact that their rebates are often pending at the FBR, the OEMs would also like the government to cut WHT from 5 to 1 per cent on intermediary inputs (plant and machinery) and raw materials.[66]

Trade policy reforms under the IMF program are scheduled to take place over the next three years, effective from July 2017. The most significant aspect of this reform is tariff rationalization in terms of both numbers and rates of slabs. In FY 2010-11, eight tariff slabs existed with maximum rates of 35 per cent. However by FY2014-15, slabs were reduced to six, and peak tariffs have been decreased from 30 to 25 per cent.[67]

The preferred way of reducing the level and dispersion of tariffs is to lower tariff peaks and the maximum customs duty rates through the "top down" approach, i.e. starting from the final product down to the inputs. Instead, the government has announced repeatedly in its annual budgets selective duty exemptions in the name of supporting growth and exports of specific industries. Such measures are likely to be ineffective. First, these changes increase tariff dispersion. Second, without accompanying measures to improve market access in the targeted industries, they tend to raise the effective rate of protection for the final products of industries that may not be internationally competitive. Ultimately, selective tariff reductions put bureaucrats in control of trade, and not the market.

The existing tariff scheme provides "customized" protection as needed by end user. Tariff rationalization would lead to better allocation of resources to high value-added sectors with better productivity and lower costs. Secondly, it would lead to less under-invoicing and smuggling by eliminating the protection for final goods. Thirdly, it will correct the anti-export bias that arises due to tariff protection for imports. It must also be borne in mind that producers would prefer lower tariffs on inputs rather than outputs. This is because in order to benefit from tariffs on final goods, producers have to raise prices up to the available protection. This would lower demand, as the demand for durable products such as cars is more elastic in the short run (purchases may easily be delayed). This is why car OEMs in Pakistan often do not price up to the level of CBU protection available (see discussion on ERPs). In addition, as there are few car OEMs, they can act as monopsonist buyers of parts from vendors, forcing them to accept much lower prices of inputs while enjoying high tariff protection on their own outputs. Therefore, tariff rationalization must follow one simple premise: tariffs must be as low and uniform as possible across all automotive products. Even then, after adding income withholding tax, sales tax, and customs duty, total taxes would remain high.

More importantly, regulatory duties must be eliminated as they create preferential margins for countries with which Pakistan has signed PTAs/FTAs as RDs do not apply to imports from such countries. This means that Pakistan is not only subsidizing and protecting high cost producers in the auto sector of Pakistan, but also of its trading partners. However, some of this trade diversion will be reduced as most auto products fall on the negative list (for FTAs) or positive lists (for PTAs) of both contracting parties.

[66] (Hamza, 2014)
[67] (WTO, 2015c)

1.3.4 Investment policies

The Investment Policy 2013-2017 has a special focus on the automotive sector. The policy includes the following measures

i. Public-private sector dialogue (PPD) for policy formulation

ii. FDI generation and promotion campaign

iii. Investment facilitation (one window operation)

iv. Development of special economic zones (SEZs)

v. Coordination networks with stakeholders

The automotive industry is one of the target sectors in the Government's 2013-17 Investment Strategy, with provisions for special economic zones (SEZs) as well as clusters.[68] A Special Economic Zones Act in the new policy offers incentives for domestic and international investors to develop industrial clusters, either through PPP or the private sector. The SEZ Act allows a one-time initial exemption of duties and taxes on machinery for both the developers of the zone and the companies in it. More importantly, income will be tax exempt for ten years.[69]

The general Investment Policy announced by the Government's Board of Investment is very liberal, especially for foreign investors (see Table 1-16).

Table 1-16 Investment Policies

Policy parameter	**Features**
Government permission	Not required
Remittance of capital, profits, dividends, etc.	Allowed
Upper limit of allowed foreign equity	100%
Customs duty on import of PME	5%
Tax relief (IDA, % of PME cost)*	25%
Royalty & technical fee for technology transfer	No restriction for payment of royalty & technical fee.

*Note: * IDA is Initial Depreciation Allowance; PME: Plant, machinery, and equipment*
Source: Board of Investment, Government of Pakistan, 2015

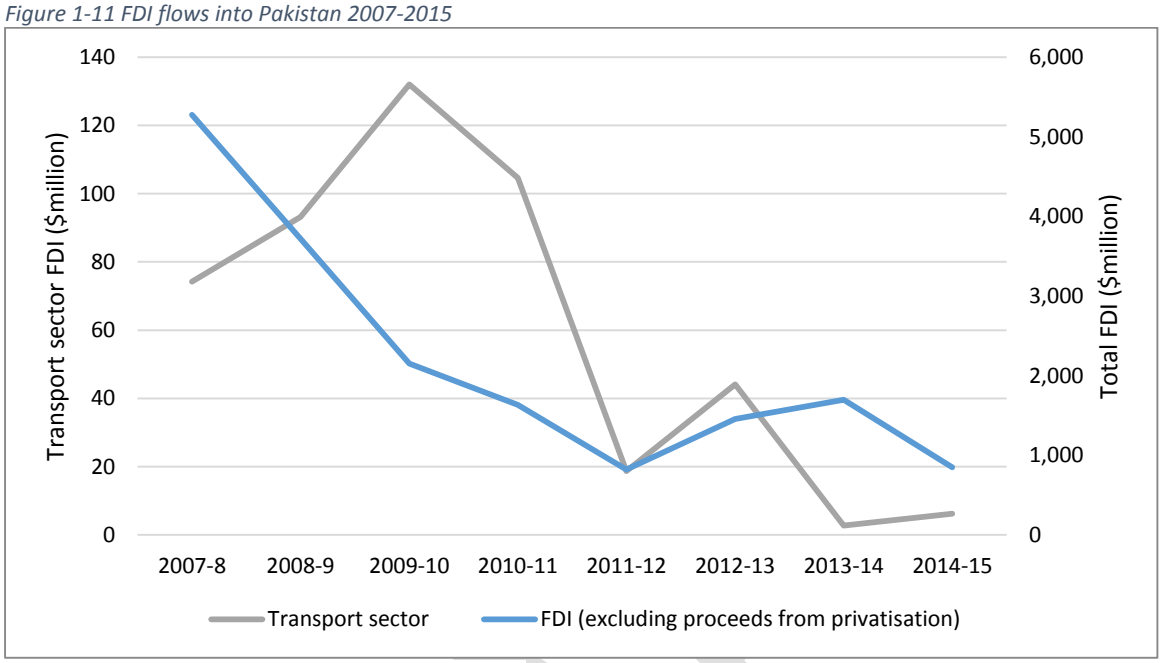
In light of Pakistan's relatively small vehicle fleet and high population, the car density is quite low, making Pakistan an attractive destination for FDI. Indeed, in the last AIDP, the investment target was US$3 billion, which was never met. The export target of US$650 million was also not met by the auto industry, on account of low growth in the sector over the past decade.

FDI is Pakistan has fallen across the board, not just in the auto sector. Figure 1-11 illustrates. However, the Investment Policy 2013-17 aims to increase FDI to US$5.5 billion by 2018. A long-term stable policy environment is needed because approximately US$0.08-0.1 billion investment is made by vendors and OEMs 30 months prior to launching a new model. Changes could alter project

[68] (Board of Investment, Government of Pakistan, 2013)
[69] (WTO, 2015c)

feasibilities.[70] Investment in Pakistan's auto sector in 2014 stood at US$27.3 million, of which US$24.9 went to car assembly and US$ 3.1 million for motorcycles. This is in contrast to India, which received US$1.5 billion in FDI in the same year.[71]

Figure 1-11 FDI flows into Pakistan 2007-2015



Source: Board of Investment, Government of Pakistan

Foreign investment is welcome, for instance, Indian businesses are free to invest in Pakistan, and they could potentially set up plants in Pakistani Punjab to cut down on freight costs or have joint ventures. In addition, the FDI regime in Pakistan is very liberal and foreign investors could take advantage of investment opportunities in the auto sector. These include joint venture schemes for exporting auto parts that are not currently localized, a tractor assembly plant, as well as technological support for manufacturing car sub-assemblies, assemblies and components.[72] However, there are costs of doing business with India (see NTMs) that raise transaction costs.

One of the most important issues facing both existing firms and new entrants is uncertainty and poor implementation. There have been 30 changes in government policy related to the auto sector between 2007-14, which makes it very difficult for the firms to plan volumes and the recovery of their investments in fixed assets. There are no incentives given to the industry to match those provided by India, such as tax breaks and privileged access to subsidized land. Since investment policies in Pakistan do exist, as discussed above, this is largely an issue of implementation.

1.3.4.1 Investment Policy 2013

The investment policy of Pakistan in 2013 had a particular focus on FDI. [73] The aim was to increase the total FDI in Pakistan from US$ 2 billion in 2013 to US$ 4 billion in 2020. It is structured around four basic principles:

[70] (Indus Motor Corporation, 2015)
[71] (Hamza, 2014)
[72] (EDB, 2011)
[73] (Board of Investment, Government of Pakistan, 2013)

Decreasing the cost of doing business in Pakistan not only in terms of money but also in terms of time. SBP and SECP in this regard have removed the equity caps from the banking and the non-banking financial services. Also there is complete freedom of investment or repatriation of profits, dividends and disinvestments

i. Decreasing the processes for doing business through one window operation and focusing of deregulation and streamlining for minimizing the cost of doing business

ii. Ease of doing business by creating special economic zones and clusters. As per the SEZ Act 2012, Board of Investment seeks to establish backward and forward linkages in the market with supply chain availability

iii. Linking trade, industrial and monetary policies of Pakistan to enhance transparency and consistency

In addition the policy focuses on factors that are important for the investor, namely

i. Level of relative risk. Several layers of legal cover are available to potential investors. For example, the Multilateral Investment Guarantee Agency (MIGA) of the World Bank, International Investment Act 2011 and Arbitration Agreements and Foreign Arbitral Awards

ii. Market access: the size of the domestic market and the access to the international markets

iii. Cost/availability/quality of inputs such as raw materials, energy and taxes etc.

iv. Connectivity through transportation and communication networks e.g. the time, cost and reliability of sea and land routes

v. Openness of regulatory regime. The Federal Board of Revenue (FBR) only inquires if the required income tax has been paid on the investment and does not inquire about the source of investment according to the new investment policy. Also no NOC (No Objection Certificate) is required by the provincial governments and bank accounts by foreign companies can be opened without the approval from the Board of Investment.[74]

Pakistan hasn't been able to fully utilize its FDI potential because of its unstable macroeconomic policies which create uncertainty for the local producers as discussed earlier in case of reversal of sales tax regimes for tractors and send negative signals for the foreign investors. Infrastructure and land ports need to be developed further. Law and order situation and political instability has been another blow to the overall FDI flows in Pakistan. Empirical evidence suggests that foreign investors do take into account the political risks and institutional uncertainties while making their investments decisions.[75]

[74] (State Bank of Pakistan, 2010)
[75] (World Bank, 2015b)

1.3.4.2 Foreign Direct Investment

Foreign direct investment (FDI) is a major source of private external flows, especially for developing countries. FDI is important for technology transfers, human capital formation, greater regional integration, increased competition and entrepreneurship. On the other hand, it is also believed that it might hurt local businesses and cost local jobs as multinational conglomerates can drive out small and weaker local competition and therefore protection should be enjoyed by the local industries. Pakistan has the potential to attract significant FDI since it is ranked 26rd , globally, on GDP based on purchasing power parity valuation[76] and has the 9th largest labor force in the world (57.24 million according to the Labor Force Survey 2010-11).[77] Pakistan also enjoys one of the most liberal FDI regimes, with 100 per cent equity allowance for foreign manufacturers and infrastructure developers. Perhaps because of this very reason, FDI net inflow in Pakistan during 2012-13 was US$1447.3 million, representing an increase of 76 per cent increase over 2011-12. However, the focus of this FDI has been mainly the oil and gas exploration sector.

There was strict control on FDI in Pakistan until 1958. Import controls were later relaxed and automatic import licenses were issued in 1961. Foreign banks can now open up their branches in Pakistan. There was a focus on nationalization through most of the 1970s. Concessions were introduced on the import of machinery and laws were passed to protect sovereign investments, which helped increase FDI flows to Pakistan.[78] Thereafter there was a switch towards more liberalized market-based economic policies. The maximum tariff was brought down from 225 per cent to 125 per cent, which incidentally continued to exclude the auto sector (tariff of up to 250 per cent).[79]

Later under the pressure of the IMF, Pakistan's economy underwent a series of structural adjustment programs.[80] Trade policy was revised and fiscal and tariff incentives were given to attract foreign investment to Pakistan. The maximum tariff was now lowered to 80 per cent. Amongst other reforms, the investment policy relaxed business visa restrictions, making FDI even more viable in the country.[81] Musharraf's Economic Regulation program had a positive impact on Pakistani economy at large, and FDI in particular. The focus had now shifted to reducing anti- export and anti-import biases by opening the economy up to international trade and investment. Steps were also taken for greater regional integration with the signing of the SAFTA treaty in 2004. As a result Pakistan, along with 46 countries, is now signatory on the protection of investment.[82]

1.4 Standards

Pakistan Standards govern the automotive and parts sector, with a central body, the PSQCA, to implement and formulate standards. Pakistan Standards apply to two- and three-wheelers, but not cars. Vehicular exhaust emission standards are monitored by the National Environmental Quality Standards (NEQS), while safety standards are outlined in the Motor Vehicles' Rules. However, these

[76] (KNOEMA, 2015)
[77] (Government of Pakistan, 2013)
[78] (Government of Punjab,1976)
[79] (Shoaib & Bandara, 2009, p. 24)
[80] ibid, p. 29
[81](State Bank of Pakistan, 1997)
[82] (Shoaib & Bandara, 2009, p. 32)

are not implemented in light of insufficient capacity in the Offices of the Motor Vehicles Examiner for standards testing.

With no implementation of national standards for firms to comply with, there is also consequently no recall policy that would require firms to withdraw from use those parts that did not meet national standards. In the absence of such requirements, any deviations against global standards of OEMs are recalled at the discretion of the OEMs. For example, Indus Motors claim to have withdrawn several such parts under their 'Special Service Campaigns' which are advertised in national newspapers. However, the fact that there is no **requirement** by the government to do so restricts consumer protection. The lack of standards and resultantly, a recall policy, means that consumers are poorly informed about the relative quality of the cars because this signal is missing from the market.

Parts producers meet international standards (ISO 9001, EN ISO 14001, etc.).[83] Local vendors that sell to OEMs are certified by the parent company, while exporters meet stringent international quality and technical specifications. Parts produced for the Japanese OEMs go through a testing process in Japan by the OEM. First, the parts are tested. Once approved they are used to assemble a car, which is then sent CBU to Japan and is tested again.

In June 2015, the government requested the top OEMs to provide details of their technical standards to the EDB and PSQCA. In consultation with the National Standards Committee (Automobile Division), the three key players were expected to develop a unified auto standard.[84] Currently, there is also little awareness among producers regarding which laboratories are acceptable to SAARC countries, and the demand for a dedicated automotive testing laboratory remains. In the meantime, to ensure that local capabilities are developed, international collaboration with accredited bodies such as the International Road Transport (TIR) and the Transport and Road Research Laboratories will be required. Investment in Pakistan of international accreditation and testing entities such as Global GAP or ISO is urgently required to allow Pakistan to export.

The lack of testing facilities also mean that imports cannot be regulated for consumer protection, and that the government is excessively dependent on the OEMs to define and conform to their own standards. Moreover, from the perspective of the OEMs, there is effectively a penalty for firms that meet global standards. Meeting global standards without any government or consumer requirement to do so raises the cost of producing cars, and consequently the price. The demand for cars is elastic, and the increase in price causes a decline in demand as consumers substitute towards cheaper, non-compliant cars. Therefore unilateral attempts to meet global standards would result in a direct reduction in market share vis-à -vis those firms that compromise on global standards for the Pakistani market.

This is in contrast with regional countries, where standards are enforced more strictly. For instance, in India there are 24 bodies that set standards at both the state and central levels, with an overarching body—the Bureau of India Standards (BIS) — as the main body for setting standards. However, this does force exporters to comply with various standards. In the case of India, Pakistan does not meet the auto standards of India. Bharat I and Bharat II standards—based on the Indian drive cycle— are different from EU and Japanese emission standards, and exporters face difficulties in gearing up their production to meet Indian standards without the guarantee that their products will be gives access. A Mutual Recognition of Agreements was signed in 2012 between the Pakistan

[83] (Hashmi & Bana, 2013)
[84] (Ghumman, Local auto assemblers agree to share technical standards, 2015)

Standards and Quality Control Authority (PSQCA) and the Bureau of Indian Standards (BIS). This allows for equivalence of standards across countries, but has not yet been implemented in the proper spirit.

The PSQCA must create accredited testing laboratories near the border to make sure that Pakistani products can meet international standards, and also that sub-standard products cannot enter the local market. The Ministry of Environment, the PSQCA, the Hydrocarbon Development Institute, and PAMA can use Euro III as a benchmark to improve emission standards. In the meantime, lowering duties on Euro III- (and above) compliant engines will help lower production costs, as can importing engines from India.

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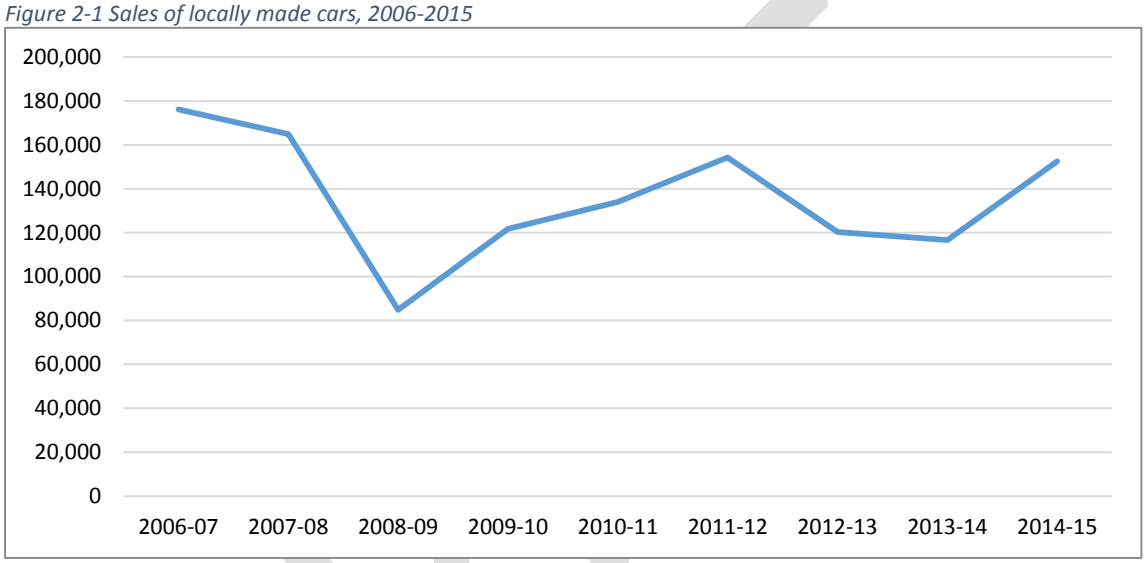
2 Cars

2.1 Market structure

2.1.1 A snapshot of the passenger car industry

The passenger car industry in Pakistan comprises a market of approximately 176,000 cars per annum (including imports), with a capacity to produce 290,000 cars a year. In the figure below, data for 2014-15 show a sharp upward trend in the sales of locally made cars, registering an increase of approximately 31 per cent from 2013-14.

Figure 2-1 Sales of locally made cars, 2006-2015



Source: EDB, 2015

The auto sector as a whole contributes US$6 billion to the national economy, representing 16 per cent of the manufacturing sector.[85] Tax payments added US$0.82 billion to the national exchequer in 2010.[86] The auto sector directly employs over 200,000 people.[87] The EDB, in consultation with industry has estimated indirect employment of approximately 1.6 million (using a multiplier of 1:8). The economic multiplier of the auto/car industry provided in the AIDP (2008) is 1:3, implying that Rs.1 of direct revenue generates Rs.3 of revenues in the vending chain. Estimates for output and employment multipliers for the auto sector, calculated from input-output tables for other developed countries, typically range between 2 and 3, so while the estimate for economic multiplier is not an outlier, the employment multiplier is likely to be a very high upper bound.[88]

The contribution to the vending chain is particularly important as the car manufacturers act as a conduit through which technical expertise and learning filters to smaller producers in their vending chain. These producers develop their capabilities with the technical support of the OEMs. EDB

[85] (Ahmed & Batool, 2015)
[86] (Competition Commission of Pakistan, 2013)
[87] Direct employment figures are industry estimates – including both payroll employees and those on daily wages.
[88] See for example OECD (2009), Stehrer and Ward (2012) and Marcusson (2010)

estimates that the downstream industry comprises approximately 2000 auto part manufacturers, out of which 400-500 are in the organized sector.

Table 2-1 summarizes the direct contributions from the three main passenger car manufacturers in Pakistan for the year 2014.

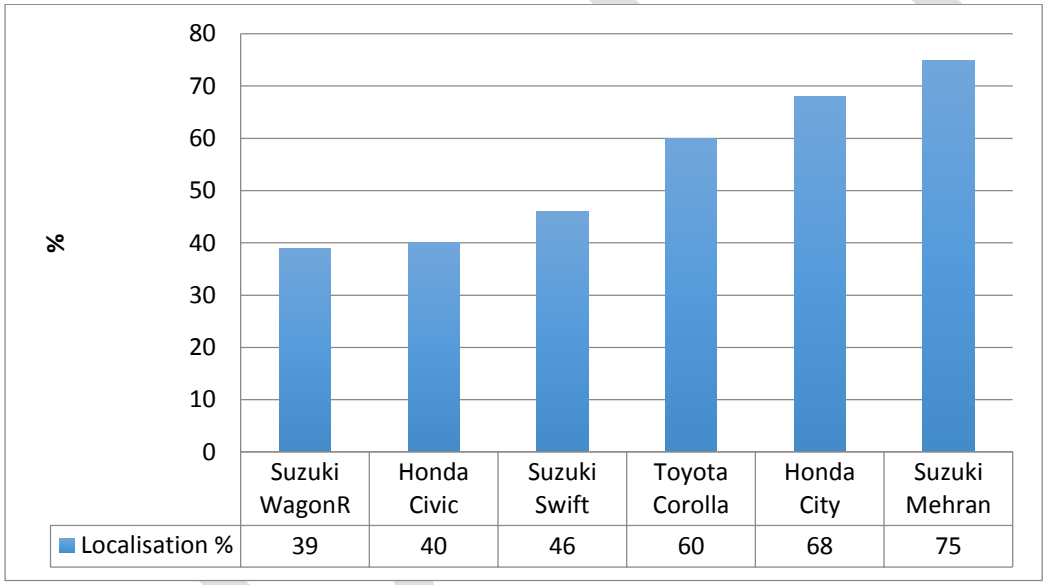
Table 2-1 Economic contribution of OEMs, 2015

	Suzuki	Toyota	Honda
Sales Revenue (Rs. bn.)	53.66	115.75	37.76
Economic contribution: Duties & Taxes[89] (Rs. bn.)	17.63	37.5	11.75
Direct Employment	*not provided	2091	1300
Vendors	110[90]	60	53

Source: OEM interviews and Annual Reports

The level of localization achieved in the car industry has varied depending on the availability of technology and the vendor strategy employed by the OEMs.[91] Figure 2-2 shows that Suzuki's long running model, Mehran, has achieved the highest local content level at 75 per cent, with Honda's Civic and Suzuki's WagonR showing the lowest localization levels at approximately 40 per cent.[92]

Figure 2-2 Localization in the passenger car segment, 2014-15



Source: OEMs

Across the board, it is the more technologically advanced and critical components that have been harder to localize, such as certain engine parts. The localization of parts requires fixed costs to be spread over a high volume of production. As market size has expanded, some of these critical engine

[89] This includes customs duty on CKD imports, sales tax, corporate income tax, WWF, WPPF, tax on utilities, tax deduction for employee salaries and tax deduction from supplies of vendor components

[90] Including those common with motorcycles, 2013 figures

[91] The vendor strategy is a function of the extent to which producers want to pursue strategies to allow localization of critical and non-critical components.

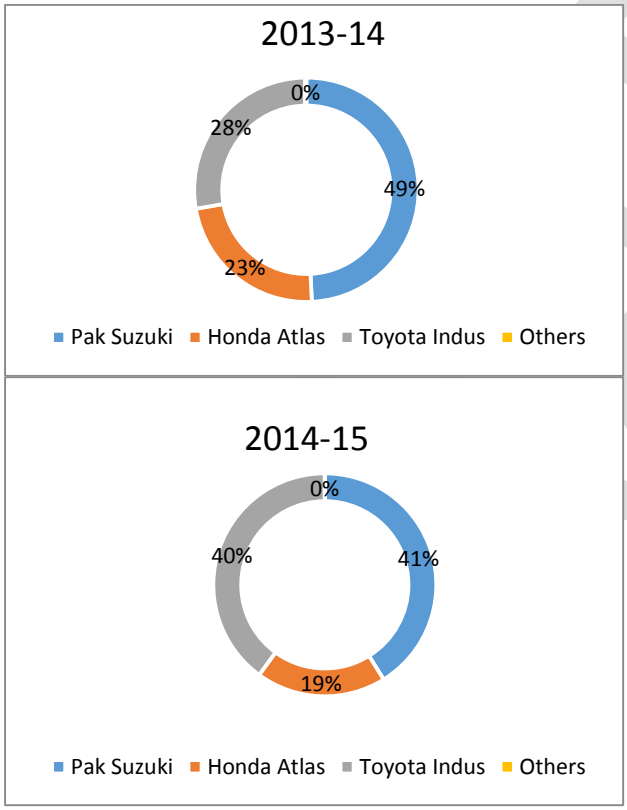
[92] Since the move to the TBS, localization is no longer monitored by the EDB. The 2004 formula for localization was a weighted average of the parts, with different weights assigned to different parts. The parts (particularly engines) which were at that time imported as CBUs are now imported as engine components, with some components being manufactured locally.

and transmission parts including starter motors, alternators, water pump, flywheels and transmission housing have now been localized in Pakistan. Other parts that require much larger fixed costs and R&D are still imported, as economies of scale for those products have not yet been reached in Pakistan. The economics of the auto-part segment is discussed in greater detail in Section 5.

2.1.2 Market shares

The car industry in Pakistan currently comprises three large players, with Japanese principals. Given the absence of other carmakers, the market analysis will focus on these three OEMs, along with imported cars. As shown by Figure 2-3, Pak Suzuki holds a dominant position with a market share of 41 per cent in 2014-15[93]. Toyota has a roughly comparable market share with 40 per cent, and Honda followed with 19 per cent. A comparison with 2013-14 also shows how dramatically the market shares can change following the introduction of a new model: Indus Motor Company launched a new model of Corolla after five years and saw market shares increase from 28 per cent to 40 per cent.

Figure 2-3 Market share of passenger cars, 2013-14 and 2014-15



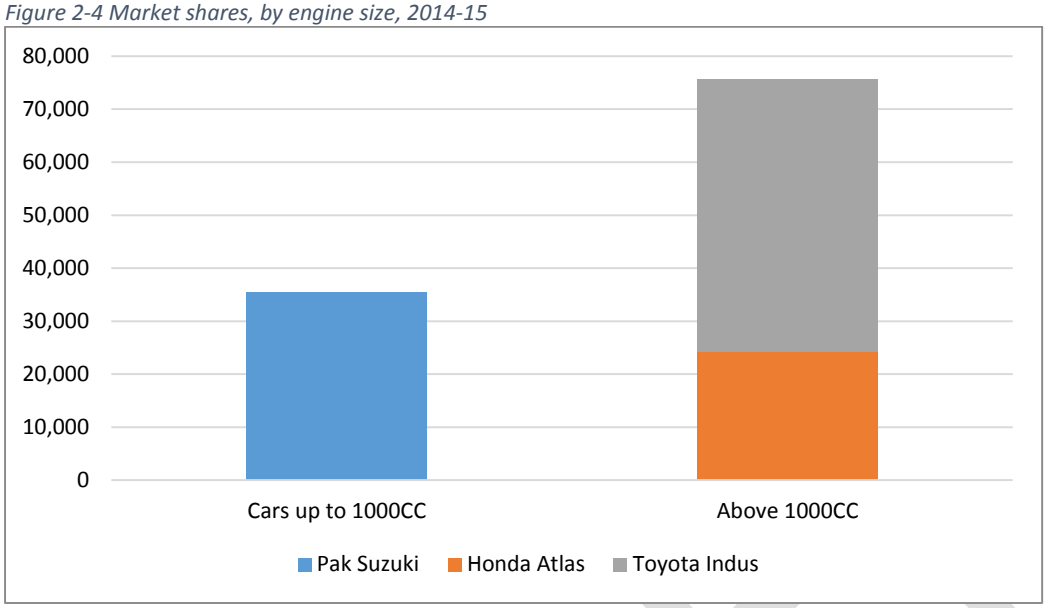
Source: EDB, 2015

Interestingly, Toyota and Honda have no presence in the small car category. In cars with engine capacities below 1000cc, Suzuki is currently the only manufacturer, whereas Suzuki also competes with Honda and Toyota in the 1300cc capacity. This is illustrated clearly in Figure 2-4, which shows the segmented nature of the market. Suzuki has a monopoly in the small car segment, while the larger car market is split mostly between Honda and Toyota. Hyundai, Suzuki's last competitor, has

[93] These figures no not include Suzuki Bolan, as that is considered a van for the purposes of our analysis

been out of production since early 2014. FAW, the Chinese carmaker, has entered the passenger car segment (1000cc and 1300cc) under technical license with a local firm Al-Haj, but these cars have not yet registered significant sales.

Figure 2-4 Market shares, by engine size, 2014-15

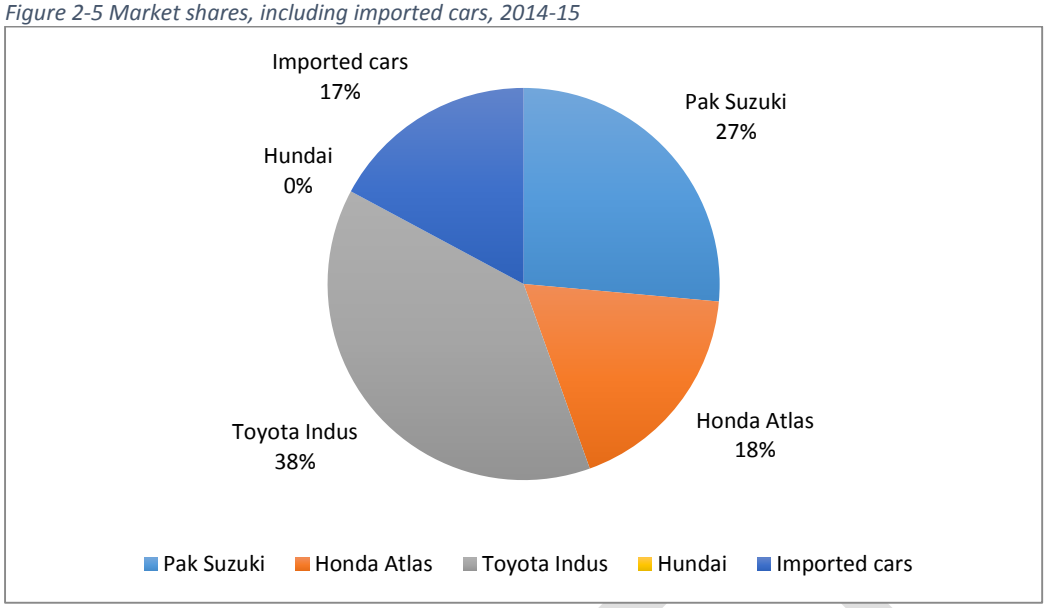


Source: EDB, 2015

Adding imported cars to the picture shows their prominent share in sales, as illustrated in Figure 2-5. The majority of these imported cars are used (rather than new), as shown in Figure 2-6. Cars below 1000cc typically make up more than half of total imported cars (Figure 2-7), which adds some element of choice in the smaller car segment (Figure 2-8). Used cars also improve choice in the larger car segments. Nevertheless, Pakistan's car market segmentation by engine capacity is unique. Despite its low per capita income, 52 per cent of car purchases were of engine size exceeding 1300cc. The opposite is true of India, where 80 per cent of demand is in the small car segment, and only 2 per cent is in the segment exceeding 1300cc. [94]

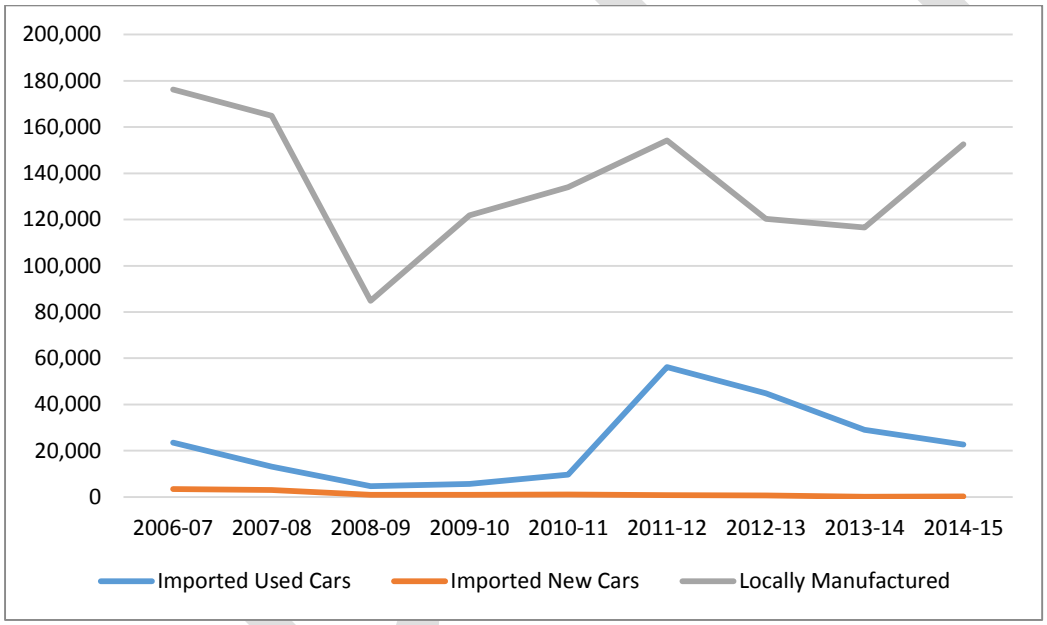
[94] (Hamza, 2014)

Figure 2-5 Market shares, including imported cars, 2014-15



Source: EDB, 2015

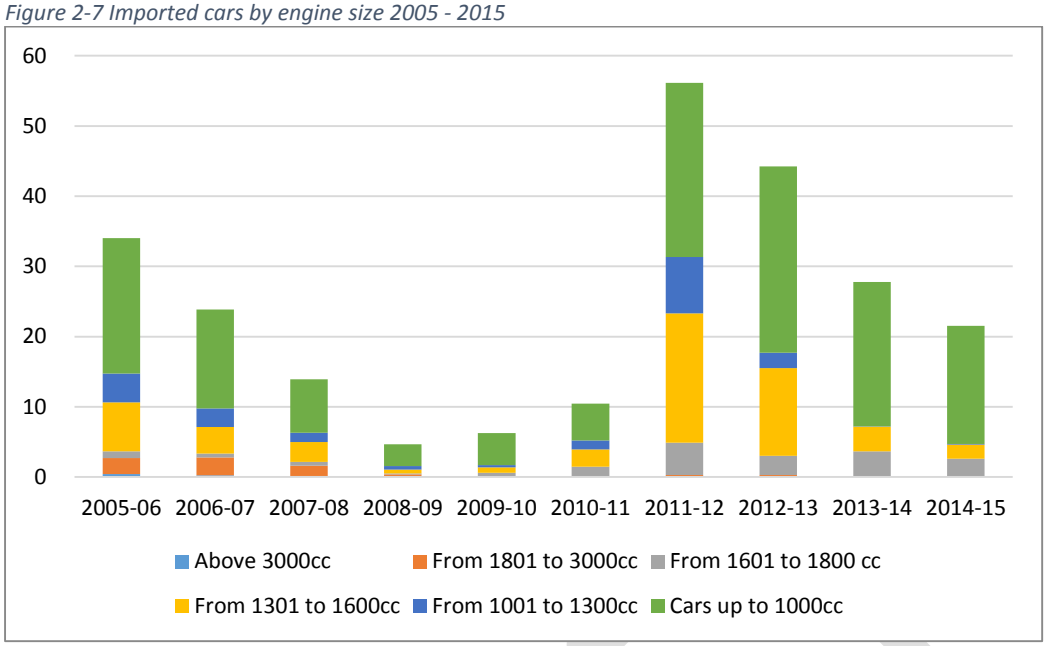
Figure 2-6 Imported cars, 2006-15



Source: FBR via EDB, 2015

It may be seen from Figure 2-6 that imports of new cars have fallen between 2006 and 2015. This could be attributed to the depreciation policies applied on the import of used cars. In 2011-12, used car imports reached an all-time high and accounted for 40.7 per cent of locally manufactured cars.

Figure 2-7 Imported cars by engine size 2005 - 2015



Source: FBR via EDB, 2015

As Figure 2-7 shows, these imports were mostly in the small passenger car category (up to 1000cc), followed by cars ranging between 1300 and 1600cc, though the number of car imports in the 1300-1600cc category have dropped substantially in the last two years.

When imported used cars are juxtaposed with local car volumes in 2014-15, local carmaker Pak Suzuki was still dominating the 1000cc market (Figure 2-8). In the 1801-3000cc and above 3000 categories 68 and 17 used cars were imported respectively. There were 290 new cars imported in 2014-15, and the breakdown by cc was not available to us.

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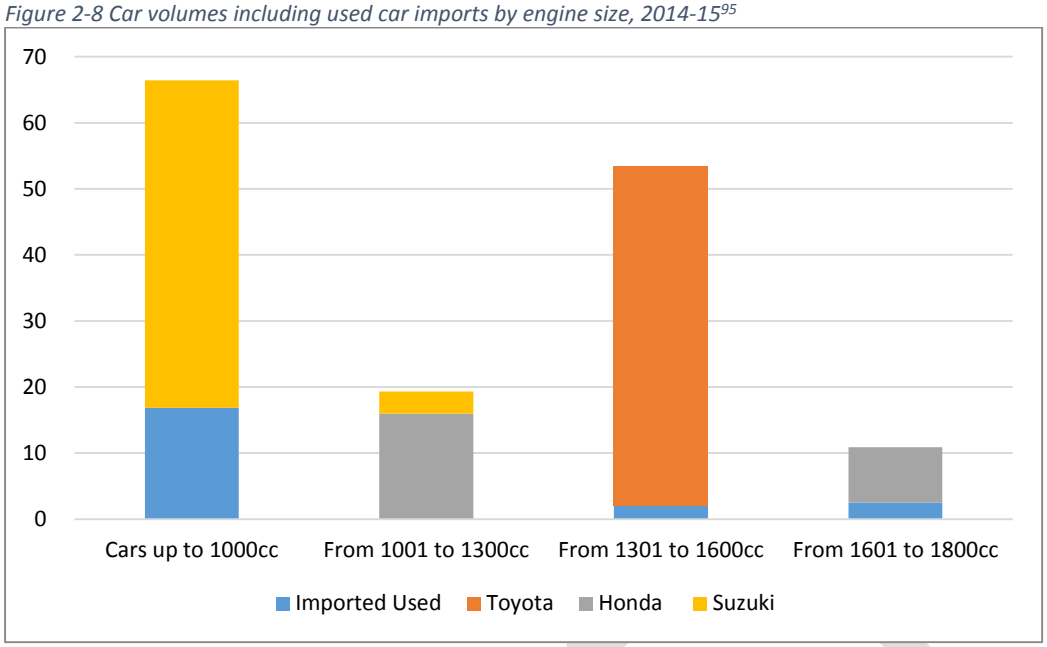
Figure 2-8 Car volumes including used car imports by engine size, 2014-15[95]



Source: EDB, 2015

The concentrated structure of the market can also be measured using the Herfindahl-Hirshman Index (HHI), a commonly used indicator of the degree of concentration. The HHI is calculated as follows:

$$HHI = \sum_{i=1}^{n} S_i^2$$

where s_i is the market share of firm i.

A lower HHI indicates a greater degree of competition, and HHIs greater than 1800 indicate markets that do not meet competitive norms. This is the threshold level of concentration for regulatory authorities when investigating a market.

The HHIs calculated for the passenger car segment are summarized in Table 2-2. Clearly the market is concentrated at levels that indicate potential non-competitive behavior.

Table 2-2 HHIs for passenger cars 2014-15

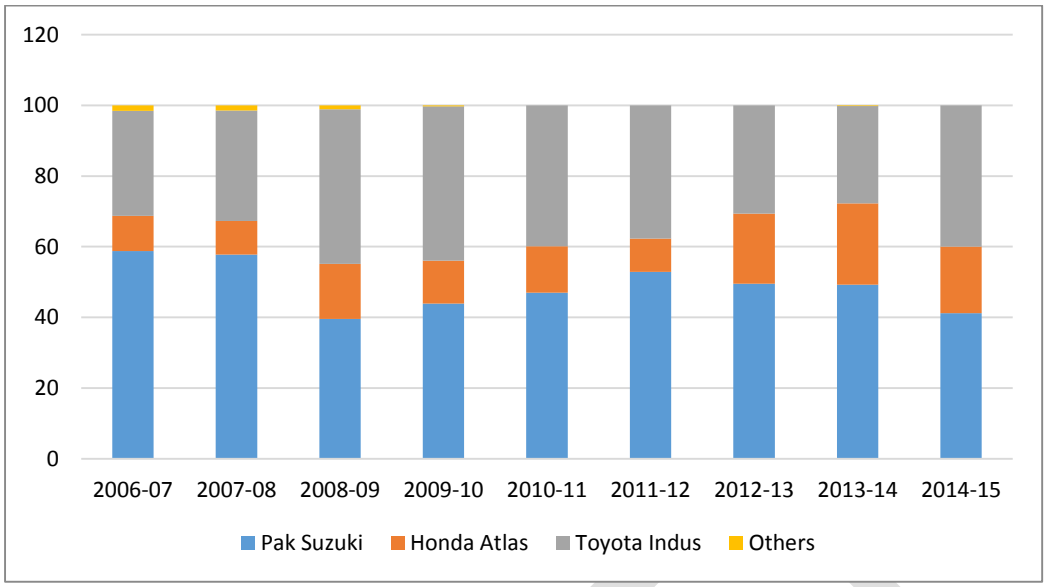
Passenger car segment	Manufacturers present in market	HHI
Below 1000CC	Suzuki	10,000
1000CC	Suzuki	10,000
Above 1000CC	Suzuki, Toyota, Honda	5,196

Source: Author's calculations using EDB data, 2015

The other interesting aspect of the car market is the stability of relative market shares, particularly for Suzuki (Figure 2-9). While there have been several attempts to enter the market, for example by Adam, Nissan and Kia, these have been short-lived and the market continues to be dominated by the three existing players.

[95] These figures no not include Suzuki Bolan, as that is considered a van for the purposes of our analysis

Figure 2-9 Trends in market share 2006-15



Source: EDB, 2015

These factors signal potential anti-competitive behavior, and as a result the passenger car sector was investigated by the Competition Commission of Pakistan in 2010. However, no conclusive evidence for collusion amongst car makers was presented, and a report documenting initial findings was heavily criticized by the industry and has since been withdrawn.[96]

While there are simultaneous movements of prices, these can also be symptoms of a shared business environment rather than anti-competitive behavior. Synchronized movements of prices for example can occur as the input prices, exchange rates and macro-economic climate all impact carmakers in the same way. Also, premiums for on-time delivery are charged by the dealers, not the car makers. Given that auto investments are bulky and tariff protection on new CBU imports is high, many OEMs have made "tariff jumping" lumpy investments during periods of high demand, such as the 1990s and post 2004, resulting in excess capacities. This makes the car industry subject to periods of shortages as well as idle capacities. Interestingly, as the government believes that car producers compete on low quantities (rather than price) and make money from supply shortages, they consider the phenomenon of "on" money evidence for imperfect competition in the car market. However, a number of car manufacturers have indicated that late deliveries stem from supply constraints that are likely to follow the launch of any new model. They do not benefit from this practice—it is the car dealerships that are responsible. To that end, the new AIDP 2015-19 proposes to split the payment: half on booking and the rest on delivery. Other solutions such as applying an adjustable withholding tax of 10% on the transfer of a new locally manufactured vehicle to its second buyer within 6 months of its original purchase date have also been made. This would reduce the bulk purchase of the vehicles by agents that are looking to profit from the "on".

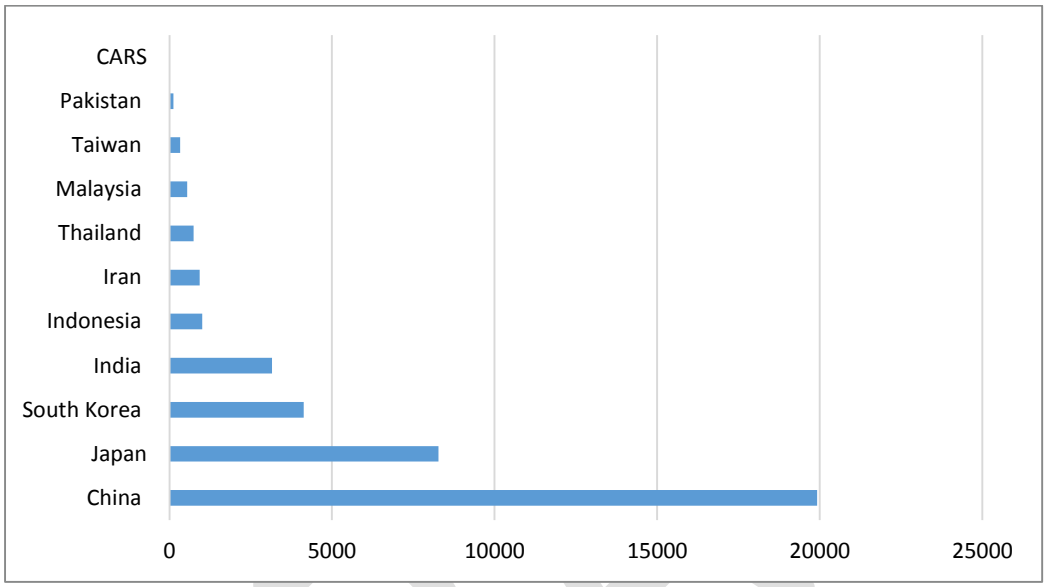
Since then, action has been action taken against PAMADA (car dealers) for collusive and anti-competitive behavior. We take this up further in Section 8 - Policy recommendations.

[96] (Customs Today, 2015b)

2.1.3 Sales Volumes

One of the most important features of the passenger car segment is the low volumes, which prevent the manufacturers from reaching economies of scale, and also act as a deterrent to market entry, the latter through high unused capacities. Domestic sales volumes are currently approximately 153,000 per annum, with total sales (including imported cars) at approximately 176,000 cars. The motorization index in 2011 for Pakistan was 12 cars per 1000 people, compared to the global average of 165.[97] Industry stakeholders that we interviewed suggest that they would achieve economies of scale at 500,000 car/annum.

Figure 2-10 Car production 2014, regional comparison



Source: OICA, 2015

Figure 2-10 compares production figures in selected Asian countries. Compared to the volumes of its neighboring countries, Pakistan's car industry is clearly not regionally significant. In fact Vietnam and the Philippines (not shown in the figure above) are the only countries in Asia to produce a smaller number of cars than Pakistan. China produces almost 20 million units per year, and India is producing well over 3 million passenger cars annually. Given the relative production volumes, it is hardly surprising that Pakistani car manufacturers struggle to become regionally competitive. Insufficient demand is an important reason for the low variety, innovation, and high prices that have characterized Pakistan's auto industry, and there is widespread recognition that increasing industry volumes are a pre-requisite to improving competitiveness.

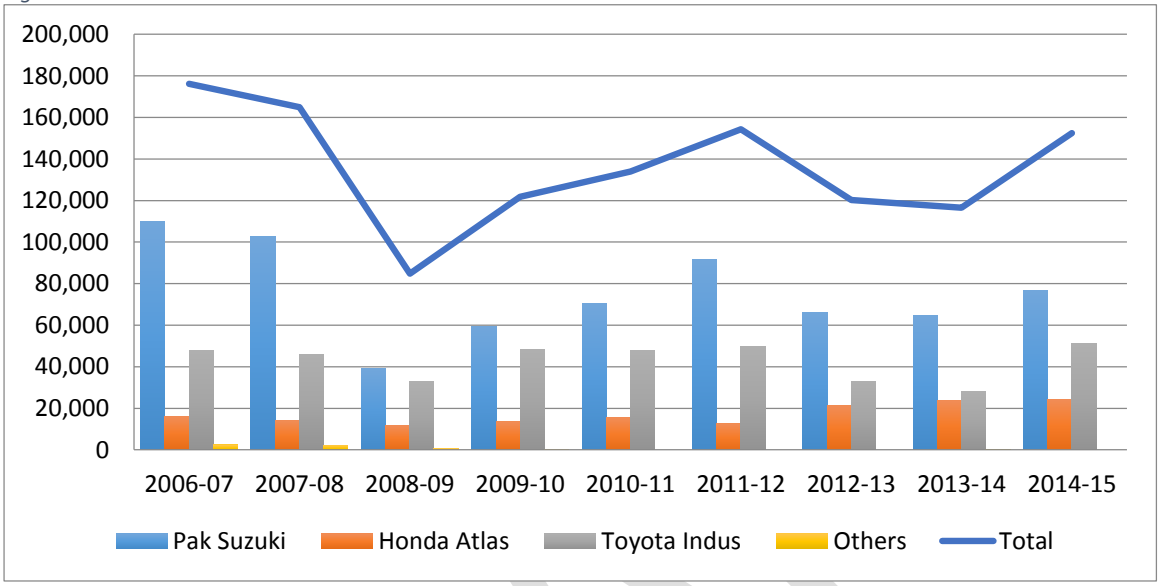
Historically, sales volumes peaked in Pakistan in 2006-07, picking up steadily from 2001 through to 2006, after a period of stagnation between 1996 and 2001. Recent sales, depicted in Figure 2-11, fell in 2008 and have regained stability since then. The figures for 2014-15 particularly show a sharp increase in sales though sales are still not at the 2006-07 levels. This peak of 2006-07 is ascribed to low interest rates and auto financing, along with a stable government. These factors have again contributed to the recent increase in sales volumes. The dip in 2008-09 on the other hand, is attributed to the global financial crisis that led to an economic slowdown, coupled with political

[97] ChartsBin 2011. Motor vehicles/1000 people

uncertainty, rising interest rates, lower auto financing, inflation, and decreasing competitiveness due to high input costs and a depreciation of the Pakistani rupee.

Low demand in Pakistan is primarily a function of low income per capita, which changes slowly depending on the economic growth of the country. However, there are two additional vents that have the potential to enlarge the market size: the development of the leasing market, and exploiting export potential which is currently unexplored.

Figure 2-11 Sales volumes 2006-15



Source: EDB, 2015

If demand rises in Pakistan, as it most likely will due to increasing per capita incomes, the need for a smaller car will have to be met by existing OEMs or new players. Given that this extra demand will on the "margin" be smaller, perhaps initial volumes will be low, especially if the car leasing market does not fully support this demand shift from motorcycles to small cars. Liquidity in the leasing sector will need to increase, since car financing through banks represented less than 20 per cent of car purchases in 2014.[98] This can be done through financing at more attractive rates, and through schemes that allow trading-in the residual value of older cars. Lowering tax rates would also help in the expansion of demand, and consequently car volumes.

In the short run, at least, the existing low volumes will entail higher production costs and the government will have to continue with its existing tariff protection for new CBUs under the TBS, as well as the concessions it has built into imports of parts. This will allow existing OEMs to continue earning economic rents on their high volume models, and car manufacturers may resist tariff reforms in the near future.

2.1.4 Regional price comparisons

The local car manufacturers claim that despite the impediments they face, their cars are not over-priced relative to others in the region. This section verifies this by comparing prices for the models manufactured in Pakistan to similar models in a range of comparison countries. Cars were matched

[98] (Khan, 2014)

on 60+ specifications (a selection of these is presented in Appendix 10.3). Details of the taxes adjusted for in this analysis for each country are also available in this Appendix (see Table 10-1). Customs duties are **not** adjusted for, as this varies depending on the level of imported content and the tariff rates on inputs. While tariff rates on inputs are available, local content data is not, and therefore, it is not possible to consistently remove customs duty paid from the prices by country and car type. Tariff on auto parts is highest in Pakistan as seen in Table 2-3 below, so adjusting for customs duties paid would lower the cost for Pakistan more substantially than in the comparison countries.

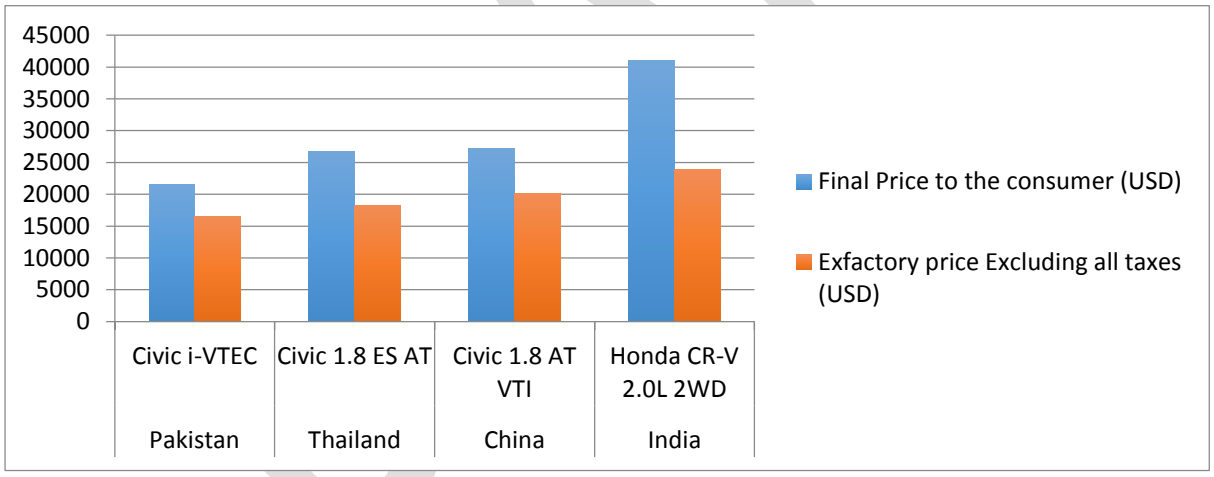
Table 2-3: Average Applied MFN Rates for Auto Parts

Countries	Average applied MFN rates for HS 8708
South Korea	8
China	9.7
Indonesia	9.8
India	10
Thailand	25
Pakistan	35

Source: WTO Tariff Download Facility, 2014

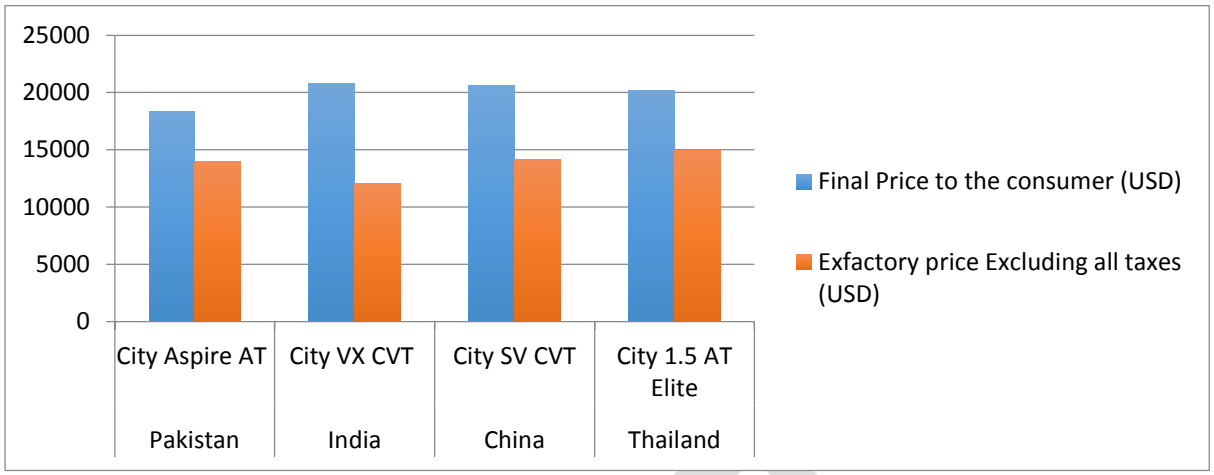
With this caveat in mind, in Figures Figure 2-12 to Figure 2-17, we present prices both excluding and including government taxes. Honda and Toyota do appear to be priced the lowest in the comparison countries, despite the higher customs duties paid on imported content. However, Suzuki cars are, in general, less expensive in China and India.

Figure 2-12 Regional Price Comparison for Honda Civic



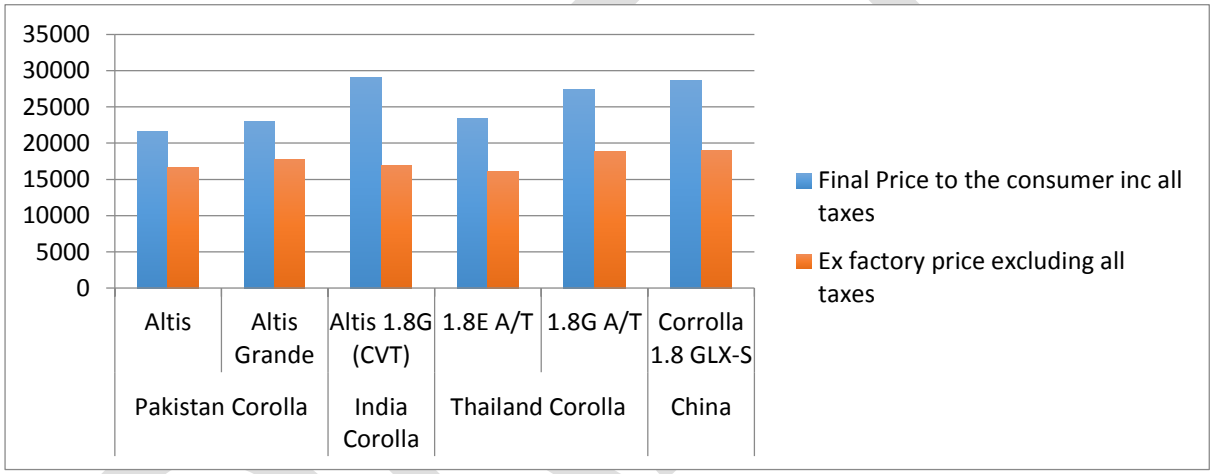
Source: Author's calculation based on information on the website

Figure 2-13 Regional Price Comparison for Honda City



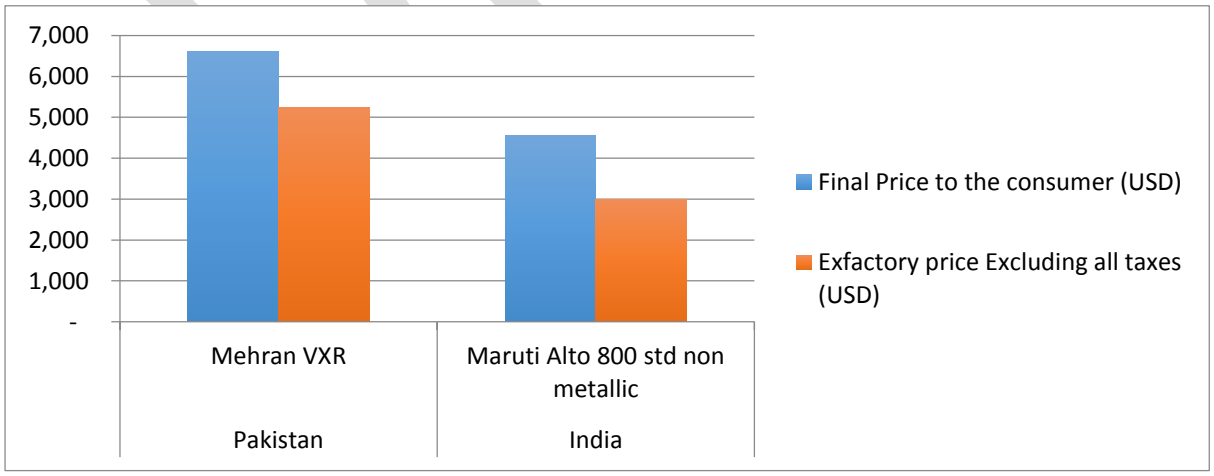
Source: Author's calculation based on information on the website

Figure 2-14 Regional Price Comparison for Toyota Corolla



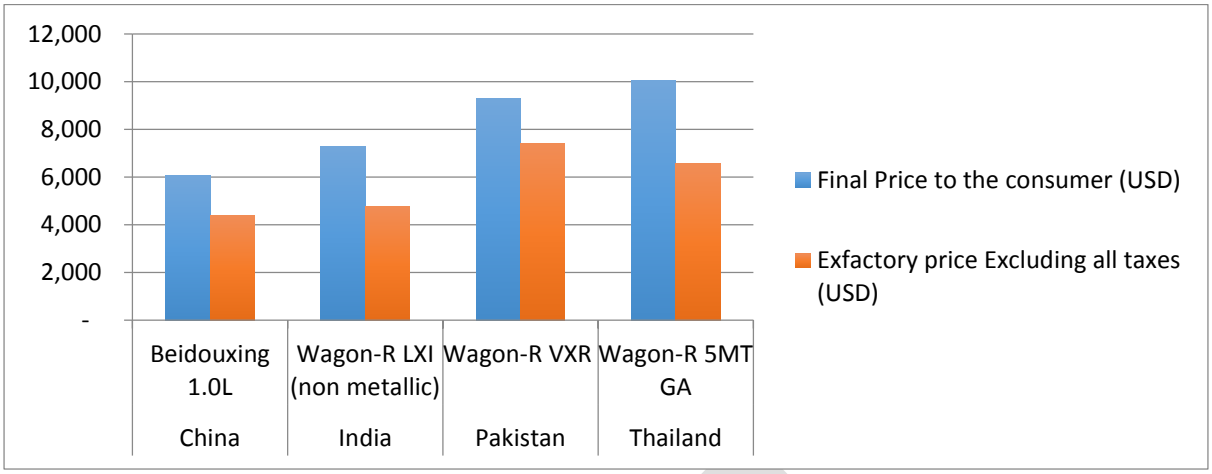
Source: Author's calculation based on information on the website

Figure 2-15 Regional Price Comparison for Suzuki Alto



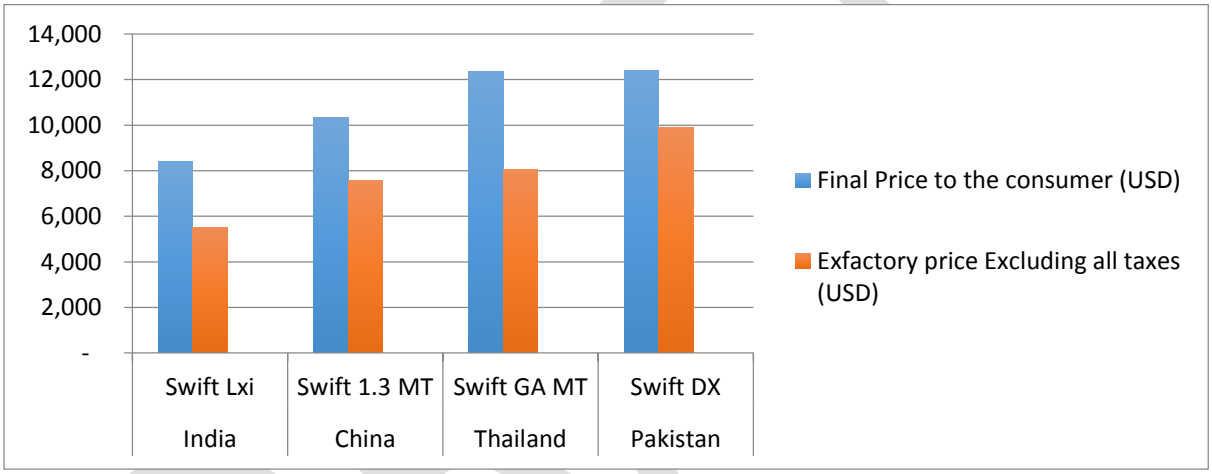
Source: Author's calculation based on information on the website

Figure 2-16 Regional Price Comparison for Suzuki WagonR



Source: Author's calculation based on information on the website

Figure 2-17 Regional Price Comparison for Suzuki Swift



Source: Author's calculation based on information on the website

While the cars have been matched across a range of specifications, there may still be differences such as in emissions standards. Conversations with industry specialists suggest that the quality for each specification does not vary, as these standards are set and tested by the global OEMs for all regional producers. However, certain features may be excluded in different models. Although, the price comparison undertaken matches 60+ specifications listed on the local OEM websites in the comparison countries, there were some instances of differences (for details, see Appendix 10.3) and these may influence differences in prices.

2.2 Trade Potential

Pakistan does not currently export cars. There are several reasons behind this:

i. Franchise agreements with Japanese principals determine the markets where Pakistani assemblers can export their products. There are also price floors imposed on local manufacturers by their principals.

ii. Protection has created an anti-export bias. Assemblers are profiting by selling in the local market

iii. Lack of innovation in terms of models, fuel efficiency, safety standards, and technology

Lack of competitiveness is a critical constraint in tapping the global market. Therefore, in this section, we quantitatively assess the competitiveness of the automotive sector using Revealed Comparative Advantage (RCA) Index and Vollrath indices.[99] Revealed Comparative Advantage (RCA) is a useful instrument to identify the competitiveness of a country in any product category and therefore can be effectively used to identify trade challenges posed to a particular sector. It quantifies a country's advantage or disadvantage in exporting a certain product relative to the world. According to Balassa (1965) "a country has a RCA in a product if it exports more than its "fair share" or a share that is equal to or greater than the share of total world trade that the product represents".[100] RCA is given by the following:

$$\mathrm{RCA}_{ij} = \frac{\frac{\mathrm{X}_{ij}}{\mathrm{X}_{j}}}{\frac{\mathrm{X}_{iw}}{\mathrm{X}_{w}}}$$

Where X_{ij} are the exports of product *i* of country *j*, $\mathrm{X}_{j}$are the total exports of country *j*, $\mathrm{X}_{iw}$are the exports of product *i* by the world and $\mathrm{X}_{w}$are total exports of the world.

In other words a country has a comparative advantage if $\mathrm{RCA}_{ij}$is greater than unity and a comparative disadvantage if RCA_{ij} is less than unity. For a technical discussion on RCA indices and their limitations, refer to Appendix, Section 10.1.

We have calculated the Balassa RCA indices of cars for 2013. The products are identified by Harmonized System 2012 (HS) at the six digit level. A quick look at Table 2-4 suggests that Pakistan does not enjoy a comparative advantage in any of the product categories of cars, as indicated by a RCA<1.

As a regional comparison, we have also calculated RCAs of India for the same product categories. Pakistan is defined to be vulnerable in a product where the RCA of India > 1 and the corresponding RCA of Pakistan <1. This definition is adopted from Taneja et al. (2013). Using this definition, we find that if Pakistan liberalizes trade with India, it will be vulnerable in cars with engine capacity <1000cc, as well as in cars with engine capacity of 1000cc to 1500cc. This implies that while Pakistan is not competitive in any of the product categories of cars, Pakistan will be specifically hit in the HS 870321 and HS 870322 car segments, as India enjoys global competitiveness in these categories.

[99] The data in this section is based on the UN Comtrade.
[100](Harvard University, The Atlas of Economic Complexity). Available at: http://atlas.cid.harvard.edu/about/glossary/

Table 2-4 Balassa RCA Index for Pakistan and India, 2013

HS code	Cars	RCA-Pakistan	RCA-India
870310	Snowmobiles, golf cars, similar vehicles	0.00	0.00
870321	Automobiles, spark ignition engine of <1000cc	0.02	4.18
870322	Automobiles, spark ignition engine of 1000-1500cc	0.00	2.87
870323	Automobiles, spark ignition engine of 1500-3000cc	0.00	0.12
870324	Automobiles, spark ignition engine of >3000cc	0.00	0.00
870331	Automobiles, diesel engine of <1500cc	0.00	0.73
870332	Automobiles, diesel engine of 1500-2500cc	0.00	0.02
870333	Automobiles, diesel engine of >2500cc	0.00	0.04
870390	Automobiles nes including gas turbine powered	0.00	0.20

Source: Author's calculations using UN Comtrade, 2013

We have also calculated the Vollrath indices for Pakistan and India. Vollrath (1991) suggested three alternative specifications to calculate competitiveness. These are relative trade advantage, logarithm of relative export advantage and revealed competitiveness. A detailed discussion of Vollrath indices and their limitations is in Appendix, Section 10.1.

We have formed a stricter case for competitiveness in interpreting the Vollrath indices. A positive value on all three indices means that a country enjoys a comparative advantage in that particular product category. Strictly speaking, Vollrath indices and the Balassa Index are not comparable as they are based on different concepts. While the Balassa Index uses export data only, Vollrath employs both the export and import data in its indices (except for the relative export advantage index). An advantage of the Vollrath Index over the Balassa Index is that the former avoids double counting of the product and the country. Nevertheless, our earlier conclusions are confirmed by Vollrath indices.

Table 2-5 Vollrath indices for Pakistan

HS code	Cars	RTA	lnRXA	RC
870310	Snowmobiles, golf cars, similar vehicles	-0.03	-	-
870321	Automobiles, spark ignition engine of <1000cc	-6.31	-3.73	-5.58
870322	Automobiles, spark ignition engine of 1000-1500cc	-1.22	-4.76	-4.96
870323	Automobiles, spark ignition engine of 1500-3000cc	-0.28	-6.08	-4.82
870324	Automobiles, spark ignition engine of >3000cc	-0.14	-7.92	-5.93
870331	Automobiles, diesel engine of <1500cc	-0.02	-8.38	-4.30
870332	Automobiles, diesel engine of 1500-2500cc	-0.01	-12.8	-7.72
870333	Automobiles, diesel engine of >2500cc	-1.05	-8.92	-8.97
870390	Automobiles nes including gas turbine powered	-0.50	-	-

Source: Authors' calculations using UN Comtrade, 2013

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Table 2-6 Vollrath indices for India

HS code	Cars	RTA	lnRXA	RC
870310	Snowmobiles, golf cars, similar vehicles	-0.05	-6.15	-3.24
870321	Automobiles, spark ignition engine of <1000cc	3.19	1.16	6.80
870322	Automobiles, spark ignition engine of 1000-1500cc	2.14	0.76	7.89
870323	Automobiles, spark ignition engine of 1500-3000cc	0.08	-2.52	2.72
870324	Automobiles, spark ignition engine of >3000cc	-0.02	-8.14	-4.42
870331	Automobiles, diesel engine of <1500cc	0.52	-0.65	5.07
870332	Automobiles, diesel engine of 1500-2500cc	-0.02	-4.16	-0.70
870333	Automobiles, diesel engine of >2500cc	-0.08	-3.67	-1.43
870390	Automobiles nes including gas turbine powered	-0.99	-1.96	-2.08

Source: Authors' calculations using UN Comtrade, 2013

In the car category, Pakistan does not enjoy comparative advantage in any product, whereas India has a comparative advantage in cars with engine size less than 1000cc cars and in 1000cc to 1500cc cars as shown in Table 2-5 for Pakistan and Table 2-6 for India.

2.3 Sector Impediments

Several impediments to the growth of this sector may be identified by the analysis above.

Demand

As discussed above, the main concern is the small market size. The motorization index in Pakistan is 12 cars per 1000 people, compared to the global average of 165. Economies of scale need a volume of at least 500,000 car/annum. With higher production costs due to large fixed costs that cannot be amortized over small volumes, car prices increase. Low income per capita constrains purchasing power, and skews demand in favor of motorcycles, in the absence of small car options in the 800cc category.

Leasing

The boom witnessed by the car industry in the late 2000s may be directly attributed to the easing of liquidity constraints. However, subsequent increases in interest rates led to a demand downturn, and installed capacities remain idle. The current low interest rate is helping revive the market and needs to be coupled with improvements in financing instruments for the auto sector.

Investment

One of the most important issues facing existing firms and new entrants is the lack of incentives to undertake new investments. There have been 30 changes in government policy related to the auto sector between 2007-14, which makes it very difficult for the firms to plan volumes and the recovery of their investments in fixed assets. With the expectation that the proposed AIDP might include such incentives, there is renewed interest from potential new entrants looking to utilize idle plants. Foreign investment is also deterred because of factors that are common to other industries in Pakistan: security concerns, high costs of doing business and energy shortages. These high costs of doing business which dampen growth and are a deterrent for investment.

Used car policy

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The used car policy has seen discretionary adjustments without proper planning and prior notice to the car industry. Specifically, changes in the allowable age of used cars have often been timed rather suspiciously with attempts by new manufacturers to enter the market. In addition, the depreciation allowance on used cars is also more favorable in Pakistan, meaning that used cars have a lower net price. In effect, there is an urgent need to stop the implementation of the used car policy as an instrument to introducing greater competition for local manufacturers.

Quality and standards

The setting and enforcement of standards in the passenger car segment is weak. The absence of testing facilities compounds this issue. Imports are not regulated for quality, and the government is excessively dependent on the OEMs to define and conform to their own standards. Without national standards, there can be no product recall policy for important safety failures. Consequently, there is no quality signal for consumers, who remain poorly protected. The cost, and hence price, for OEMs that meet global standards without any mandatory requirement, is raised. Demand is price elastic, and consumers can substitute towards cheaper, non-compliant cars. Therefore unilateral attempts to meet standards would reduce market share vis-a-vis those firms that compromise on global standards in the cars produced for the Pakistani market.

Overall, the car industry remains dominated by Japanese firms. It is in the larger interest of the sector to incentivize entry through appropriate strategies. Healthy competition will not only help it achieve the requisite economies of scale, but also create a growth path that is more sustainable in the long-run.

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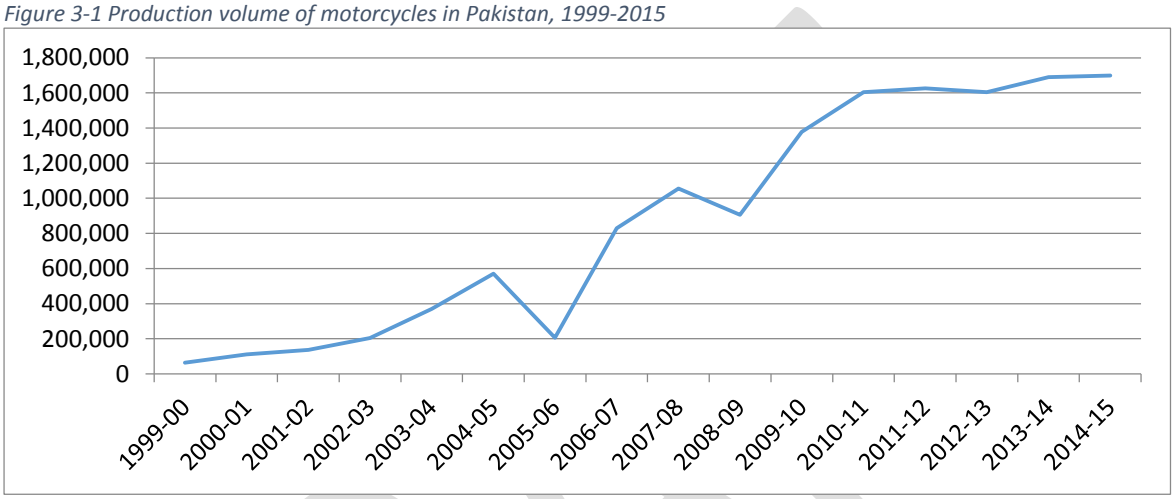
3 Motorcycles

3.1 Market structure

The motorcycle segment in Pakistan has seen rapid change in recent years, the most important of which has been the increase in volume. Figure 3-1 illustrates that from a volume of merely 63,000 in 1999-2000, production has grown to around 1.7 million units in 2014-15 - an increase of almost thirty fold in 15 years.

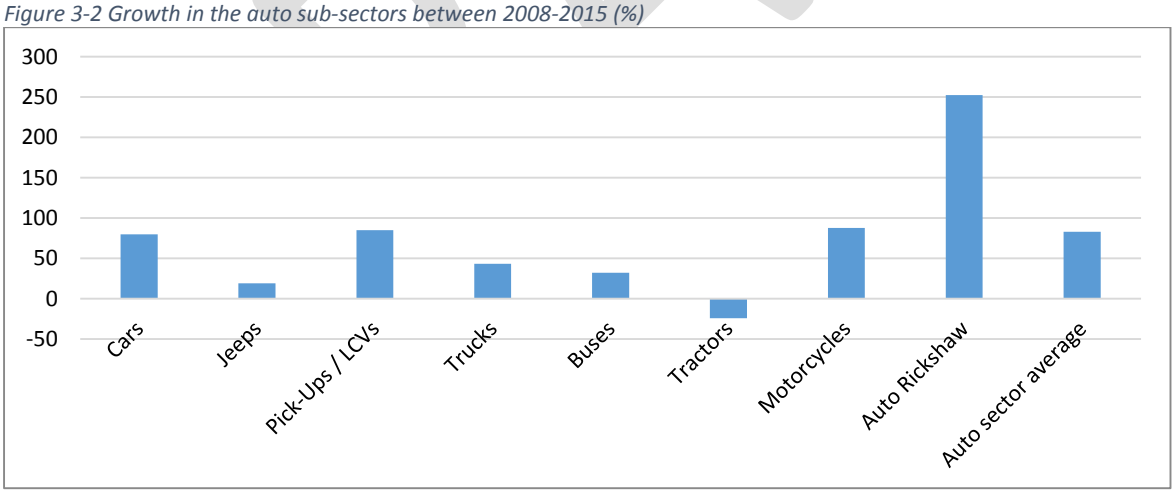
Figure 3-2 compares the growth in the motorcycle sector to other auto sectors since 2008.

Figure 3-1 Production volume of motorcycles in Pakistan, 1999-2015



Source: EDB, 2015

Figure 3-2 Growth in the auto sub-sectors between 2008-2015 (%)



Source: EDB, 2015

The impact of this increase in volume has been to potentially allow the assemblers and suppliers in their vending chain to achieve economies of scale, and consequently high levels of localization and

low prices.[101] These lower prices have in turn fueled demand further. Currently the market is characterized by a large number of assemblers competing on price, with low barriers to entry.

3.1.1 Increasing volumes and variety

The motorcycle industry began with Honda's assembly of motorcycles under the Atlas group in 1964. The industry was initially dominated with just three Japanese brands: Suzuki, Yamaha and Honda. Of these, Honda was the dominant player with approximately 70 per cent market share. In the late 1990s non-Japanese OEMs began to make forays into the market and by the early 2000s, several local companies had started local assembly.

The first sharp growth period started in 2002, driven by this increase in the number of players, a low exchange rate, and low duties and taxes. A defining feature of this growth was the introduction of the "Chinese bike" or "Honda clone" - both popular blanket terms for the type of motorcycle manufactured by the dozens of local assemblers. The clone motorcycle, as it will henceforth be referred to in this report, is a replica of the classic Honda CD-70, assembled out of local and Chinese parts, and available at about two-thirds of the price of the Honda original.

Figure 3-1 also shows that despite the financial crisis, which registers as a dip in the period 2007-09, the industry quickly picked up volumes as it entered the sharpest incline since its inception. Demand was fueled by lower prices, coupled with an expansion in informal credit made available by local dealers. Large segments of buyers who were previously priced out could now own a motorcycle on easy monthly installments, typically paying Rs. 2500 to 3000 a month. APMA estimates that approximately 50 per cent of the motorcycles are sold on installments.[102] These low cost motorcycles have now become an affordable necessity, as Pakistan's public transport system is underdeveloped, particularly in the rural areas. Figure 3-3 below shows that two and three wheelers made up the largest shares of vehicle sales in Pakistan.

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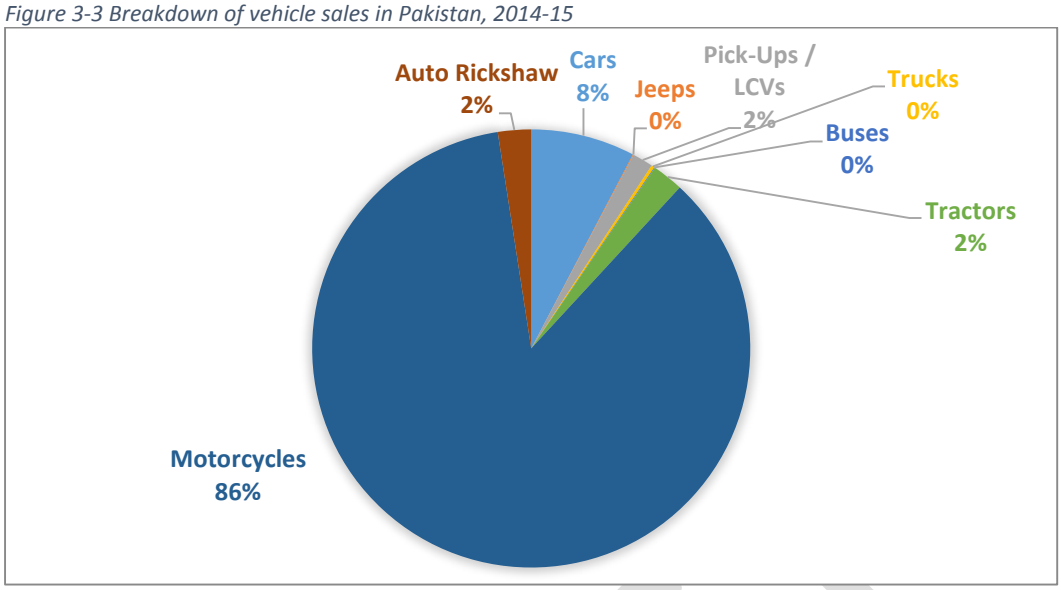
[101] This potential hasn't been fully realized within the vending chain as manufacturers compete with smuggled Chinese parts. This is discussed in more detail later in the chapter.
[102] (Auto Mark, 2015)

Figure 3-3 Breakdown of vehicle sales in Pakistan, 2014-15



Source: EDB 2015

The increase in volumes was accompanied by a parallel increase in number of players operating in the market. The number of registered assemblers has increased from just nine in 1997-98 to 112 in 2014-15 (Table 3-1).

Table 3-1 Number of motorcycle manufacturers in Pakistan 1999-2014

Year	Number of Manufacturers*
1997-98	09
2005-06	44
2006-07	52
2007-08	59
2008-09	69
2009-10	83
2010-11	95
2011- 13	103
2013-14	111
2014-15	112

*Note: * not all active*

3.1.2 Large number of competitors

The rapid increase testifies not just to the demand factors discussed earlier but also to low barriers to entry on the supply side. The vending chain is now well developed and non-exclusive, so motorcycle parts are readily available to new entrants. In addition, standard practice in the motorcycle industry (as indeed in other small scale manufacturing in Pakistan) is to fund operations through market credit. Under this system, inputs are purchased on the understanding that payments to vendors will be made after the final product is sold, a credit period of anywhere between 30 and 90 days. What this means is that the start-up costs of opening an assembly plant is not much more than the rent for a shed and wages for the assembly labor.

However, under this structure of low barriers to entry and cutthroat competition on price, the real challenge has been to survive in the long term. Although there are over a hundred total players in the market since 2011, the number of **active** players, who have had a stable presence over time, has

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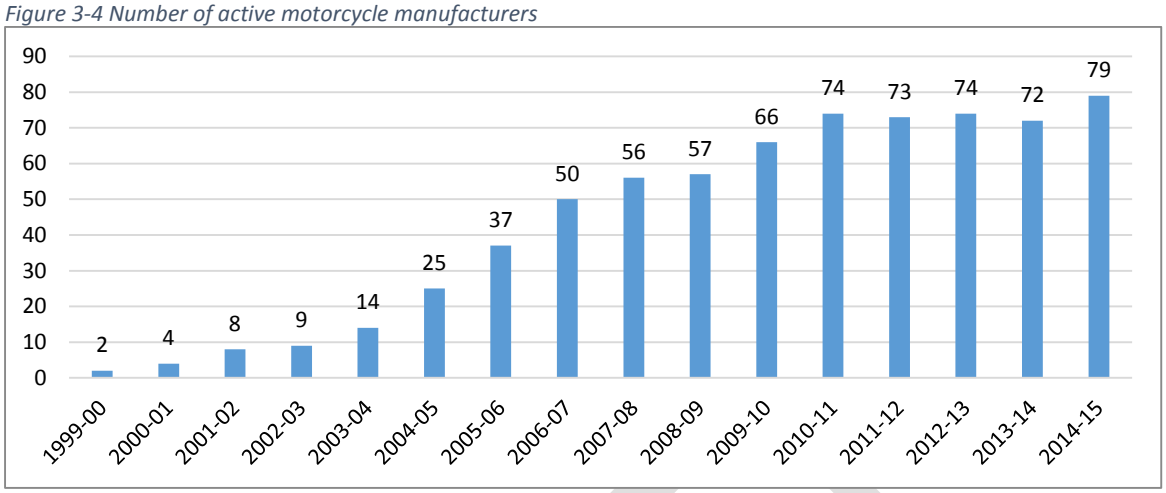
been closer to 70 (shown in Figure 3-4). From two active market players, Honda and Sohrab, in 1999, the market has expanded to incorporate more than 70 active players.

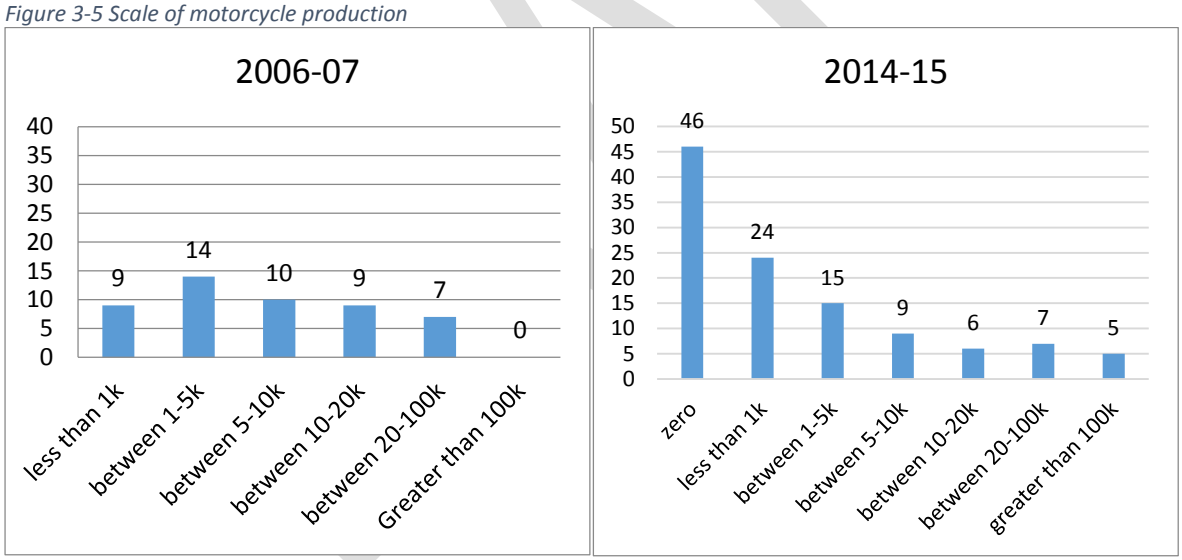
Figure 3-4 Number of active motorcycle manufacturers



Source: EDB, 2015

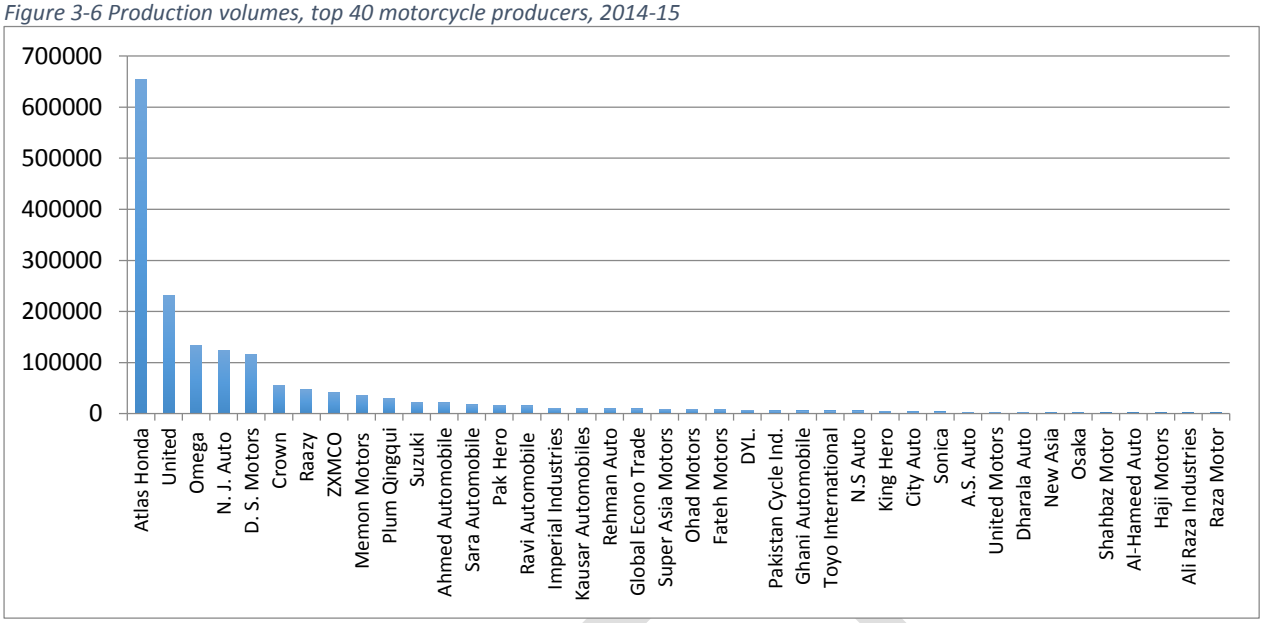
A closer look at scale of production reveals segmentation by size. Figure 3-5 and Figure 3-6 shows that the units are not split homogenously amongst the players. 33 players in the market did not register any production at all in 2013-14, and the large majority of the remaining players produced fewer than 5,000 units that year.

Figure 3-5 Scale of motorcycle production



Source: EDB, 2015.

Figure 3-6 Production volumes, top 40 motorcycle producers, 2014-15



Source: EDB, 2015

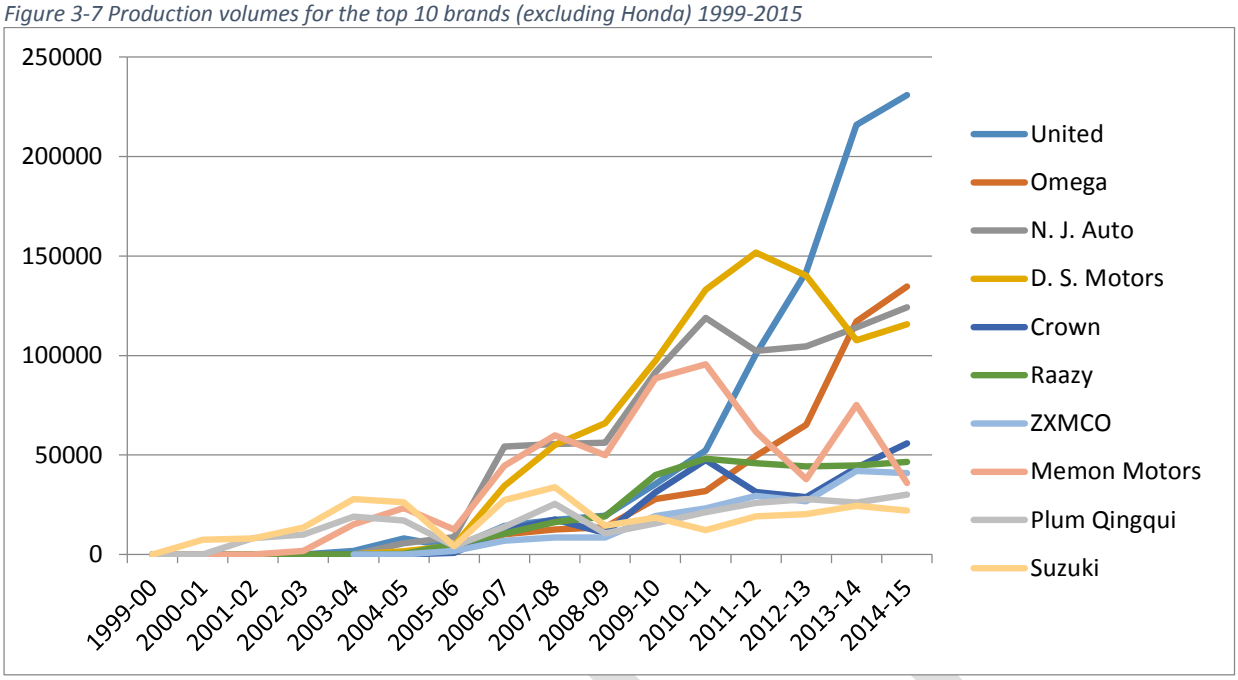
Looked at it from this angle, the market appears rather more concentrated than it superficially appears to be. In fact the HHI Index, a measure of market concentration[103], calculated using the 2014-15 market shares is 1965, which classifies the industry as highly concentrated.[104] While there are many assemblers, stable and significant market share is shared between just a few.

This is further supported by Figure 3-7, which compares changes in production volume for the top ten motorcycle manufacturers over time. Honda is excluded. There does not appear to be a clear rank amongst the Non-Honda manufacturers, and volumes are not shared in a stable pattern over time.

[103] Explained in detail in Section 2

[104] An HHI of below 1000 is considered to signal a competitive industry

Figure 3-7 Production volumes for the top 10 brands (excluding Honda) 1999-2015



Source: EDB, 2015

A stable market presence is not easy to establish, and a high market exit rate is therefore as much a regular feature of the motorcycle industry as the high entry rate. When these firms exit, they typically leave behind a string of debt, which has a domino effect throughout the vending chain. Market credit, the system that guarantees low entry costs, also generates exits that are painful for the surviving players. It runs precariously on interlinked debt, where a single default could upset the books of multiple suppliers, which become unable to provide the raw material or parts required by the assemblers. The stable market size is expected to be around 15-20 players once the market has settled into long run equilibrium. Consolidation and mergers are expected not just in the Pakistani industry, but also in the Chinese industry itself. This would also help support a move towards original R&D rather that an imitation based model.

The smaller motorcycle assemblers cater only to regional markets rather than national markets. In their local area they have an advantage over national brands as they are able to provide credit to consumers, with their strong local links ensuring low monitoring and enforcement costs.

3.1.3 Capacity utilization

Capacity utilization currently averages around 64 per cent. Figure 3-8 charts the installed and produced capacity for the top 25 manufacturers, along their capacity utilization figures.

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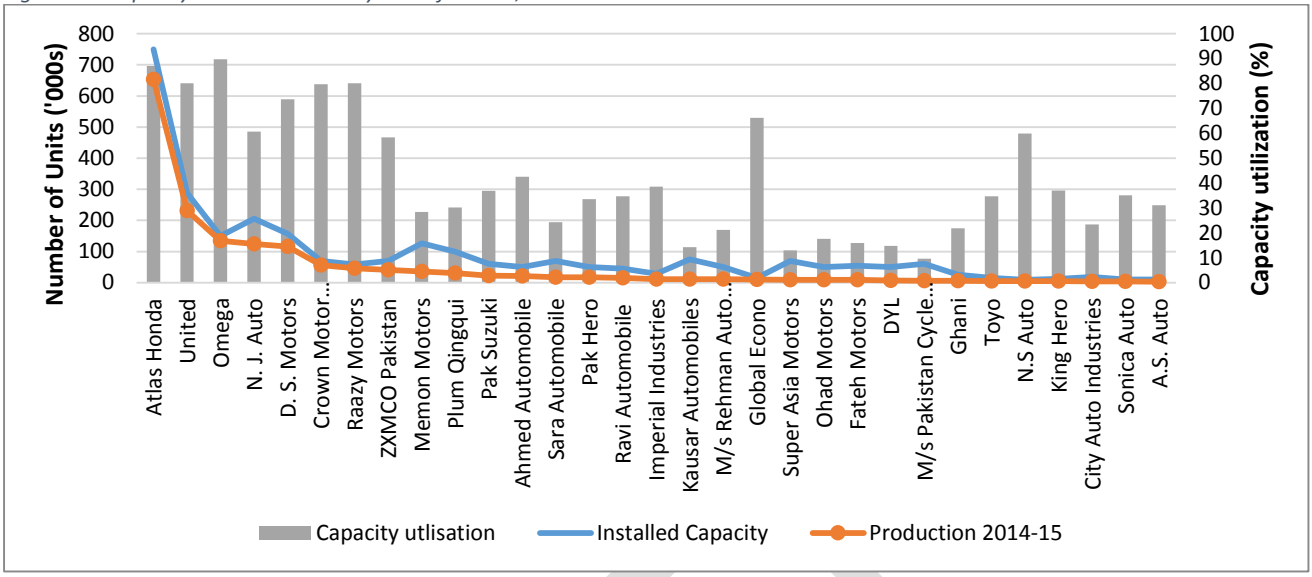
Figure 3-8 Capacity utilization rates by manufacturer, 2014-15



Source: EDB, 2015

From Figure 3-8 it can be seen that the top few brands have a higher capacity utilization (an average of 67 per cent for the ten highest volume assemblers) as compared to the next ten (with an average of 32 per cent). In the data for the remaining 50 players or so, there are only one instance of capacity utilization rate in excess of 50 per cent (N.S Auto with a capacity utilization of 60 per cent). Capacity utilization in the range of 15-30% is far more common amongst the smaller assemblers, with capacity utilization in single digit figures or zero also not unusual. The average capacity utilization rate excluding the top twenty assemblers is 12 per cent. This could be seen as an indication of economies of scale – although volumes are not critical for assembly itself, assemblers are increasingly competing on after-sales services, for which scale is more important. Honda has set the industry benchmark by offering "5S" exclusive dealerships, offering sales, service, spare parts, second hand exchange and safety under one roof. The remaining "clone" assemblers typically have non-exclusive dealers that offer at most three of these. For example, Honda's main competitor, United Motorcycles, has their (non-exclusive) dealers offer sales, service, spare parts. Many smaller assemblers offer no additional services at all.

The other interesting observation that Figure 3-8 allows us to make is how much Honda is still set apart from the others in terms of volumes. Despite the market entry and increase in brands available to the consumers, Honda is clearly still the market leader. This is also illustrated in Figure 3-9 and Figure 3-10 below, where it is shown that even though the market share of Japanese brands (of which Honda is the most substantial) has fallen, in terms of volume, Honda has still shown a steady increase.

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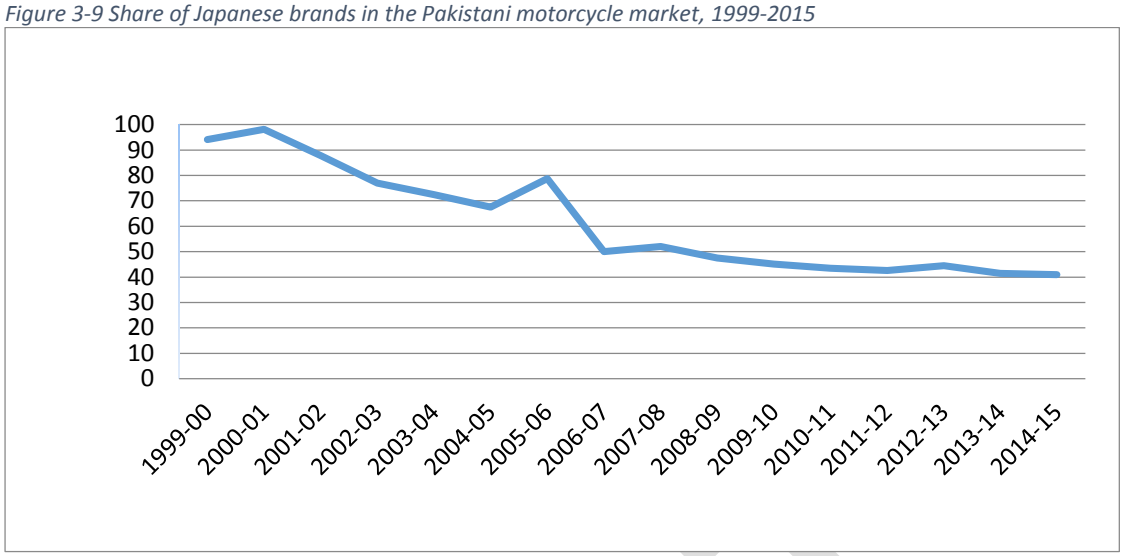
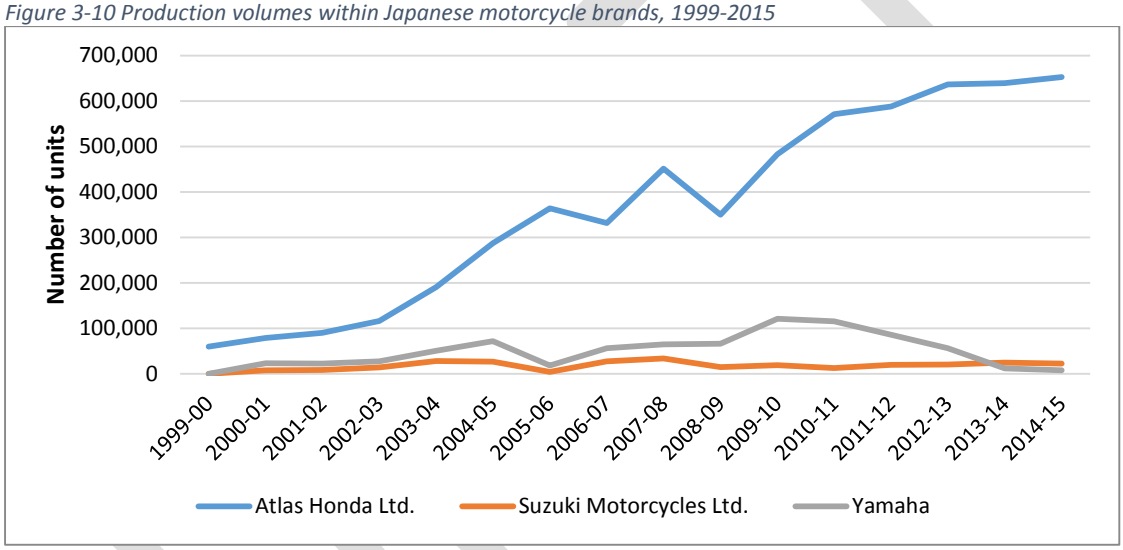
Figure 3-9 Share of Japanese brands in the Pakistani motorcycle market, 1999-2015



Source: EDB, 2015

Figure 3-10 Production volumes within Japanese motorcycle brands, 1999-2015

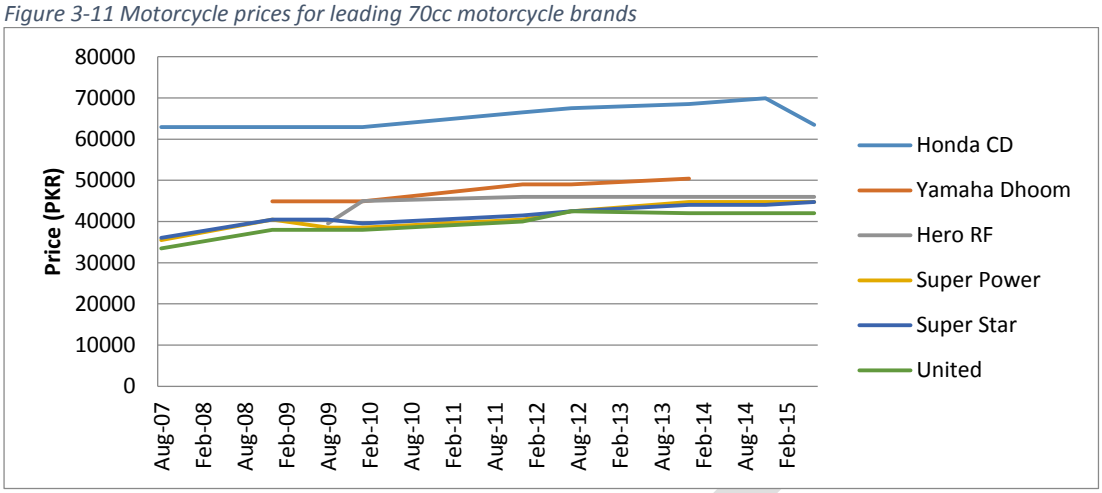


Source: EDB, 2015

Honda's appeal has persisted over time, despite the price differential. Figure 3-11 shows the marked price differential between Honda and other brands in their most popular 70cc model.

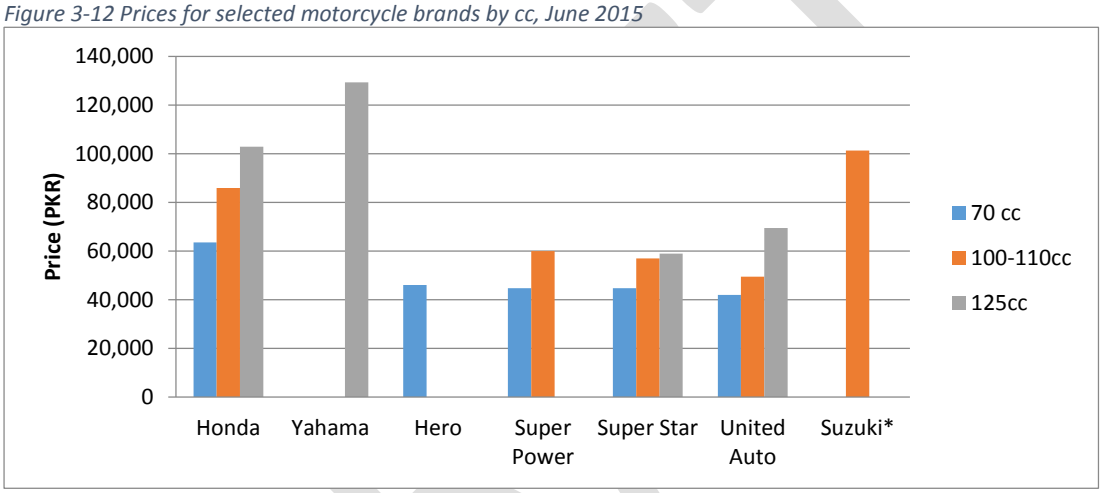
Figure 3-12 adds the remaining engine categories. Here, it is shown that Honda's price is lower than the other Japanese brands in the categories they chose to manufacture in Pakistan, but still much higher than any top local brand.

Figure 3-11 Motorcycle prices for leading 70cc motorcycle brands



Source: EDB, 2015

Figure 3-12 Prices for selected motorcycle brands by cc, June 2015



*Note: * The price mentioned is for Suzuki Sprinter ECO-110. Suzuki has other products in 110cc category, which range from 88,400- 122,000.*
Source: EDB, 2015

The fact that Honda is able to maintain high volumes despite the price difference as an indicator of quality and service. Even within Pakistan's highly price conscious environment, Honda is able to command a higher price because of a higher resale value and longer product life. As mentioned earlier Honda's extensive and exclusive dealership network offers a variety of after-sales services. Honda's motorcycle is therefore considered a superior product on several fronts, which explains Honda's ability to maintain healthy volumes despite a higher price.

In fact, the price premium is so much higher that the clone and original Honda motorcycle can be considered to be catering to two distinct clienteles: the quality conscious Honda consumer and the price conscious clone consumer. This view is supported by the fact that the increase in demand has been **new** demand, and Honda's pre-existing demand has not only continued undisrupted with the advent of competition, but has in fact shown a healthy increase. The new demand is clearly from those consumers that, as mentioned earlier, were priced out earlier. The quality and brand conscious consumer is still loyal to the "branded" Honda and Honda is able to price at a comfortable premium knowing that there is no effective competition in this segment. As illustrated in Figure 3-11, there does not appear to be any convergence of prices or indication that there has been pressure on Honda to compete with the others on price.

3.1.4 Localization and development of the vending chain

Data from EDB suggests that localization in the motorcycle industry varies from 77 to 83 per cent.[105] According to industry sources, Honda has achieved the highest localization with the 70 cc motorcycle 95 per cent localized, and the 100 - 125 cc models 90 per cent localized. In comparison, the clone motorcycles are 80 – 85 per cent localized. This represents the second highest localization in the auto sector (after tractors as shown in Figure 4-4).

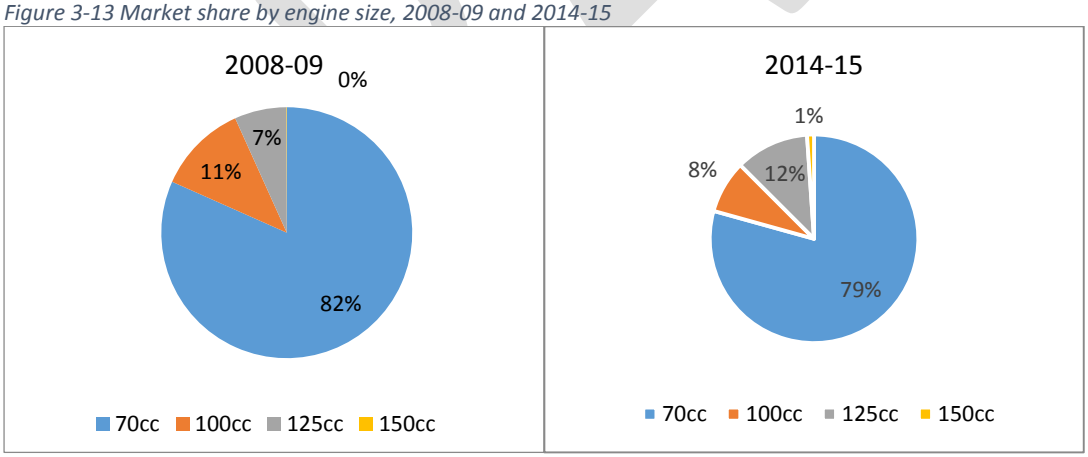
Honda is able to localize further as they are able to manufacture more sophisticated engine parts, such as pistons, in house. These high levels of localization indicate that engines have also been largely localized. In general, engines for 70 to 125 cc are made locally with a small proportion of imported parts (such as carburetors), while the 150 cc and 250 cc engines are imported.

Industry insiders suggest though that these localization numbers cannot be interpreted at face value. True localization is far lower than this, they caution, as smuggled parts are re-packaged as locally produced parts. Although the volume of the industry can now sustain local production as economies of scale can be achieved, the required technology transfer and local manufacturing activity has not taken place. Smuggled Chinese parts are available at such low prices that local venders struggle compete and develop in-house capacity. Furthermore, the equilibrium has settled into a low quality one, with little incentive to engage in higher quality production and R&D.

3.1.5 70 cc dominated market

A unique feature of the Pakistani motorcycle market has been the ubiquitous presence of 70 cc motorcycles. Figure 3-13 shows that the 70 cc motorcycle has a steady market share of over 80 per cent.

Figure 3-13 Market share by engine size, 2008-09 and 2014-15



Data source: EDB, 2015

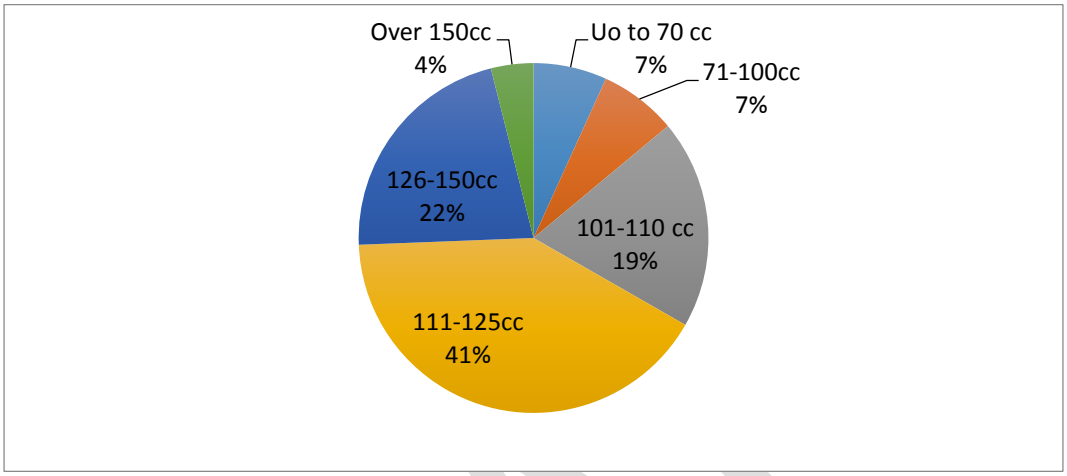
This is particularly surprising given the trends in the global motorcycle market. The 70 cc engine is apparently not produced anywhere else in the world and parts that are imported for the 70 cc model from China are made only for Pakistan, and are not exported by China to other countries. Certainly, Honda currently only manufactures this motorcycle in Pakistan. Honda maintains that the success of their 70 cc motorcycle in Pakistan is due to the fact that it is an economy bike, low maintenance and

[105] The discrepancy might be due to differences in the date of compilation as EDB information is, in theory, based on information provided by the industry.

one of the Honda's best-engineered products. These features make it attractive to sell to Afghanistan too.

However, in other low-income countries like China, India and in African markets, the 70 cc motorcycle has a small or negligible market share, which is puzzling if, as Honda has suggested, the 70 cc is so universally suitable for low income consumers. In China, as shown in Figure 3-14, approximately two-thirds of the market share belongs to motorcycles with engine capacities of over 110cc.

Figure 3-14 China's motorcycle industry, market share by engine capacity, 2014



Source: Statista, 2015

Similarly the top selling motorcycle in India, the Hero Splendor, is 100cc, and the top 5 motorcycles are all in the 100-125cc range. Furthermore, market shares of larger engine sizes are on the rise, as shown in Table 3-2.

Table 3-2 Motorcycle sales in India by engine size, 2014-15[106]

Engine size	2014 sales	2015 sales	Change
125-150 cc	1,131,469	1,236,496	9.3%
250-350 cc	181,683	290,192	59.7%
350-500 cc	24,914	38,248	53.5%

Source: Times of India, 2015

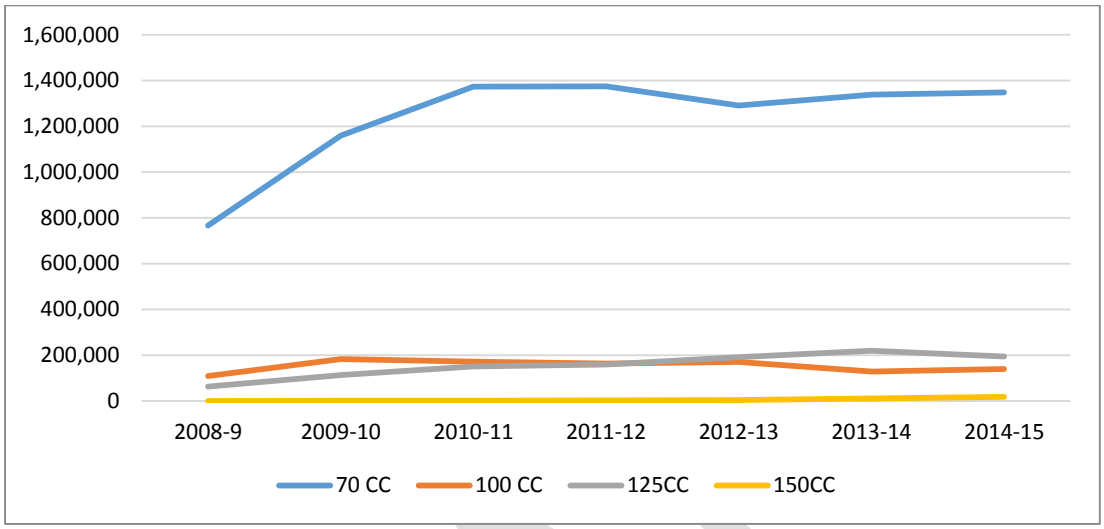
The puzzle that remains is why the 70 cc is so hugely popular in Pakistan, but not in other low-income countries. It might have to do with a combination of poor implementation of standards (the 70 cc is a 40 year old technology), and an institutional framework that allows an entire industry to be built on a backbone of smuggling – conditions that might not be available elsewhere. On a positive note there may be labor cost advantages of assembly in Pakistan.

Whatever the answer to the puzzle may be, the dynamic in Pakistan too is changing, and there is a move towards higher engine size motorcycles. In 2013, Honda claimed that sales of 100 cc and 125 cc are increasing at rates of 34 per cent and 20 per cent respectively, while 70 cc has seen a decline

[106] The categories documented in this table do not constitute all the two-wheelers available in the Indian market. The two-wheeler market (including scooters) had a volume of 18,499,970 units in 2014-15. (Statistics available on Society of Indian Automobile Manufacturers website)

of 10 per cent.[107] United Motorcycles, the second largest assembler, has also declared that while the 70 cc market is now appearing saturated, sales of their 100 cc motorcycle, which were 500-600/month, have now (in 2015) increased to 6000/month. This can also be seen in Figure 3-15 which shows that while the demand for the 70 cc motorcycle is no longer increasing, the demand for the 125 cc motorcycle has grown. Still a large gap remains between the market shares of 70 cc motorcycles and all others.

Figure 3-15 Trends in motorcycle sales in Pakistan, by cc, 2008-2015



Source: EDB, 2015

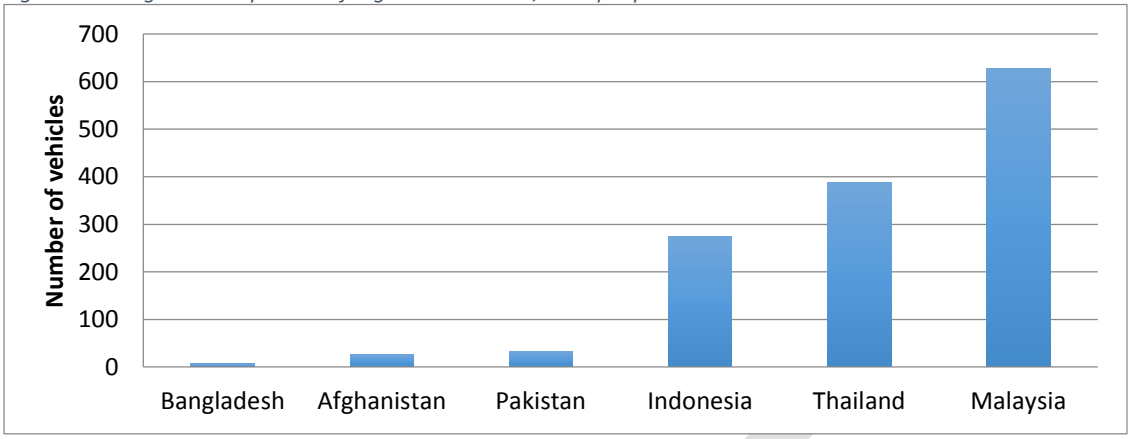
The move to higher capacity engines is essentially determined by income, as more powerful motorcycles are used for sport or luxury, giving better road clearance and speed. An additional advantage of the 100 cc in Pakistan is that it has good resale value, as it is used as a Qingqi (3 wheeler) after being sold in the second hand market. Industry sources expect that by 2020, the 100 cc and 70 cc motorcycles will have equal market share.

There is also a move towards the 125 cc motorcycle. Yamaha's re-entry into the Pakistani market with the launch of their 125 cc motorcycle in April 2015 was so popular that they were over-subscribed. From a start with 200 employees and an expected volume of 30,000 units in the first year, Yamaha Pakistan is looking to expand to 400,000 units by 2020. This is expected to cater to local demand and export to regional markets. Like Honda, they are looking to enter the high-end market with a network of exclusive dealers. The potential for further expansion can also be seen in the regional comparisons in Figure 3-16 and

Figure 3-17 below, where it can be seen that Pakistan has one of the lowest penetration of vehicles and two- and three-wheelers in the region.

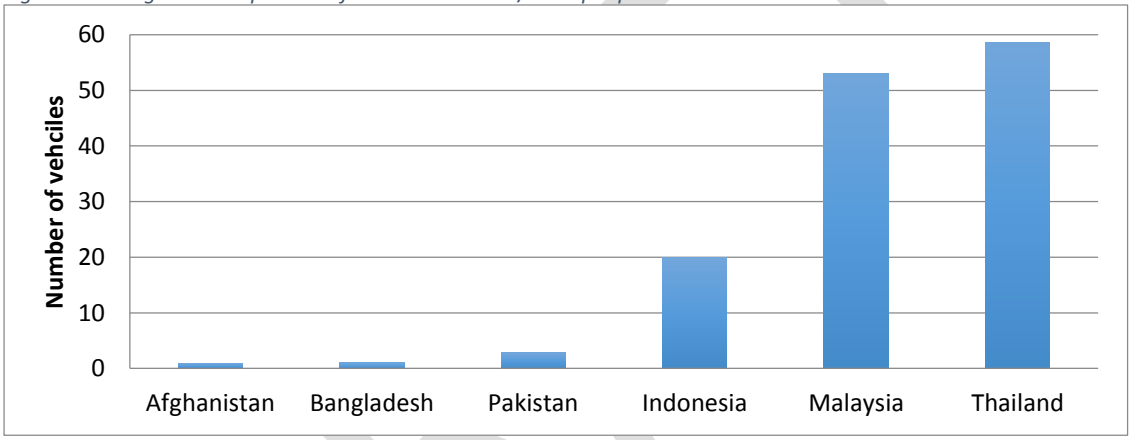
[107] (Riaz, 2013)

Figure 3-16 Regional comparison of registered vehicles/1000 people



Note: All data is for 2007 except for Pakistan (2006) and Afghanistan (2008). Comparable data for China and India was not available
Source: WTO country profiles[108]

Figure 3-17 Regional comparison of 2 and 3 wheelers/1000 people



Note: All data is for 2007 except for Pakistan (2006) and Afghanistan (2008). Comparable data for China and India was not available
Source: WTO, 2007

3.2 Policy environment

3.2.1 Trade tariffs and policies

Table 3-3 Duty on motorcycles

Duty (%)	CBU	CKD: Localized	CKD : Non-localized	Sub-assembly	Components
2007-12	65	47.5**	15	20	10
2012-13*	57.5	-	10	15	7.5

*Notes: *A one year SRO 655 and SRO 693 was issued in 2012 to lower duties (import and regulatory) in motorcycle segment; ** includes the regulatory duty of 32.5%*
Source: Government of Pakistan, 2008

In the motorcycle segment, tariffs remain at the levels of 2009-10 for new CBUs. The same is true for both localized and non-localized components, which may be imported at 15 per cent if the part is non-localized (see Table 3-3). The RD on localized parts is 32.5 per cent, which makes the overall

[108] (WTO, 2007)

duty 47.5 per cent. However, tariffs did change in 2012-13, under SRO 655 that was issued for just one year. For that year, in order to incentivize the sector, tariffs were lowered on CBUs, non-localized knocked-down units, as well as on assembly. The RD on localized parts was decreased to 28.75 per cent as per SRO 693.[109]

The simple average MFN applied duty on motorcycle imports (HS 8711) is 65 per cent,[110] and tariffs remain unbound. The effective rate of protection is equally high, at 77.5 per cent, as may be seen from the extensive protection given on processing margins due to high levels of localization, and a cascading tariff structure.

However, as discussed earlier, the effective protection that is practically delivered to assemblers is much higher, due to the zero-tariff smuggled market for inputs (see section 5.1.5.2).

3.2.2 Standards

Two main institutions implement standards for the motorcycle industry, PSQCA and EPA. However, there seems to be a lack of clarity on whether EPA or PSQCA is now responsible for monitoring and implementing the 2 and 3 wheeler standards, after devolution under the 18th constitutional amendment.

The PSQCA has so far set industry standards for 2 and 3 wheelers[111], yet implementation remains a serious issue. There are no labs available in Pakistan that can check compliance with Euro II standards (for example to check if vehicles are within permissible limits for smoke, carbon monoxide and noise). In the absence of the requisite labs, it was decided that assemblers were to get a certificate from the importer stating that the engine was Euro II compliant. In practice this has led to a proliferation of non-authentic certificates, either copied, or provided by labs that are not ISO-17025 certified. This current system is therefore not effective and needs reform and investment, such that the facilities and resources are matched with the duties and responsibilities that have been assigned to the appropriate government department. Investment in labs is essential, as is investment in the skill level and capacity of auditors and inspectors. Yet there seem to be no solid steps taken in this direction.

The Automotive Research Institute (ARAI) in India on the other hand has made investments of over US$2.66 million in order to set up testing labs across India to enforce standards. Industry experts estimate that investments in lieu of US$0.20 million would be needed to build labs and their capacity to test for Euro-II or higher standards. The money is not forthcoming; instead allegations of red-tape bureaucracy are rife in the accreditation process of standard certificates.

It is therefore no surprise that the industry opinion of PSQCA's work is poor. The predominant impression is that any success story of the industry is based on self-initiative and there is no noteworthy facilitative role of the governing body in enforcement of standards within the country.

This is detrimental for several reasons. Firstly, it does not offer consumers the required protection for which it is intended. Secondly, it opens the domestic market to the influx of low quality, low price imported products and makes it much harder to establish a higher quality equilibrium market.

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[109] (PAAPAM, 2014)
[110] (WTO, 2015d)
[111] (PSQCA, n.d.)

Unregulated imported goods are therefore extremely disruptive for the vending chain. Finally, the gap between announcing a policy and implementing it creates uncertainty and wasted investments by the industry. For example it was anticipated that the Euro II standard would be implemented in 2009. Forward thinking firms made the investments required to meet the standard. However, the required investment in domestic certification facilities were not made by the government, and, as described earlier, the system was modified to one in which there is no effective implementation. The efforts and investments of firms that were eager to move to a higher quality product were wasted.

3.3 Regional Trade

3.3.1 Trade potential

The global motorcycle market is dominated by Asian producers (90 per cent), with China and India sharing more than 60 per cent of this market between them. Pakistan ranks within the top 10 in volume terms. The main regional competitors are China, Thailand, and India, with China exporting almost half of its production. Pakistan currently exports only 1.4 per cent of its total production.

In order to determine the indicative trade potential of Pakistan in the export of motorcycles regionally, we use trade flows between SAARC countries[112], Pakistan and the world for 2013. We find that in the sub-category of motorcycles of engine capacity 50 to 250cc (HS code 871120), Pakistan has a regional presence in the motorcycle market. Out of total global Pakistani exports of US$4.8 million, exports to regional SAARC countries stood at US$4.7 million. However, these exports of Pakistan represented a small share of total SAARC imports (1.02 per cent) from the world, which were US$460 million. The indicative trade potential of Pakistan's regional exports is US$0.11 million.[113]

We have also calculated the competitiveness of Pakistan by calculating the Balassa RCA for Pakistan and India and have also calculated the alternative specifications by Vollrath. Detailed explanations for these indices is provided in the Appendix, Section 10.1. We find that, on the basis of the Balassa indices, Pakistan does not have a comparative advantage in any of the category of motorcycles. Similarly when we look at India, we find that India has a comparative advantage in two of the subcategories i.e. HS 871120 and HS 871130 (see Table 3-4 for Balassa RCA). By extension, we also find that Pakistan will be vulnerable in these two categories in case of eased trade with India as RCA-Pak<1 and RCA-Ind>1 in these two categories. Our results about the competitiveness of India are reconfirmed by Vollrath indices whereby Pakistan has negative RTAs, RXAs and RCs across the board and India has a positive RTA, RXA and RC in the HS 871120 and HS 871130 category.

[112] SAARC countries include Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka
[113] (ITC, TradeMap, 2013)

Table 3-4 Balassa RCA Indices for Motorcycles

	Product Description	RCA-Pak	RCA-Ind
871110	With reciprocating internal combustion piston engine of a cylinder capacity not exceeding 50cc	0.04	0.05
871120	With reciprocating internal combustion piston engine of a cylinder capacity exceeding 50cc but not exceeding 250cc	0.42	10.42
871130	With reciprocating internal combustion piston engine of a cylinder capacity exceeding 250cc but not exceeding 500cc	0.45	2.13
871140	With reciprocating internal combustion piston engine of a cylinder capacity exceeding 500cc but not exceeding 800cc	0.01	0.01
871150	With reciprocating internal combustion piston engine of a cylinder capacity exceeding 800cc	0	0.01
871190	Other	0	0.02

Source: Author's calculations based on UN Comtrade, 2013

Table 3-5 Vollrath Indices for motorcycles, Pakistan

	Motorcycles	RTA	RXA	RC	Interpretation
871110	Motorcycles, spark ignition engine of < 50cc	0.04	-3.13	3.78	D
871120	Motorcycles, spark ignition engine of 50-250cc	-6.98	-0.9	-2.9	D
871130	Motorcycles, spark ignition engine of 250-500cc	0.06	-1.02	0.19	D
871140	Motorcycles, spark ignition engine of 500-800cc	-0.04	-4.55	-1.61	D
871150	Motorcycles, spark ignition engine of > 800cc	-0.05	-6.92	-3.99	D
871190	Motorcycles with other than a spark ignition engine	-2.48	-6.33	-7.24	D

Note: A denotes advantage and D denotes a disadvantage
Source: Author's calculations based on UN Comtrade, 2013

Table 3-6 Vollrath Indices for motorcycles, India

	Motorcycles	RTA	RXA	RC	Interpretation
871110	Motorcycles, spark ignition engine of < 50cc	0.04	-3.27	3.25	D
871120	Motorcycles, spark ignition engine of 50-250cc	8.73	2.17	5.19	A
871130	Motorcycles, spark ignition engine of 250-500cc	1.1	0.22	2.13	A
871140	Motorcycles, spark ignition engine of 500-800cc	-0.06	-4.73	-2.12	D
871150	Motorcycles, spark ignition engine of > 800cc	-0.16	-5.32	-3.52	D
871190	Motorcycles with other than a spark ignition engine	-0.12	-4.13	-2.16	D

Note: A denotes advantage and D denotes a disadvantage
Source: Author's calculations based on UN Comtrade, 2013

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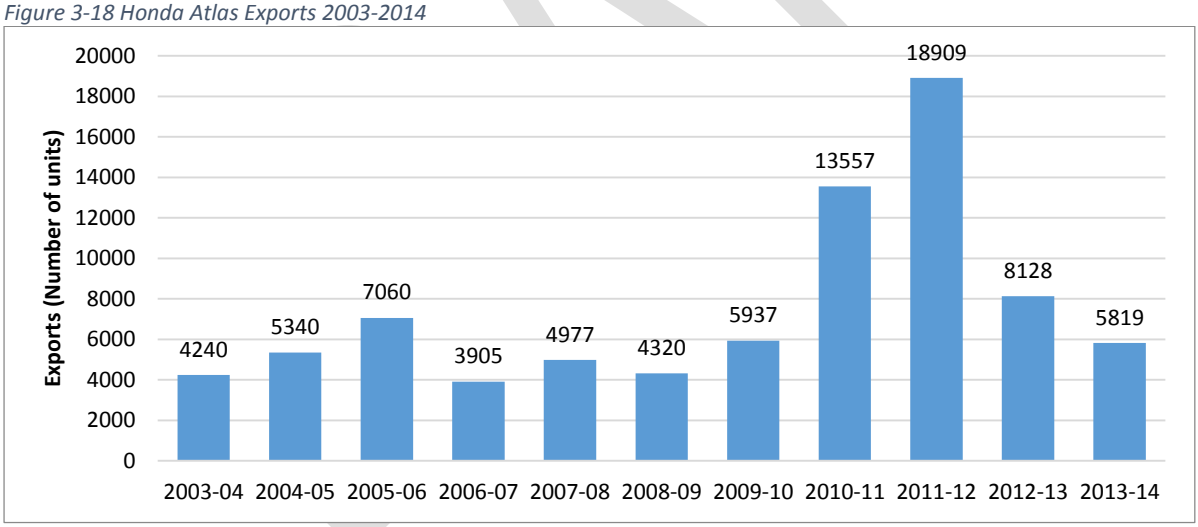
Regional competitors such as China, India and Thailand have moved out of the 70cc market, so Pakistan can export in this niche market. However, as discussed earlier, the standards to which the motorcycle industry currently complies may not have a market, and once standards have improved, price advantages will have to be re-evaluated. Thailand, one of the biggest threats to Pakistani exports, is focussed more on the ASEAN countries, so Pakistan could potentially focus on other markets. However, global demand is in the 100cc and 125cc segments and Pakistani motorcycles need to become competitive in these categories.

Pakistan should focus on the markets of Bangladesh, Afghanistan, Sri Lanka, and Central Asian Republics as well as those of East African countries such as Eritrea, Somalia, Ethiopia, Djibouti, Kenya, and Uganda. Exports to Afghanistan have fallen due to technical non-tariff barrier (i.e. absence of customs certification), and this can easily be rectified. Indeed, Atlas Honda has obtained world-wide export rights for the 70cc market and regional rights for the 125cc market. As Honda has previously exported to Afghanistan and Bangladesh, the removal of TBTs is crucial to regain market share.

The Honda plant was set up in Lahore by Honda Japan in 1995-96 following India's granting of MFN status to Pakistan to take advantage of the expected increase in demand from India. However, that never happened. The view from the industry is that India has set up non-tariff barriers (NTBs) that prevent Pakistan and other countries from exporting to India. It is worth noting that the motorcycle market in India has moved beyond the 70cc category and it remains to be seen if market demand patterns in India would be such that export from Pakistan to India would be possible if trade were to open up.

Figure 3-18 Honda Atlas Exports 2003-2014



Source: Honda

Much of the export potential in Pakistan would depend on the business environment provided to manufacturers. China and India both have policies that facilitate firms to manufacture locally.

For example, production costs in China are low because of state subsidies for land and utilities, and availability of raw materials locally. Demand for 10 million units also allow scale economies, further lowering costs, and making motorcycles cheaper. India also benefits from local demand of 7.2 million motorcycles, with its strong manufacturing foundation based on a technologically advanced component industry and JVs with Japanese companies. Japan not only uses India as an export base for other countries, but is also cooperating with local Indian companies to form JVs in other countries. Thailand, or the Detroit of Asia, is poised to become the regional assembly hub through

government support for skill training, auto parts development and auto clusters. Vietnam is also looking towards African markets, where it has been known to dump motorcycles to clear stocks. Prices are very competitive as its local demand of 1.9 million units and Japanese FDI allow it to compete favorably in the region. However, like Thailand, it is focusing mostly on the ASEAN market.[114] In comparison, Pakistan's motorcycle industry is at an early stage of development.

3.3.1.1 Regional tariff structures

The local tax and tariff structure along with high raw material costs render Pakistani motorcycles uncompetitive internationally. Regionally, motorcycle costs US$65 and US$94 more in Pakistan than in India and Thailand respectively (see Table 3-7).

Table 3-7 Regional tax comparison

Average Applied Duty	China	India	Vietnam	Thailand	Pakistan
Motorcycles- HS 8711	45	100	73.33	60	**65**
Motorcycle Parts –HS 871410	30	10	33	30	**35**

Source: WTO, 2015d

3.3.1.2 Capturing regional markets

The first standards for two wheelers were established in 2000 and last updated in 2004. However, apart from basic standards dealing with emissions, brakes, batteries and parking stands, there is no individual standard for assemblies, parts, or components. This leads to issues of quality, whereby motorcycle producers can cut costs by lowering quality and offering cheaper prices. In order to ensure that producers can signal quality and the industry can move out of low price-low quality motorcycle parts equilibrium, the PSQCA must develop these standards and enforce them on all producers. This standardization in quality across producers with in-house production and vendors will be critical in allowing Pakistan to enter the foreign market for both motorcycles and their parts, as homologation requirements are very demanding. Not only will this encourage investment in quality, and more importantly, ensure a return on it, but it will also ensure that sub-standard parts of motorcycles cannot reach the local market on account of being cheaper. This will help the local vending industry that currently cannot compete with the low price of Chinese parts, and does not see the benefit of investing in quality.

As motorcycle and parts exporters are often refused entry on the non-acceptability of their quality certificates in India, the EU, and the USA, the PSQCA must ensure that its standards have the backing of an accredited international certification body. This will allow Pakistan to diversify its export markets from Afghanistan and Africa, where quality is less of a concern, to other markets, especially for parts.

For two-wheelers, in addition to the import duties outlined above, there are added restrictions such as port clearance permissions, standards certifications and approvals that need to be obtained before exports can begin. Motorcycle exports to India are very expensive, with freight costs of 34 per cent. Port and clearance costs (3 per cent and 2 per cent of CIF values) add up to 25 per cent,

[114] (Competitiveness Support Fund, 2006)
Note: Demand figures pertain to 2006.

excluding customs duties. Negotiation on removing re-tape and other unnecessary impediments to trade would be essential in order to tap regional markets.

3.4 Sector Impediments

Impediments to the growth of the auto sector as a whole, or industrial development in general, have been discussed earlier. This section focuses on the most substantial motorcycle-specific impediments.

Smuggling

Smuggling is the single most important impediment to the development of the motorcycle vending industry. Although motorcycle volumes are now at levels that can easily allow for economies of scale, significant technology transfer between Chinese principals and Pakistani assemblers or part manufacturers has not occurred. Auto parts are instead smuggled across the Pakistan-China border (at Sust, for example) and through the Afghan transit trade route. This has two major costs. Firstly, this leads to a loss of revenue to the exchequer. Secondly, as discussed earlier, the market is inundated with low quality parts at low prices, which the local vendors struggle to compete with, and consequently domestic industrial development is impaired.

Smuggling overrules any formal protection provided to the vending industry whether through tariffs or through negative/sensitive lists, as the effective tariff at which these goods enter Pakistan is zero. In fact, the protection provided by negative/sensitive lists or high tariffs is, in this case, completely counter-productive as this incentivizes smuggling even further. Smuggling is apparently so easy and widely accepted that a minor incentive is sufficient for traders to choose this route instead of a legal one. When valuation is on weight, for example, the heavier items are simply smuggled in. Auto parts that have high duties or valuation rates in excess of their actual rates are also smuggled in. According to APMA, there are smugglers operating in every major city, delivering at least one million auto parts per annum at Rs. 100/kg to the doorstep of assemblers.[115] Many of the "locally produced" parts are actually re-packaged imported Chinese parts.

With motorcycle volumes expected to grow to 3 million by 2020, it is imperative to curb this smuggling to ensure that the backward linkages and industrial development typically associated with the auto industry does not bypass Pakistan.

Valuation of imports

In Pakistan, customs duty on imported auto parts is based on weight, with a rate/kg fixed for each category of parts. Furthermore the rates differ by country of origin, with Japanese parts valued at higher rates compared to parts originating from China. Clone motorcycle assemblers had been protesting that the rate/kg set for auto parts imported for motorcycles from China was much higher than market value. They claimed that under Valuation advice/Ruling U/S 25-A No. 333 dated 07-0602911, the import valuation of Chinese parts was up to 4 times higher than the real value, even though Chinese parts typically cost 20 per cent less than comparable Japanese parts. In fact they believed that motorcycle parts made from the same material as parts used in the rest of the auto

[115] (Mahmood, 2013)

sector are valued at higher rates for motorcycles. For example, aluminum alloy, which is used for alloy wheels and alloy rims in cars, was valued lower than the aluminum crank cases and covers used for motorcycles. Once these rates were revised, the Japanese OEMs now complain that the imports of Chinese parts are valued too low, and this is seriously impairing the vending industry. What is clear from this example is that it is imperative to have a correct valuation system that is transparent and fair. This is crucial to proving a level playing field for all manufacturers.

SROs

Smaller assemblers feel that their ability to import under the SROs is limited due to the excessive administrative requirements. Firms need to apply for manufacturing certificates, on the basis of which importable quotas are granted. These can be used to import inputs for manufacturing at concessionary rates. APMA claim that these certificates and quotas are valid for as little as a few weeks, which makes it difficult to plan and also increases administration costs for small assemblers. EDB, on the other hand, feel that the SROs have the potential to be misused for "illegal activities and smuggling" by those who do not comply with the requirements. The administrative costs of importing under SROs discourage legal imports, which are diverted to smuggling so either way it is a lose-lose situation for the government and the industry, both from the efficiency and political economy perspective[116].

Export clearances

Assemblers report administrative difficulties in getting export clearances, especially for Afghanistan, which is a very important export destination for Pakistani motorcycles. Previously motorcycle exporters could claim a refund on duty drawback of 9 to 13 per cent upon production of a receipt issued by Afghanistan Customs Afghanistan. (This receipt is also known as Gurmik - the Afghan Customs Clearance Document). Afghanistan has now computerized customs at Torkham and Chaman and the Gurmik is no longer issued. Rather than modify the system of refunds to continue to facilitate motorcycle exports, FBR has refused to refund the duty drawback without the Gurmik. As a result, Honda Atlas, for example, claim that their exports to Afghanistan have fallen to just 10 per cent of their peak of 12,000 units. Interestingly, the Gurmik was an Afghanistan specific requirement and no such document is required to process refunds to neighboring Iran and India. Computerizing their records has made Afghanistan like any other country now, which should make matters easier, not harder.

The alarming feature in the lack of resolution of this apparently straightforward problem is the length of time that the problem has been pending, having been under discussion since 2007. This is similar to many other policy decisions that we have investigated in the auto sector: the AIDP, the valuation issue, smuggling, standards and export clearances have all been under discussion for years, with an inability of the government to take swift, decisive action. Some of this has to do with coordination between government departments, in this case the Ministry of Commerce and FBR. Other times it has to do with the limited capacity of the government, which comes under pressure from various interest groups who have an incentive to maintain the status quo. These include not just industry stakeholders but also customs and clearance officials.

Standards

[116] This is discussed in more detail in Section 1.3.3

Developing a capacity to set and implement standards is crucial both for consumer protection and for industrial development. Standards have been discussed in detail earlier in this chapter in Section 3.2.2.

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4 Tractors

4.1 Market Structure

Pakistan is predominantly an agrarian economy, with agriculture contributing 20.9 per cent to national GDP.[117] This provides a sustained and stable market for tractors as they are an important agricultural input. The importance of tractors can be seen from Table 4-1, with Pakistan having one of the highest regional usages of agricultural tractors per 100km^2 of arable land in 2009.

Table 4-1 Tractors per 100 sq. km of arable land, 2009

No. of tractors per 100 sq. km of arable land	**2009**
Afghanistan	0.1
Bangladesh	1.2
Indonesia	2
Bhutan	11
China	81.8
Nepal	111.7
South Asia	120.7
India	128.5
Pakistan	153.4
Vietnam	262.5

Source: World Bank, 2009b

Globally, India and China are considered to be the hubs of the tractor industry, and there is movement towards more sophisticated farming techniques and equipment. The evolution of the tractor industry is depicted in Figure 4-1 below. It appears that India will continue to dominate the tractor market by a large margin in the coming years.

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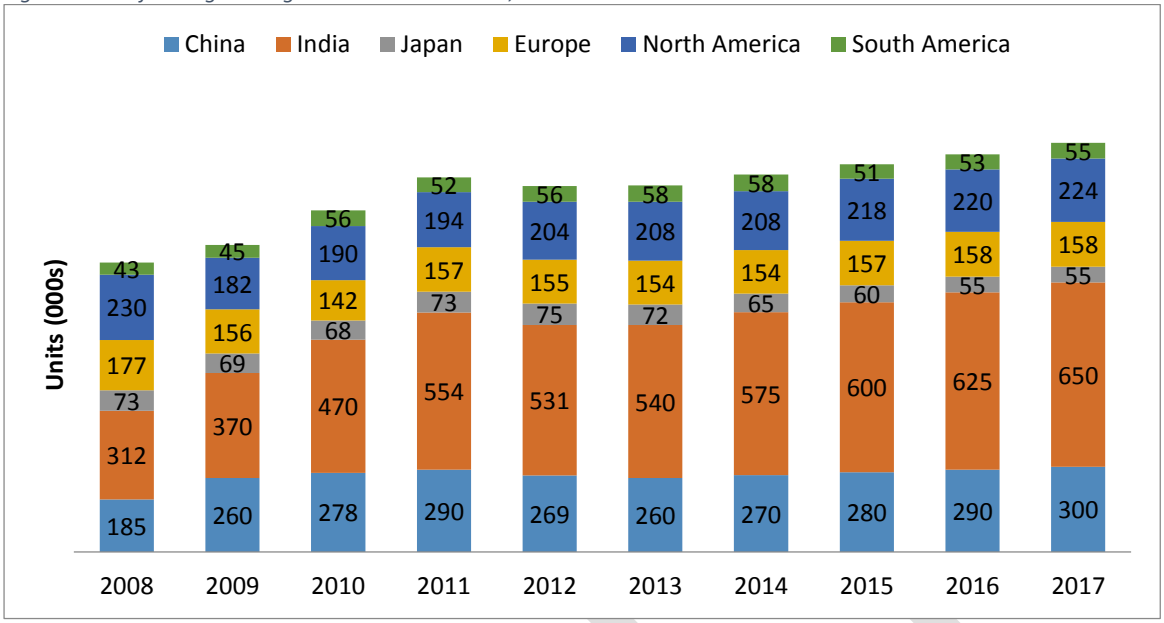
[117] (Government of Pakistan, 2015b)

Figure 4-1 Projected global agricultural tractor sales, 2008-2017

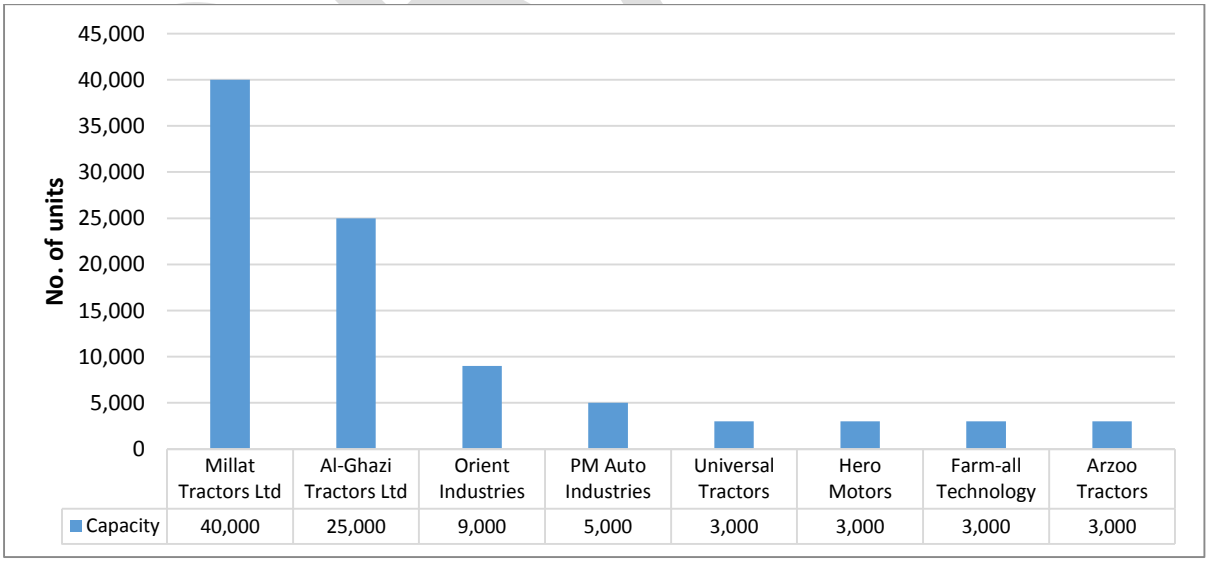


Source: Alix Partners, 2014

4.1.1 Production

Compared to the countries in Figure 4-1 above, Pakistan has a smaller tractor industry, with a current capacity of 91,000 units.[118] The breakdown of production capacity in the industry by players in the market is depicted in Figure 4-2 below. Millat Tractors Limited and Al- Ghazi Tractors Limited dominate the market. The two largest players account for 71 per cent of total installed capacity, indicating the segmented nature of this market.

Figure 4-2 Production capacity by players



Source: EDB, 2015

[118] (Government of Pakistan, Engineering Development Board, 2015)

The industry has operated at an excess capacity since 2000-2001 according to the data provided by EDB. This is shown in Figure 4-3 as the utilization rates peaked at 80 per cent during 2009 through to 2011, when the government implemented favorable agricultural policies (discussed further in section 4.1.5). This was followed by a slump in FY 2012 and the downward trend continues thereafter. However in light of recent subsidies announced by the government of Punjab and Sindh in the 2016 budget, sales volume is expected to increase for tractor manufacturers.[119] At the time of writing, these subsidies were yet to be implemented.

Millat Tractors currently produces 1000 units per month (approximately 50 per cent of their capacity). One of the reasons for this underutilization of capacity is that the leasing market is underdeveloped in Pakistan. This affects the buying power of a small-scale farmer. There is also a lack of demand incentives such as subsidized diesel and farm inputs for farmers, which could potentially boost demand.

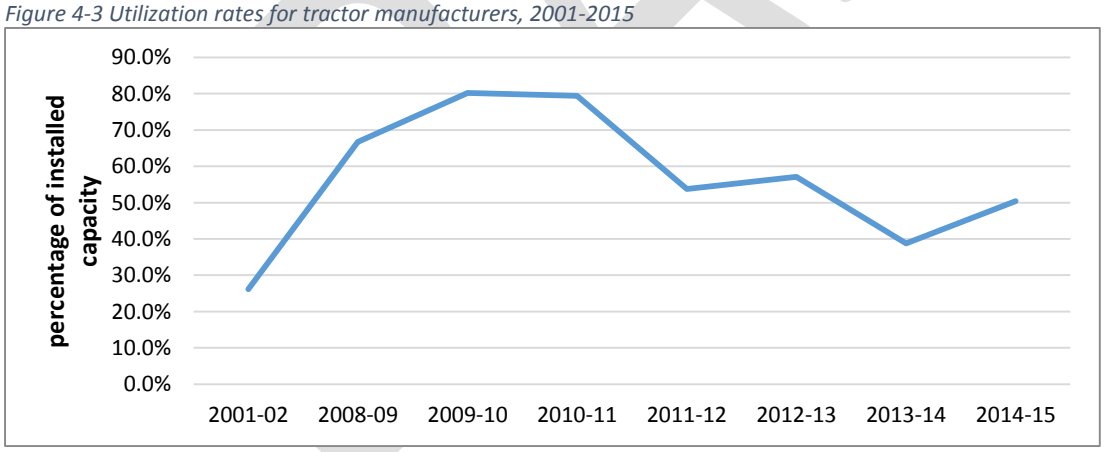
Despite being underutilized, the tractor industry has been able to contribute significantly to the national economy. The economic contribution of the two main players of the tractor industry is summarized in Table 4-2 below.

Table 4-2 Economic contribution of tractor manufacturers, 2013

	Al-Ghazi	**Millat Tractors**
Sales Revenue (Rs. billion)	9.3	22.7
Economic contribution: Duties and Taxes (Rs. billion)	0.65	1.085
Direct employment	373	452
Vendors	300+	200-250

Source: OEM interviews and Annual Reports

Figure 4-3 Utilization rates for tractor manufacturers, 2001-2015



Source: EDB, 2015

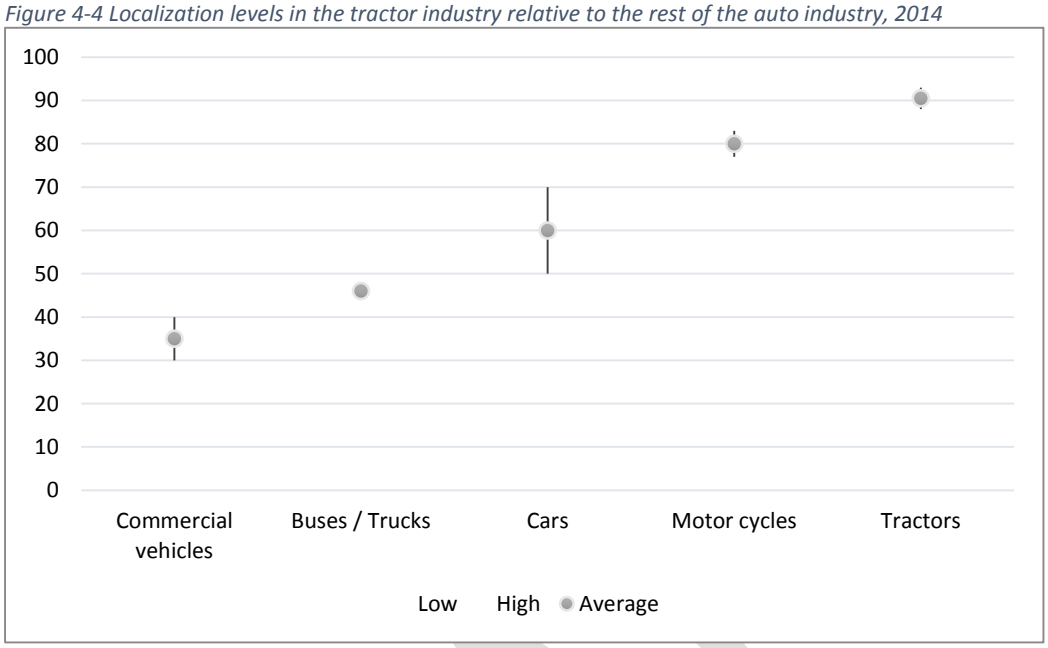
4.1.2 Localization

As discussed earlier, Pakistan engaged in a deletion program from 1985-2005, which was later replaced by a tariff based system (TBS) in 2006 whereby non-localized components enjoyed a lower tariff as compared to the localized ones. The tractor industry has created an exception by achieving the highest rates of localization in the auto industry. Figure 4-4 depicts the localization rates of the tractor industry, as compared to the other sub-sectors. The line for each sub-sector marks the range

[119] (The Express Tribune, 2015)

of localization while the average is marked by a circle. For example localization in the commercial vehicles sub-sector ranges from 30 to 40 per cent with an average of 35 per cent. Within the tractor industry, Millat has achieved higher localization at 95 per cent, while Al-Ghazi is 85 per cent.

Figure 4-4 Localization levels in the tractor industry relative to the rest of the auto industry, 2014



Source: Government of Pakistan, EDB

This can be attributed to several factors. The focus on indigenization has been particularly strong since the 1980s. The players in the market made significant investments in vendor training and facilitated technology transfers. This was also made possible because of the exclusive relationships the producers had with the vendors. Even though the vendors are free to manufacture parts for other players in the market, they usually run after-sales through the manufacturer. Vendors are now not only supplying to the manufacturers, but are also exporting parts such as radiators, sheet metal parts, silencers, AC parts, plastic parts and gearboxes to the international market.

A disadvantage, however, of having established suppliers and a high degree of localization is that it makes new entry difficult. For this reason, the tractor industry remained highly concentrated over the years.

4.1.3 Licensing

The Pakistan Tractors Corporation (PTC) was separated from the auto sector early on, and therefore the indigenization paths of the car and tractor sectors have been different from the beginning. The corporation included not only the main players of the tractor industry at that time, but also their foreign collaborators. There was a heavy focus on indigenization. Principals were more receptive to localization and therefore transfer of technology and blueprints was easier to arrange as compared to the car industry. Conversations with the main players of the tractor industry suggest that international principals felt that they would get preferential treatment in the local market. Another contributing factor was the slow changing nature of the tractor industry in Pakistan, vis-à-vis the car industry. Tractors produced in Pakistan have been unaltered for decades, which allows the industry players to recover their fixed investment costs easily. In comparison, passenger car models change every three to four years, and there is insufficient volume in that time to cover many large and fixed model-specific investments. Industry consultations suggested that only a few parts are yet to be

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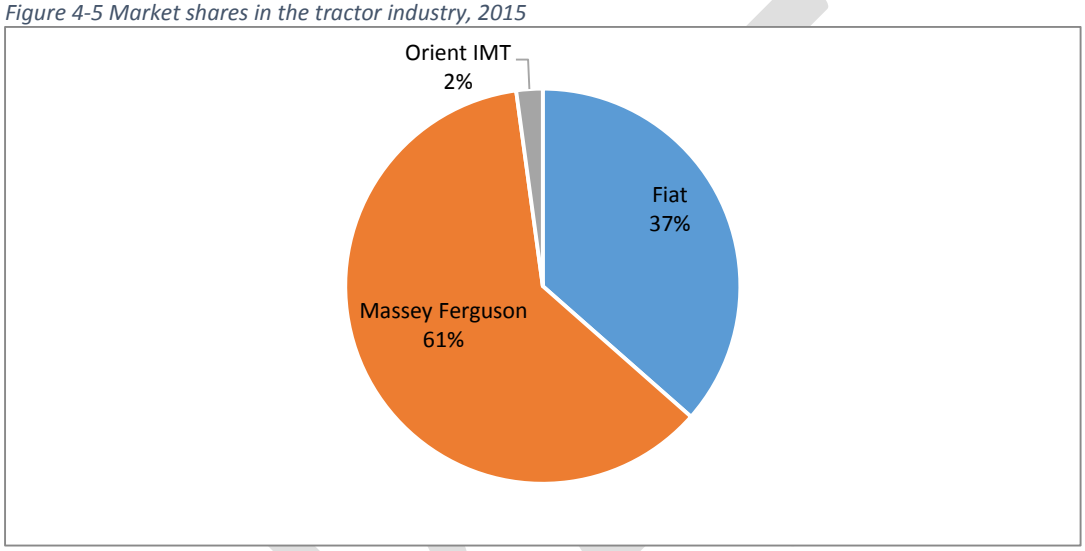
localized. These include fuel injection pumps, hardware seals and injectors. These are high technology sensitive parts that require relatively large investments. Therefore manufacturers prefer to import these parts rather than localize them.

4.1.4 Market shares

As mentioned earlier, two players, Millat Tractors Limited and Al- Ghazi Tractors Limited, dominate the tractor industry. Industry estimates suggest that 95 per cent of market share is shared between Millat and Al-Ghazi. The rest of the market is divided between Orient IMT, Rahi (Haier), Belarus (imported CBU), Universal, Hero, Ursus and Euro. This is depicted in Figure 4-5 below. The HHI index is 5127.2, indicating a highly concentrated market structure.

Figure 4-5 Market shares in the tractor industry, 2015



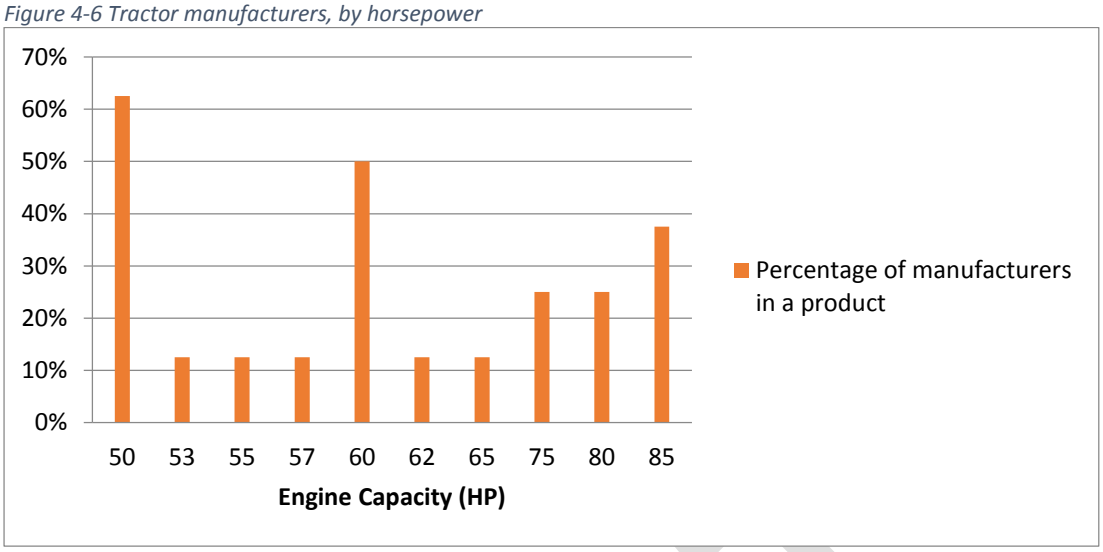
Source: EDB, 2015

With Massey Ferguson in collaboration with Millat Tractors and Fiat with Al-Ghazi Tractors, the market for tractors is mainly dominated by non-Japanese brands.

One aspect of the monopoly-like situation in the tractor industry in Pakistan is that manufacturers are able to pass on costs to the consumers, while maintaining their gross margins. Millat Tractors Limited maintained a gross margin of 17 to 18 per cent even though it had the lowest sales in FY 2014, whereas Al-Ghazi maintained its gross margin in the range of 17 to 22 per cent.

Tractor products can be categorized by horsepower (HP), with a higher horsepower indicating greater tractor strength. Pakistan produces tractors in the range of 50HP to 85HP, but the majority of manufacturers supply tractors of 50HP, 60HP and 85HP as indicated in Figure 4-6.

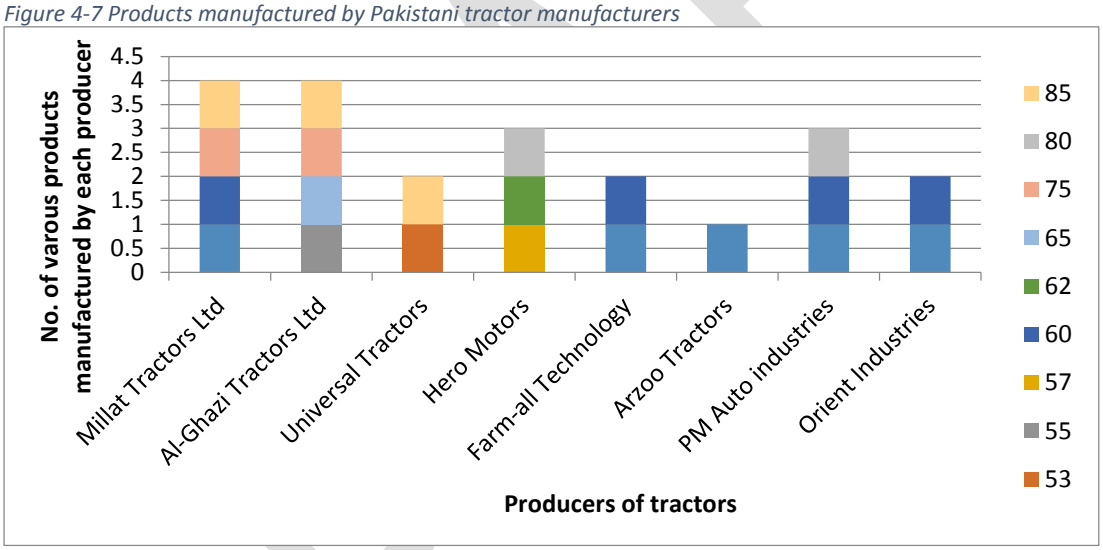
Figure 4-6 Tractor manufacturers, by horsepower



Source: EDB, 2015

50HP tractors dominate roughly 75 to 80 per cent of the market. In contrast to this, the Indian market caters mostly to 40HP tractors. The different soil densities of the two countries can explain the difference —industry suggests that Pakistan has a relatively hard soil, which requires tractors of higher horsepower.

Figure 4-7 Products manufactured by Pakistani tractor manufacturers



Source: EDB, 2015

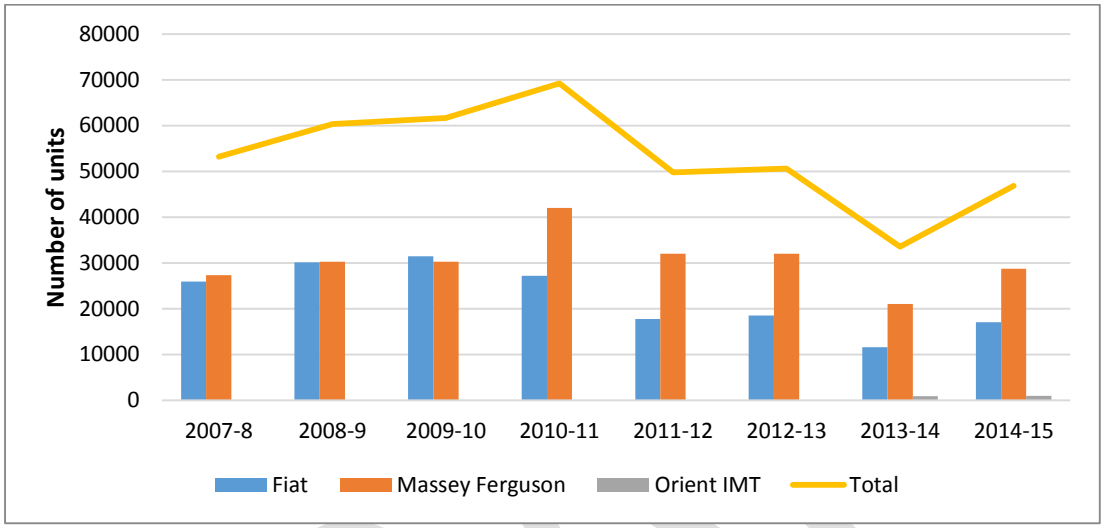
Figure 4-7 depicts the range of products available in the Pakistani market by manufacturer. A notable point is that industry leaders produce tractors in each of the four different engine capacities. The remaining manufacturers make a smaller selection of tractors.

In Pakistan the farmer is presumed to be a conservative buyer. Different brands such as Rahi, John Deere, and Photon have been introduced to Pakistan, but none have been truly successful because of the apparent unwillingness to try a new product. For example, Fiat has changed ownership globally, and is now New Holland, yet in Pakistan they have retained the old "Fiat" brand, as the perception is that consumers are unwilling to experiment. For this reason that the shape, color and features of the tractors have remained the same for years; farmers in Pakistan apparently do not want a high technology tractor, preferring instead the basic established machine.

4.1.5 Sales Volume

The tractor industry has seen falling sales volume in recent years. As shown in Figure 4-8, sales reached their peak for Millat and Al-Ghazi between 2009 and 2011. However there has been a visible slump thereafter and the downward trend has continued in FY 2014. It is expected that the sales volume will increase by 37 per cent in FY 2015 for two reasons, Firstly, the sales tax policy is likely to be reversed to 10 per cent (from 16 per cent) in FY 2015. Secondly, there is an increase in agricultural credit loans from Rs.380 billion to Rs.500 billion, which could boost the demand for tractors in Pakistan.

Figure 4-8 Sales volume in the tractor industry, 2007-14



Source: PAMA, 2015

4.1.6 Regional comparison

Domestic manufacturers claim that the prices of tractors are too high for the domestic farmer in Pakistan. In India, on the other hand, the government has followed policies that have increased the purchasing power of farmers. The minimum support price of agricultural outputs has been increased by the government, which allows Indian farmers to spend more money on agricultural machinery. Policy has an important role to play when it comes to farm mechanization.

Industry input costs are also rising due to the heavy nature of engineering processing required in this sector. As the production process is energy-intensive, electricity shortages require diesel-operated power generators to be used as gas supply is often disrupted due to load-shedding. While India subsidizes diesel, this is not the case in Pakistan and energy costs are consequently higher than in India.

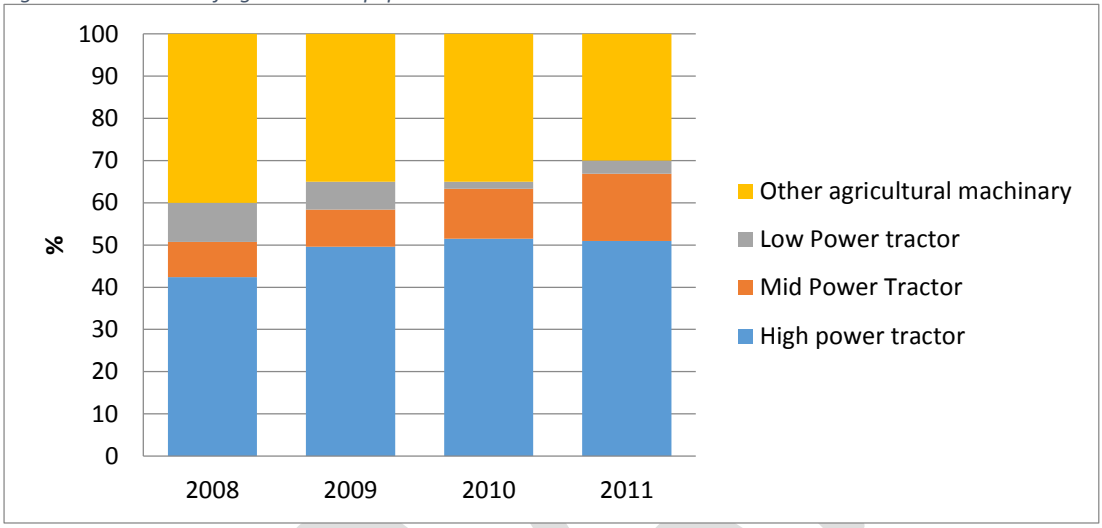
The Pakistani tractor industry is also still relatively small scale. According to the industry, the current market size for tractors in Pakistan is 60,000, which is neatly divided between the two main players in the market. A single manufacturer in India, on the other hand, is able to produce and sell 80,000-90,000 tractors.

Technologically as well, Pakistan lags in the global tractor market. Industry suggested that tractors are at the 7th generation in the world, whereas Pakistan is at the 2nd generation of tractors. Brand loyalty is also a crucial difference between the Indian and Pakistani markets. In Pakistan consumers are resistant to change and continue to use the same machinery, whereas in India this level of brand

loyalty doesn't exist. According to a survey conducted by the Times of India, almost every farmer was willing to try new models of tractors.[120] Consumer behavior facilitates the introduction of new brands in India. Inelastic demand in Pakistan, on the other hand, makes entry difficult.

Also as discussed above, the tractor industry in Pakistan is mainly dominated by 50HP tractors, which fall in low- medium powered agricultural machinery. However, demand in the global tractors market is dominated by high-powered agricultural machinery. Figure 4-9 depicts the sales trend in the Chinese tractor industry, which has seen a steady rise in the high-powered tractor market. On the whole, this was also the most profitable segment of the industry (see Figure 4-10).

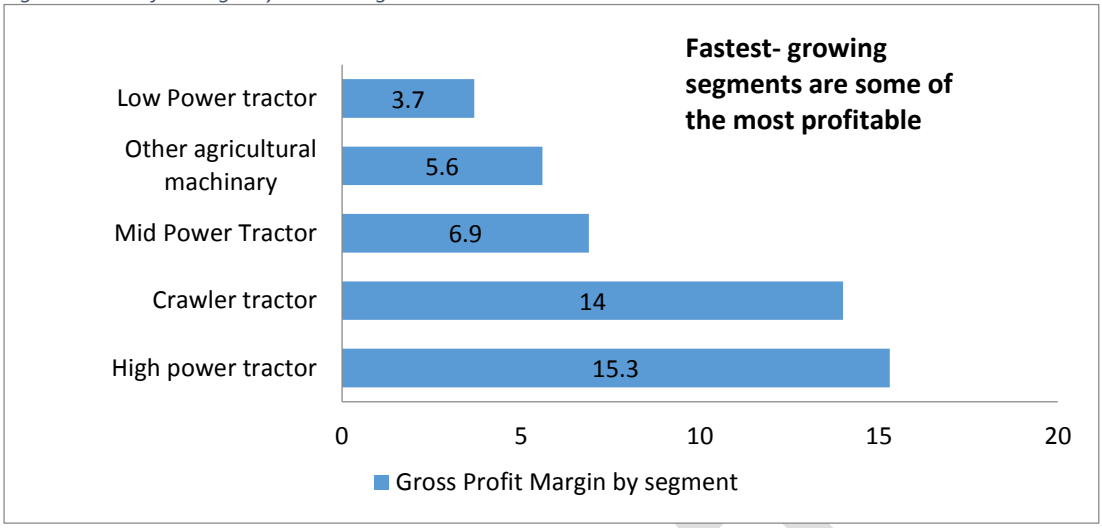
Figure 4-9 Sales mix of agricultural equipment in China



Source: Alix Partners, 2014

[120] (ET Bureau, 2014)

Figure 4-10 Profit margin by tractor segment in China



Source: Alix Partners, 2014

In terms of price, industry continues to cite that despite the energy crisis, Pakistani tractors are more competitive than those of India and China. This is supported in Table 4-3 below, provided by Millat Tractors, which shows that Pakistani tractor prices are much lower than Indian tractor prices.

Table 4-3 Tractor price comparisons with India - provided by Millat

HP	Company	Models	Specifications			Ex. Showroom without distribution margin and VAT	
			HP	Steering	Brakes	INR	PKR
41-50	TAFE	MF 245 DI Mahashakti	45	Manual	Sealed Dry	632928	1,012,685
		MF 5245 DI	47	Manual	Sealed Dry	666,327	1,066,123
		MF 7250 DI	47	Manual	Oil Immersed	708,011	1,132,818
	M and M	Sarpanch	43	Manual	Sealed Dry	458,616	733,786
	JD	5204	50			650,000	1,040,000
		5042D	42			600,000	960,000
	Sonalika	DI 60 MM	50		Oil Immersed	490,510	784,816
	NH	3600 (2)	50			550,000	880,000
							Base Price
	Millat	MF-240	50	Manual	Out Board Drum		650,000
		MF-350	50	Powered	Oil Immersed		692,000

Note: Indian Rupees are converted to Pakistani rupees at the rate of 1 INR= 1.6 PKR
Source: Data provided by Millat Tractors Limited

In an independent price verification exercise, we compare the specifications and prices of several similar tractors in Table 4-4 below, and find that Pakistani tractors are substantially cheaper than Indian tractors for the same international brands, though there may be differences in emissions and other standards, and on other quality dimensions.

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Table 4-4 Tractor price comparisons with India – independent verification

	Model	HP	Brakes	Steering	Compliance	Price (INR)	Price (PKR)
	Indian Tractors						
	MF 9000 Planetary Plus	50	Oil Immersed	Powered	Tier III A	650,000	1,033,500
TAFE	MF 5245 Planetary Plus V1 , / upgraded model is 9500	50	Oil Immersed	Manual	Tier III A	660,000	1,049,400
New Holland	NH3630 TX Super	50	Oil Immersed	Manual/Powered	Bharat TREM III A	660,000	1,049,400
	NH 3600(2)	50	Oil Immersed	Manual/Powered	Bharat TREM III A	625,000	993,750
	5050D	50	Oil Immersed Disc Brakes	Powered	Bharat TREM III A	729,000	1,159,110
John Deere	5050E	50	oil immersed Disc brakes	Powered	Bharat TREM III A	769,000	1,222,710
Sonalika	DI 60 Rx mm	50	Oil Immersed	Manual	EURO –III A Norms Compliant	685,000	1,089,150
Mahindra	Mahindra 595 Di	50	Oil Brakes	Powered	EURO –III A Norms Compliant	565,000	898,350
	Pakistani Tractors						
	MF-240	50	Out Board Drum	Manual			715,000
Millat	MF-350	50	Oil Immersed	Powered			761,200
AL-Ghazi	NH 55-56	55					756,800

Note: Indian Rupees are converted to Pakistani rupees at the rate of 1 INR= 1.6 PKR

Source: Government of Pakistan, 2015a for tractor prices in Pakistan, and tractor dealers in India for tractor prices in India, 2015

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4.2 Policy environment

4.2.1 Trade tariffs and policies

4.2.1.1 Current tariff structure

The current tariffs on tractors follow the schedule of the Five-Year Plan in the AIDP 2007-12 (see Table 4-5). Fully built tractors face a customs duty of 15 per cent, whereas licensed vendors or tractor manufacturers can import parts that have been localized at 35 per cent. Meanwhile, parts that cannot yet be produced domestically can enter duty-free.

Table 4-5 Duties on components as per AIDP, 2007-12

	CBU	CKD: Localized	CKD: Non-localized
Agricultural Tractors (35-100 HP)	15	35	0

Source: Government of Pakistan, 2008

The phased reductions envisaged in the AIDP 2007-12 were implemented only in the case of tractors, but that may be due to the fact that the AIDP 2007-12 did not alter the existing duty structure for tractors (with the exception of a special concession on agricultural tractors in 2007-08, whereby CBUs could be imported duty-free for a while). The simple MFN applied average duty rate that Pakistan levies on tractors is 21.67 per cent,[121] while the ERP for the tractor assembly process is 32.6 per cent: for each US$1 of value added at international prices, domestic tractor producers receive US$1.33 in the local market. This indicates that the tractor segment receives a medium level of protection from the existing tariff structure.

As mentioned above, there is no duty on parts that are imported for domestic production, given that localization is so high. This means that only those components are imported which cannot be locally produced. There is still substantial under-invoicing of tractor parts and, under the guise of Euro II compliance, there have been attempts to influence the MoC to allow CBU imports. A Euro II complaint tractor, would however not bring about the expected environmental benefits as the grade of diesel required for Euro II compliant engines is not available domestically.

4.2.1.2 Tariffs in India

Duties on tractor imports in India are in the range of 29 per cent, whereas the duty on tractor parts is 26.2 per cent. However, the applied duty on tractor parts is somewhat lower, at 18.8 per cent.[122]

Table 4-6 Comparison of import duty for tractors and components in India and Pakistan, 2015

Product	Rate (%)	
	Pakistan	India
CBU	15	29.6[a]

[121](WTO, 2015d).
[122] (Millat Tractors Limited, 2015).

GST/VAT on CBU	10	4 to 5
Non-localized parts	0	26.53
Localized parts	35	26.53[b]
GST/VAT on CKD	17	12.36

Note: a is determined from Table 4-8 and b is determined from Table 4-7
Source: Millat Tractors Limited, 2015.

More specifically, we can see that while India does not differentiate between localized and non-localized components, the rate of duty on CBUs is only slightly more than the duty on tractor parts (29.6 per cent versus 26.53 per cent). This would result in a lower rate of effective protection for tractors in India, than in Pakistan. However, there is a difference between the compositions of tariffs: while component tariffs in Pakistan are outlined in the Five-Year Tariff Plan at flat rates of 0 and 35 per cent, in India, other para-tariffs and tariffs are also levied, as may be seen from Table 4-7 below.

Table 4-7 Duty structure for tractor components, India 2015

Duty type	Duty (%)
Customs duty	7.5
Education cess	2
Secondary and higher education cess	1
CVD	12
Cex Education cess	2
Cex higher and secondary education cess	1
Additional CVD	4

Source: Government of India, Central Board of Excise and Customs, 2015[123]

Furthermore, India levies an additional customs duty on tractors at 10 per cent, and more importantly, retains tractors on its SAFTA Sensitive List for Pakistan (see Table 4-8). Effectively, this means that Pakistan cannot export tractors to India.

Table 4-8 Duty structure for tractors, India 2015

Duty type	Duty (%)
Customs duty	10
Education cess	2
Secondary and higher education cess	1
CVD	12
Cex Education cess	2
Cex higher and secondary education cess	1
Cess	0.125
Additional CVD	4

Source: Government of India, Central Board of Excise and Customs, 2015[124]

[123] (Government of India, Central Board of Excise and Customs, 2015)
[124] (Government of India, Central Board of Excise and Customs, 2015)

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4.2.2 Other taxes and investment policies

4.2.2.1 Inconsistent taxation

The tractor industry did not have to pay any sales tax till 2011. This was announced in SRO 549 (1)/ 2008, dated 2nd February 2008, in order to make agricultural tractors more affordable for farmers. In March 2011 however, the government decided to impose a GST of 17 per cent on the sales of tractors. This, in subsequent years, led to a slump in tractor sales, although tractor manufacturers and licensed vendors were able to maintain their profits by passing on the increase in cost to the consumers. However, sales dropped due to the limited purchasing power of the small farmer. The GST of 17 per cent was reduced to 16 per cent in the budget of 2011-2012. Since then tractor manufacturers have been lobbying for a reduction in GST. The federal cabinet subsequently notified on February 2nd, 2012 that GST would be increased in phases. Starting from 5 per cent, it was increased to 10 per cent in January 2013 and was increased to 16 per cent in the next phase on January 2014. However in the budget of 2015, this was again reduced to 10 per cent. According to industry, consistent policies could boost sales. Currently however, despite GST having been reduced from 16 per cent to 5 per cent and later increased to 10 per cent, the benefit has not yet been transferred to the consumers. Stakeholders would like to lower uncertainty, as it hinders long-term planning.

4.2.2.2 Subsidy schemes

Benazir tractor scheme

In 2009, the federal government announced a subsidy scheme under the "Benazir Tractor Scheme", with the aim of providing 20,000 tractors at subsidized rates of Rs.200, 000 per tractor to rural farmers all over the country. During the first year of the scheme, 10,000 tractors were distributed amongst the farmers and the rest of the tractors were given in the next fiscal year. The scheme was conducted through Zarai Tarqayati Bank Limited (ZTBL) on the directive of the Ministry of Food and Agriculture.[125]

Green Tractor scheme

The Green Tractor Scheme 2012-13 of the Punjab Government aimed to provide a subsidy of Rs. 200,000 on the purchase of tractors to all those farmers between the ages of 18 to 30 years, possessing 2.5-25 acres of land. In 2012, government estimates suggested that a total of 10,000 tractors had been distributed to the rural youth.[126] The government aimed to provide 20000 tractors over a period of two years.

Sindh Bank tractor scheme

The Department of Agriculture, Government of Sindh decided in 2012-13 to release, as part of phase I, a subsidy of about Rs.200,000 to 300,000 for the purchase of 3000 tractors in Sindh. This was facilitated through Sindh Bank. The subsidy was provided on the basis of

[125] (Business Recorder, 2011)
[126] (The Nation, 2012)

district quotas, depending on the area under cultivation in the province. Sindh Bank also provides small farmers with "*Benazir Zarai Card*" to facilitate the purchase of quality farm inputs such as seeds, fertilizers and pesticides. Under the scheme, loans of Rs.500, 000 will be issued for three years.

Recent changes

In the budget of FY 2016, the governments of Sindh and Punjab have announced further tractor subsidies. The government of Punjab has allocated Rs.5 billion to provide 25,000 tractors at subsidized rates, whereas the government of Sindh has announced a subsidy of Rs.200, 000 to 300,000 per tractor for 29,089 tractors. Industry estimates suggest that this will lift sales volume for tractor manufacturers by 118 per cent. Additionally this will also benefit the auto parts industry. [127]

Commercial financing of tractors and cheap agricultural loans would also assist in easing the liquidity constraints that are associated with farming incomes. Consumer financing is low in Pakistan, with banks providing only 30 per cent of consumer financing to farmers. Therefore, commercial lending should be increased to facilitate the purchase of tractors and other vehicles. ZTBL does provide loans but these loans are minimal and commercial banks are not involved in the loan giving process for this sector. The requirement for collateral is also more stringent now. Previously, the land requirement needed as collateral was 12 acre, but it has been increased to 20 acres, making borrowing even more cumbersome.

4.2.3 Standards

Standards in general, are important as these ensure a level playing field and foster healthy competition amongst firms while at the same time ensuring a minimum quality for the consumers. Awareness about standards amongst producers is now increasing. In particular, standards which are important for agricultural machinery, include general safety standards like lighting and marking, visibility, braking etc., Roll-over Protection Standards (ROPS), safety of electronic control systems, testing and performance standards and off-road diesel exhaust emission regulation.

In the U.S., ANSI/ASAE S318 is the current national standard that addresses the safety requirements of agricultural tractors and machines. This standard requires compliance with the ISO 4254 series, which pertains to agricultural machinery safety and the ISO 26322 series that covers agricultural safety. The ISO 4254 series are being adopted directly or with slight modifications by the EU, Canada, Russia, Australia and China. As far as road safety is concerned, ANSI/ASAE S279 lighting and marking is a legal requirement in North America while in the EU, member states specify requirements. Table 4-9 compares the general safety requirements of the European Economic Community and North America.

Another important standard pertains to Roll-Over Protection. Tractors are considered to be one of the leading causes of death on the farm, with Northeastern US states recording the highest rates of deaths and the lowest rate of roll-over protection measures. Roll-over protection equipment is designed to absorb the impact energy produced during an overturn

[127] (The Nation, 2015)

and form a protective zone for the operator. Certain tests must be passed by the prototype ROPS. These include engineered, crush, static, and dynamic tests before any tractor can be used by the farmer. Tractors must fulfill the standards set by the Society of Automotive Engineers (SAE) J167 or OSHA 29 CFR 1928.51.[128]

Testing and performance standards are also critical. Examples include PTO (Power Take Off), drawbar, hydraulic power, hydraulic lift, and fuel consumption tests. As far as the off-road diesel exhaust emission regulation is concerned, Europe, North America and Japan have almost harmonized their standards. Many improvements have been introduced to improve the emission levels of agricultural tractors. Engines of Stage IIIB and Stage IV technology with improved emission levels have made tractors more expensive. However, new features are now being added to the design of the tractors to counter the cost of the emission improvements.[129]

Pakistan's performance with respect to global standards is not very encouraging. According to the industry, the PSQCA is not well equipped to carry out testing for safety and performance standards as per global requirements. This might also be due to the fact tractors produced in Pakistan are still at the 2nd generation of tractors, whereas globally, tractors have now progressed to the 7th generation. This provides little incentive for local authorities to gear efforts towards developing these standards according to global demand. Industry has also criticized the role of the National Tariff Commission (NTC) of Pakistan. Currently it does not have the human resources to pass any ruling on cases related to standards and anti-dumping.

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[128] (Buckmaster & Murphy, 2014)
[129] (AGCO, 2013)

Table 4-9 Safety requirements for tractors in EEC and USA

	European Economic Community requirements	**North American requirements**
Dipped Beam head lamp	R	R
Main beam head lamp	O	O
Work lamp	O	O
Reversing Lamp	O	O
Front position lamp	R [ab]	O
Rear position lamp	R [b]	R
End outline market lamp	NR/O [ac]	O
Stop lamp	R [m]	O
Front direction indicator lamp	R [n]	R [qs]
Rear direction indicator lamp	R [nd]	R [qrs]
Hazard warning signal	R [e]	R [h]
Special warning lamp	O/R [f]	O
Rear registration plate lamp	R	O
Front fog lamp	O	O
Rear fog lamp	O	O
Rear retro-reflectors	R [bg]	R
Rear fluorescent markings	NR	R if W>3.7m
Front retro-reflector	NR	R if W>3.7m
Side retro reflector	R [hij]	O
Slow moving vehicle emblem	O/R [f]	R
Signaling panel	R [fk]	O
Implement connector	O [l]	R [f]
R-required; O-optional; NP-not permitted; NR- No requirement		

a. *Color shall be white for front facing devices;*
b. *Distance from outer edge shall be no greater than 40mm*
c. *Not permitted if width u 2, 10m; optional if width >2, 10m*
d. *Tractors and self-propelled machines designed to tow trailers shall have a turn indicator to tell-tale(s) to indicate trailer turn indicator operation.*
e. *Tell-tale for hazard warning shall be red*
f. *Dependent on national regulations*
g. *Shall have two not higher than 1200 mm above ground*
h. *Color shall be amber*
i. *Required if length exceed 6000mm*
j. *May be fitted on center of wheels*
k. *Required on vehicles <2.55 m. wide.*
l. *Required only if a self-propelled machine is designed to tow a trailer or a trailed implement*
m. *Not less than 500 mm apart. The distance may be reduced to 400mm if the overall width is less than 1400 mm*
n. *Arrangement(see Directive 78/933/EEC, Appendix 3)*
o. *Tractors and self-propelled equipment not primarily used with agricultural trailers, trailed or mounted equipment are excluded from this requirement*
p. *Lamps shall flash in unison at a rate of at least 20 flashes / min less than the turn indication flash rate*
q. *When a turn is signaled the direction indicator lamp shall become steady burning and the direction lamp in the direction of the turn shall flash at a rate of 85-110 flashes/min. Turn indication shall override the operation of hazard warning signal*
r. *Additional rear facing red and amber lights conforming to SAE J2261 mounted according to the requirements of the rear position lamps shall operate in conjunction with turn indicator lamps. The additional lamp on the side in the direction of the turn shall flash in unison with the direction of the indicator lamps. The additional lamp on the side opposite the direction of the turn may remain off, on or become brighter but shall not flash. These lamps may be reciprocally incorporated with the rear position lamp. They shall not flash as part of the hazard warning signal.*
s. Distance from outer edge shall not be greater than 400mm when road transport width is greater than 3.70m

Source: AGCO, 2013

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Indian industry, on the other hand, has maintained stringent indigenous standards. According to the Pakistani industry, India currently imposes Bharat III A standards, which the Pakistani industry does not meet. Manufacturers in Pakistan are not willing to comply with Indian standards as the process is very cumbersome and time consuming, and there is no guarantee that they will be able to export if they meet the standards. This discourages the exporters. However industry players are developing in-house standards and are confident that if they are allowed to export to India, they will be able to comply and compete.

4.3 Regional Trade

4.3.1 Trade potential

The tractor industry has great potential to expand its operations in the global market. There is demand for Pakistani tractors in Afghanistan, Turkey, Kenya and Sudan. However, the agreement with their principals is restrictive at the moment. Al-Ghazi has made some headway and is legally sending tractors to Afghanistan, while Millat is still in the early stages of negotiation with Massey Ferguson to finalize the details of becoming its distributor in Afghanistan. Currently, Massey Ferguson tractors being manufactured in Pakistan by Millat are 40 per cent cheaper than tractors produced by Massey Ferguson, but Millat cannot exploit this price edge due to market access issues.

Even though the market for export exists in Afghanistan and other neighboring countries, export potential could not fully be exploited because of inconsistent government policies. When the government introduced the general sales tax of 17 per cent in the FY 2014-15 budget, local manufacturers could not avail export rebates offered by the government, since direct exports are not possible and happen indirectly. This raised costs by 17 per cent, and Iranian tractors took the available market share in Afghanistan. The sales tax has been reduced from 17 to 10 per cent for tractors, but the changes itself are damaging for an industry that needs large scale investments and long term capacity planning. Another example is changes in the import policy for CBU tractors, which were allowed temporarily at 0 per cent duty through a special SRO. Such inconsistencies on part of the government have fostered a lot of trust deficit amongst the industry. Consistent government policies are also necessary to generate a secure investment environment in order to protect the current investments as well as invite future investments in the country.

There are several advantages that the Pakistani tractor industry enjoys as compared to the Indian tractor industry. Pakistan is located at a distance of 580 km from Indian Punjab. This means that the transportation cost is minimal in the event of Pakistan tractors being exported to India. Also since 2008, the Pakistani currency has depreciated against the US dollar. This makes Pakistani products cheaper in other markets. Another advantage for Pakistan is that vendors in Pakistan work at lower operating margins and managerial costs according to the industry. Local vendors argue that this means that equipment can be produced at a much cheaper price in Pakistan as compared to India.

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4.3.1.1 Tariff structure in India and other regional partners

Table 4-10 Regional tariff structure comparison, 2015

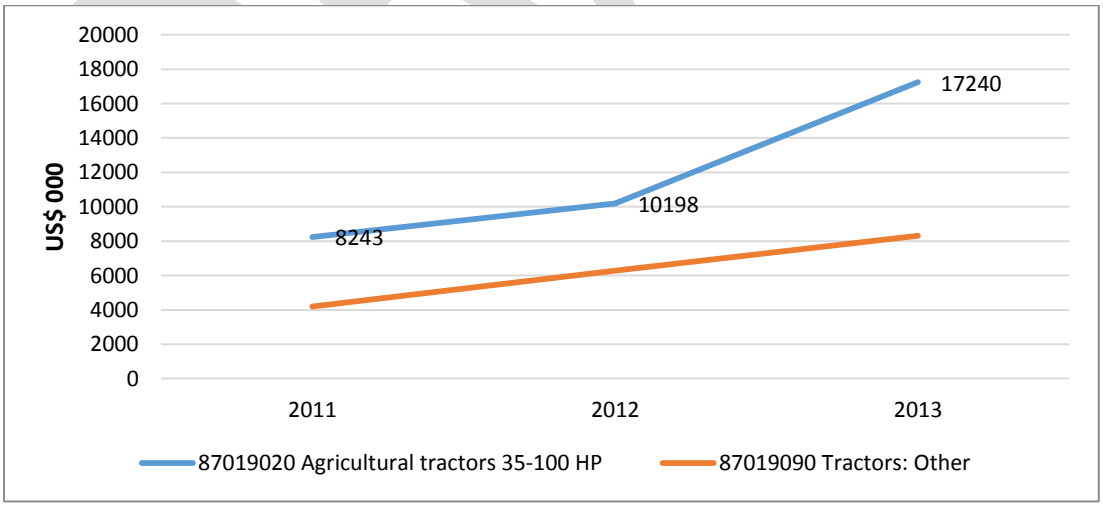
Per cent	Vietnam	Indonesia	Thailand	Malaysia	India	Pakistan
AV duty	7.5	9.4	16.3	9.4	10	23.3
VAT	10	10	7	-	-	-
GST	-	-	-	6	-	10
CVD					12.5	-
Add. CVD					4	-
Income Tax						5
WHT	-	2.5 or 7.5	-	-		
Education Cess					3	
Special FED						1
Total	17.5	21.9	23.3	15.4	39.5	39.3

Source: Country Tariff Profiles

In Table 4-10, we compare the tariff structure for Pakistan with other regional countries. The import tariff is an average of the ad valorem duties for a particular HS code (8701 in case of tractors). A comparison of import duty across countries, shows that tractor imports in Pakistan face the maximum ad valorem duty, followed by Thailand and India. Vietnam has the lowest import duty. Adding other duties and taxes, India levies the highest import tariff for tractors, with Pakistan not lagging far behind. Thailand and Malaysia follow. This corroborates the industry opinion that it is difficult for the Pakistani exporters to export to India. However, these duties and taxes are also imposed in the case of other partners of India, and not just Pakistan.

While Pakistan does not import tractors, exports of tractors increased sharply in 2013, reaching US$17.2 million in the sub-category of agricultural tractors having engine capacity of 35-100 horsepower (HS code 87019020), as seen in Figure 4-11.

Figure 4-11 Pakistan's global exports of tractors, 2011-2013



Source: ITC, TradeMap, 2011-2013 [130]

[130] (ITC Trade Map, 2013)

In terms of the regional trade potential, SAARC country tractor imports from the world (HS 6-digit level 870190) stood at US$158.7 million in 2003, while Pakistan exports of the same to SAARC countries amounted to US$4 million. Given that Pakistan's world exports were US$33.9 million, the indicative trade potential was US$29.9 million in 2013.[131] But in order to realize this, Pakistan needs to resolve issues pertaining to standards and licensing requirements.

4.3.1.2 Licensing and intellectual property rights

Technical licensing agreements of the tractor manufacturers in Pakistan are currently restrictive which prevents them from exporting to nearby markets. Al Ghazi has recently received temporary permission to export to Afghanistan. Otherwise exports happen indirectly through private exporters. Lack of distribution networks and local experience in Afghanistan prevented the principal from establishing their presence in this market despite producing competitively priced products. Moreover, while the Pakistani tractor is popular in Kenya, Sudan and that demand is increasing, this cannot be exploited at the moment on account of legal and intellectual property right issues. Since this is a potentially lucrative market, their principals are interested in selling there directly rather than through their partner companies in Pakistan.

Parts vendors face similar problems. Millat Equipment Limited, a local parts vendor developed by Millat, is currently making export quality and competitive parts that it cannot export due to homologation requirements in the world. A guarantee of consistent trade would allow firms to invest in meeting these homologation requirements and export successfully.

4.3.1.3 Non-Tariff Measures and Non-Tariff Barriers

Homologation is the most important NTM faced by Pakistani producers. India applies Bharat III-A standards on tractors, whereas Pakistan has no standards for tractors. Further, with the stop-go history of Pakistan's trade with India, manufacturers are hesitant to manufacture to those Bharat standards without the guarantee of consistent access to Indian markets.

In terms of Non-tariff barriers, Industry experience suggests that parts exporters have often been denied export access into India apparently on the basis of weapon-like appearance of parts. Infrastructural capacity at the ports is limited which leads to damage and delays in the processing of Pakistani exports to India. For example, some producers have complained that the absence of fork lifters on the Attari side of the land border has damaged their consignments. Some interviewees suggested suggested that there is a perception issue, whereby a rather nationalist reaction to the "made in Pakistan" label is often expressed, with Pakistani goods being subject to more detailed inspection as compared to other countries exporting to India—this is not the result of any state policy, but rather a legacy of history. [132]

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[131] (ITC, TradeMap, 2013).
[132] (Bhatti, 2013)

Globally, one sees the emergence of MNCs from economies such as China, India, Mexico, Brazil, Russia, Turkey and South Africa, which have per capita incomes of US$10,000 or less as compared to the per capita incomes of US$34,000 of the developed economies. These countries were once thought to be producers of low quality products that were contractual manufacturing bases, rather than world-class global players. These emerging MNCs have the advantage of cheap labor and large domestic markets, but lack the capital, managerial systems and knowledge base that developed countries have. Despite these shortcomings they have emerged as global leaders. This is because they have made use of their strengths of low-cost manufacturing through scale economies and their existing knowledge base to expand businesses in emerging markets. Additionally, they have also focused on developing new research and development capabilities to reach out to niche customers. India's Mahindra Tractors is a classic example. Due to the low cost of manufacturing and frugal models, M&M has now become the largest manufacturer of tractors in terms of units. They have developed the knowledge base to create rugged vehicles to cater to low end of the emerging market. They have also customized their rugged tractors to target hobby farmers and golf course and lawn maintenance segments in the American and the Australian markets. [133]

John Deere is another example of a global manufacturer that has been able to maintain double-digit sales figures at a time when US manufacturing plants were closing. It focused on manufacturing according to the needs and demands of the customer. In order to increase productivity it adopted a share value-added system, whereby it did a basic cost benefit analysis to see if it was competitive. The compensation of the workers and top management was tied to the share of the value added, which incentivized workers to lower costs and made John Deere competitive. It also worked to bring down its receivables-to-sales ratio and its inventories. This made them more efficient in producing the right product for the customer at the right time. Unlike other global players that had to relocate to obtain cheap labor advantages, John Deere's decision to relocate was not driven by this motive alone. In fact they followed a dual approach: relocating in order to export to emerging markets. For example, the plant in India manufactures diesel engines, transmissions and tractors to fulfill local requirements, but is also an exporting site for 52 countries.[134]

Pakistan is better placed in tractor manufacturing as compared to cars. With the advantage of cheap labor, high levels of localization, and government support through subsidies, Pakistan's industry can be well placed in the global market. Pakistani industry needs to focus on the specific needs of the international customer and undertake substantial investment in advanced tools to increase productivity. Alternatively, it can identify markets similar to Pakistan in order to export. Many successful global players focus not on volumes, but on high quality and product differentiation. Pakistan can follow similar strategies to focus on niche agricultural products and markets.

4.4 Trade challenges

The tractor industry in Pakistan is wary of the Indian attitude towards imports from Pakistan. The tractor industry of Pakistan does not see any merit in importing CBUs from India, and opines that parts imports would affect the local industry of Pakistan. In terms of attitudes

[133] (Holstein, 2008)
[134] (Holstein, 2008)

and perceptions therefore, substantial progress needs to be made in order to improve trade flows.

For the tractor category, we can determine the competitiveness of Pakistan by calculating the Balassa RCA for Pakistan and India, and also the alternative specifications of RCA as defined by Vollrath. We find that in the tractor category, Pakistan has a comparative advantage in the "Other tractors" category i.e. HS 870190, as the RCA >1. In other categories, Pakistan has a comparative disadvantage as RCA<1 (see Table 4-11 for Balassa RCA).

We have also conducted a vulnerability analysis of Pakistan relative to India. Vulnerability is defined as RCA-PAK<1 and RCA-IND>1. We find that Pakistan will not be vulnerable on any of the categories. In other words, in case trade with India is liberalized, Pakistan will not face an influx of imports in the tractor category from India. However, it is important to note here that the RCA of India in the "other tractor "category is not only greater than 1, but also greater than Pakistan. Investigating HS 870190 in further detail at the eight digit level indicates that this includes agricultural tractors, having an engine capacity exceeding 35 HP but not exceeding 100 HP and components for the assembly / manufacture of agricultural tractors, in any kit form.

The RCA index for Pakistan being greater than 1 but less than that of India indicates that despite being competitive we have a low export share in the world. This is most likely attributable to the restrictive licensing agreements that tractor manufacturers in Pakistan have with their principals that prevents them from reaching out in potentially high-demand markets.

Our conclusions about Pakistan and India both having a comparative advantage in the other tractor category still hold when we use Vollrath Indices as shown by positive values of RTA, RXA and RCs in the other category for both India and Pakistan.

Table 4-11 Balassa RCAs for tractors

	Product Description	**RCA-Pak**	**RCA-India**
870110	Pedestrian controlled tractors	0.01	0.61
870120	Road tractors for semi-trailers	0.05	0.04
870130	Track-laying tractors	0	0.09
870190	Other	1.22	2.29

Source: Author's calculations based on UN Comtrade, 2013

Table 4-12 Vollrath Indices for tractors, Pakistan

	Product description	**RTA**	**RXA**	**RC**	**Interpretation**
870110	Pedestrian controlled tractors	-0.10	-4.45	-2.28	D
870120	Roads tractors for semi-trailers	-0.30	-3.09	-2.03	D
870130	Track laying tractors	0.09	-2.38	2.85	D
870190	Wheeled tractors nes	0.79	0.18	1.08	A

Note: A denotes an advantage and D denotes disadvantage
Source: Author's calculations based on UN Comtrade, 2013

Table 4-13 Vollrath Indices for tractors, India

	Product description	**RTA**	**RXA**	**RC**	**Interpretation**
870110	Pedestrian controlled tractors	-0.10	-4.45	-2.28	D

870120	Roads tractors for semi-trailers	-0.30	-3.09	-2.03	D
870130	Track laying tractors	0.09	-2.38	2.85	D
870190	Wheeled tractors nes	0.79	0.18	1.08	A

Note: A denotes an advantage and D denotes disadvantage
Source: Author's calculations based on UN Comtrade, 2013

4.5 Sector Impediments

There are currently several inter-related impediments to the growth of this sector, which are discussed below.

Standards

The PSQCA is ill-equipped to set or enforce quality and safety standards for any kind of vehicles, let alone for off-road vehicles. In addition diesel of the grade required for engines that are compliant to global standards is not available in Pakistan. The National Tariff Commission (NTC) of Pakistan does not have the resources to pass any ruling on cases related to standards and anti-dumping. Therefore, local manufacturers are left to their own devices when it comes to dealing with any trade-related disputes. Developing and implementing standards is therefore crucial, not just for environmental concerns, but also to prevent dumping by other countries and in ensuring access for Pakistani tractor exports to international markets.

Licensing

Overall, technical licensing agreements with principals remain a major obstacle. Also Pakistani tractors are substantially cheaper, branding remains an issue that has hampered export growth in the international market. Unless local manufacturers can make arrangements with their principals that allow them to sell Pakistani tractors, in say, completely different markets than the principal, exports from this sector cannot rise.

Technology

Innovation in this sector is minimal. Currently, Pakistani tractors embody 2nd generation technology whereas globally, tractors are at the 7th generation. Technological innovation is largely absent, and engines used in Pakistan are almost 50 years old. Tractors remain a basic mechanical device without any gadgets.

Unstable government policies

The government has introduced many contested policies in this sector, and policy changes have been frequent. Consistent government policies are necessary to generate a secure investment environment in order to protect current investments, and attract future investment in the country. For instance, a temporary policy was introduced in the past that allowed the import of CBU tractors at 0 per cent duty through a special SRO, when the average world duty on CBU tractors was 15 per cent. Currently, lobbying is underway for the import of Euro II-compliant CBUs from India. The industry perspective is that this will make local vendors vulnerable for no good reason, as Pakistan does not have the quality of diesel required for such engines. Secondly, the incentive to reverse-engineer and produce a local

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Euro-II compliant engine will be largely absent because it will raise the cost of the engine without any substantial benefit, again, due to the unavailability of the requisite grade of fuel.

Another example of an arbitrary policy change was the increase the sales tax to 17 per cent. Since tractors were GST exempt prior to this scheme, demand for tractors plunged as the final prices to the consumers rose, and tractor plants had to remain idle until the piled up stocks were run down. Labor had to be laid off as the plants were not operational. This had repercussions for the entire vending chain. Manufacturers often have multiple vendors for some parts and their criteria for selection of suppliers is based on a standard rule of the "system", which normally gives equal weight to quality, delivery and prices. As a result of this change, several small vendors went out of business.

Financing

Commercial financing of tractors and cheap agricultural loans would help ease the liquidity constraints that are associated with farming incomes. The ZTBL does provide loans, but they are minimal. The requirement for collateral is also more stringent now. In general, options for farmers are limited, with commercial banks providing only 30 per cent of consumer financing.

Demand

The current market size for tractors in Pakistan is 60,000 and it is divided between the two main players in the market. A single manufacturer in India, on the other hand, is able to produce and sell 80,000 to 90,000 tractors. Therefore, government interventions to introduce more players in the market do not seem to be founded in demand considerations. In addition, the lack of incentives discussed above makes demand erratic. This disrupts production planning and control over operating costs. Input costs are rising due to the heavy engineering processing required in this sector. As the production process is energy-intensive, electricity shortages require diesel-operated power generators to be used, as gas supply is often disrupted due to load-shedding. While India subsidizes diesel, there is no such policy support in Pakistan, causing production costs to double. In turn, rising costs and lack of financing have shifted ownership patterns in the industry, and skewed them in favor of tractor rentals. This has dampened demand further, and lowered volumes: large fixed costs have to be spread over smaller numbers, raising production costs, and consequently, prices. The increasing demand elasticity due to the available rental market has also affected the local parts industry, which is operating in an almost monopsonistic market, with just two local producers.

Trade environment

The market for export exists in Afghanistan and other neighboring countries, but export potential could not fully be exploited because of inconsistent policies. When the government introduced the GST of 17 per cent in the FY 2014-15 budget, local manufacturers could not avail rebates offered by the government since direct exports are not possible. This raised costs by 17 per cent, and Iranian tractors took market share in Afghanistan. Although the sales tax currently has been reduced from 17 to 10 per cent, industry argues that it is still unfavorable for export, since exports to Afghanistan occur via a middleman, and a rebate should be given to allow exports. The tractor industry is also not

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able to exploit its export potential with India due to infrastructure and logistics issues. Currently tractors are not allowed to enter through the Wagah-Attari border and have to go through seaports only. If allowed, Pakistani manufacturers could potentially exploit the price differential within India due to its large size, and the logistical advantage arising from the proximity of Indian and Pakistani Punjab. However, this will only be possible if Pakistan can successfully negotiate with India to remove tractors from its SAFTA sensitive list.

Owing to the long average life of tractors and the need for constant after-sale services, the local tractor industry has been able to survive the weak regulatory and policy structures in place. Nevertheless, such inconsistencies on the part of the government create a trust deficit amongst the industry who view the government as incapable of promoting the sector at home and in the world.

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5 Auto parts

5.1 Market structure

The auto-parts sector is made up of a diverse set of firms, both in terms of products manufactured and in terms of size. The EDB estimates that the downstream vending industry comprises around 2000 part manufacturers, out of which 400-500 are in the organized sector. They produce a variety of parts: interior trims, plastic parts, forgings, casting, machined parts, rubber parts and electrical parts. The auto manufacturers produce sensitive and sheet metal parts in-house. Reliable, consolidated data on this sector is hard to come by, and therefore this section is based on interviews with key auto parts manufacturing firms and representatives of Pakistan Association of Automotive Parts Accessories Manufacturers (PAAPAM). We attempted to interview firms engaged in several different processes: forging, casting, plastic injection and blow molding, glass and sheet metal.

There are two segments in the auto parts sector: sales to OEMs for assembly into new cars, and the replacement market. The OEMs typically provide a blueprint that is manufactured to the exact specifications required by the local firm. There did not appear to be any designing or R&D around the manufacturing process for the firms we interviewed. While many of the firms do make their own molds and some engaged in reverse engineering, true product development is generally not taking place to the level expected in global Tier 1 suppliers.

There are several instances of technical collaborations with foreign firms. Table 5-1 lists a summary of these. While there are numerous instances of successful collaborations, some auto-part manufacturers mentioned a reluctance of foreign manufacturers to come to Pakistan, as they prefer the market size and investment climate of India. Taxes on royalties and technical assistance fees further inhibit technology transfer.

Table 5-1 Key technical collaborations

	Technical Assistance Agreements
IMC Vendors	36
PSMC Vendors	26
HACPL Vendors	10
Other Vendors	35
Total	107

Source: PAAPAM, 2015

The benefits of the relationship with OEMs are the knowledge spillovers in the production process, and the certainty of orders that allows the part manufacturers to undertake investments. While the knowledge and technology spillovers that come with producing for OEMs are important, the market size for the specific product manufactured is limited and does not allow for the achievement of economies of scale. Firms that supply to OEMs based in Pakistan generally do not also supply to the OEM internationally and therefore are not global Tier 1 producers. They are engaged typically in low value addition processes (manufacturing and assembly) rather than higher value addition processes such as innovation, R&D and branding. However, while the products are low value-addition, they are not low quality. The products that are used in local OEM value chains are tested in Japan in a two-stage process. First, the part itself is tested, and second, it is used to assemble a vehicle,

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which is sent in CBU condition to Japan to be tested. Therefore the quality complied with by the local firms manufacturing for OEMs is set and enforced by the Japanese OEMs.

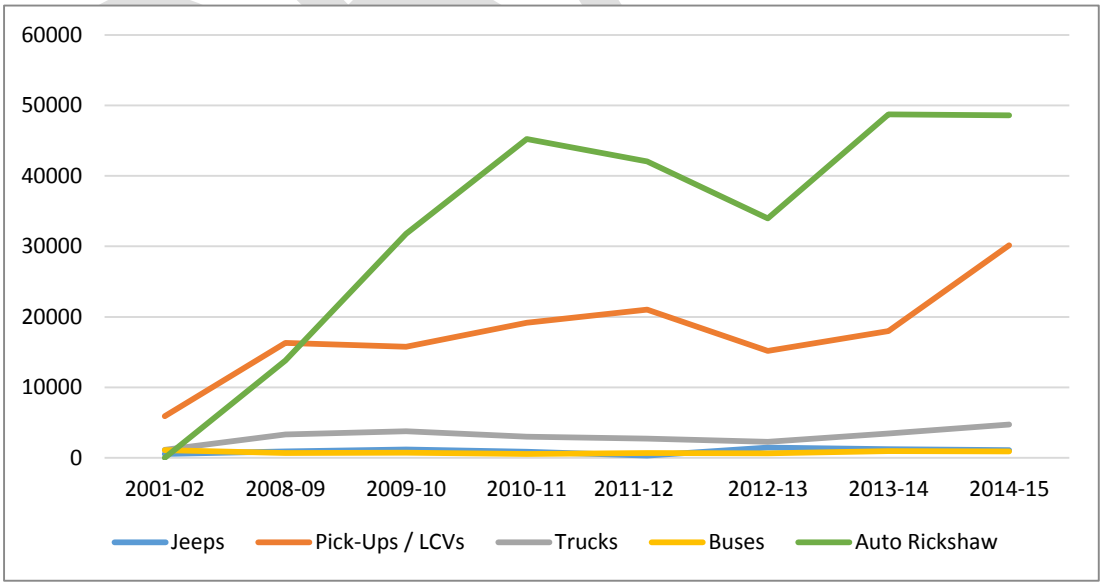
There is widespread agreement that auto parts that are sourced locally are competitive only because of the protection provided to them by the tariffs on imported finished auto parts. This lack of competitiveness stems from the fact that their raw material is largely imported (for example fine grade copper to make radiators), and is typically available from just a few global firms. The scale of Pakistani firms is too low compared to other regional competitors, and this, combined with the poor availability of raw material, provides other countries a comparative advantage. The availability of cheap labor in Pakistan is the only advantage, which is offset by the higher costs of doing business.

Many part manufacturers have diversified their production into other products, some of which are entirely unrelated to the auto sector. For example, Thermosole Industries (Pvt.) Limited produce plastic products to be used in cars, but the same plastic molding machines are also used to make gardening and food packaging products.

In each type of auto part, there are typically no more than two to three domestic manufacturers, and in some cases there is just a single manufacturer. For example, MECAS is the only firm manufacturing brakes in Pakistan.

Since the auto parts industry is dependent for its demand on the market for its final product, it is useful to look at patterns of demand in the various sub-segments of the auto sector. The growth of sales of locally made cars, motorcycles and tractors has been documented above (Figure 2-2, Figure 3-1 and, Figure 4-8 respectively). Figure 5-1 shows the growth of the remaining sub-segments of the auto sector. Auto rickshaws and commercial vehicles have shown sharp increases in volumes. The demand for LCVs is expected to pick up even more substantially following Chinese and Pakistan government investments in road infrastructure.

Figure 5-1 Sales Volumes in the auto sector, excluding cars, motorcycles and tractors



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5.1.1 Competitiveness

Products that are manufactured for new cars are generally not competitively priced, and are able to compete with imported parts only because of the tariff protection afforded to local manufacturers.

Many parts manufacturers cater to the replacement market, which is several times larger than that for new cars and is less restrictive in terms of quality. Some manufacturers export a part of their production, focusing typically on niche markets such as replacement markets for outdated models and/or in developing countries, particularly Africa. In such markets, large-scale Chinese manufacturing firms find volumes too low for profitable operations.

Pakistani firms are also competitive in manufacturing products that are environmentally polluting, such as forging and rubber, as compliance to environmental standards is not mandated and enforced by the government and therefore does not give rise to compliance costs.

Certain engineering products where raw materials do not make up a large part of the costs can also be produced competitively. For example, wire harnesses and seats are labor intensive, and thus play to Pakistan's natural advantage. In other products, technology is more important and the higher value addition enables firms to bear the high energy costs. Availability of electricity and gas are major barriers to achieving greater competitiveness in Pakistan. Generating energy using private diesel generators costs more than twice what it would have cost on the national grid.

While firms are able to stay afloat by diversifying, this is not ideal. Greater volumes would allow firms to specialize and acquire greater technical expertise. So far, local manufacturers generally produce low-value addition parts. Some auto-parts manufacturers voice concern that OEMs are unwilling to source higher value-addition parts locally as these require greater R&D and investment. The greater value parts are more profitable and global Tier 1 suppliers have an incentive to export these parts built up rather than engage in JVs locally.

5.1.2 Licensing

One of the major impediments for parts manufacturers is the licensing required to produce local parts in accordance with OEM standards. The OEMs typically require manufacturers to enter technical collaborations with their global suppliers, which can include mandatory use of equipment imported from the global suppliers or their subsidiaries. Technical collaborators need an incentive to come to Pakistan, and with a stronger regional market in India, and the relatively small volumes in Pakistan, this is not an attractive option for them at the moment. Local taxes on royalties and technical assistance fees also inhibit technology transfer.

Local manufacturers argue that this limits their profitability and ability to enter the OEM supply chain. However, many firms lack the technical expertise to develop the parts in-house without the support of the technical collaborators.

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5.1.3 Financing

Technology acquisition is also limited by access to finance. Stand-alone firms that are not part of conglomerates rely on self-financing. This results in incremental improvements in production processes rather than complete overhauls. Machinery is also typically imported second hand, discarded by global firms as they move on to new cutting-edge technologies. This means that Pakistani manufacturers are sometimes several generations behind technologically.

5.1.4 Exports

Pakistan already has some exporting success in the auto parts segment. In 2014, auto parts exports were US$140 million. Pakistan's major export partners include the USA, Europe, Middle East and Africa, comprising a total of 57 countries.[135] In 2014, Pakistan's top three global exports in the automotive parts sector were in motor vehicle parts, nes at US$13.1 million, and in transmissions for motor vehicles (US$4.6 million) and parts & accessories of bodies, nes for motor vehicles (US$2.1 million).[136] Already, the auto parts sector is able to produce parts for 90 per cent of motorbikes and tractors.[137] Indeed, domestic producers are already exporting and are well-established in the following engineering processes

i. Sheet metal
ii. Forged metal (wheel caps, rims)
iii. Plastics
iv. Radiators (copper-brass)
v. Glass (apart from windscreens)

Parts manufacturers that are exporting include Rastgar Engineering (wheel hubs and axle parts), Mannan Shahid Forgings (cam shafts, axles, wheel hubs, flanges, etc.), Kor Tech (radiators), Darson (rubber), MGA (sheet metal parts, silencers), Thermosole, (plastic parts) Infinity and MEL (gears). However, approximately 95 per cent of their exports are meant for the global after-market. On account of Pakistan's weaker currency, local parts and components were cheaper, and many auto parts manufacturers have made successful inroads into the EU, Italy, and the USA, where their products are successfully competing with India and Turkey. This would imply that local parts manufacturers could potentially compete head-on in the respective country markets. However, not many firms have attempted to export directly to India and those that have, experience an irregular demand for their goods, much of which has been one time only. Some manufacturers claim that NTMs remain a critical issue. For others, it is a case of not having explored the possibility due to the perception that the trade environment is hostile to Pakistani goods. The reality is that only 15 out of 300 registered PAAPAM members were exporting as of 2013.[138] Policy environment

[135] (Business Recorder, 2015)
[136] (ITC, TradeMap, 2014).
[137] (PAAPAM, 2015)
[138] (Zaheer, 2013)

5.1.5 Trade tariffs and policies

5.1.5.1 Current tariff structure and imports

The auto parts sector was highly protected during 1985-2005 in a bid to develop the local auto-part industry and ensure localization. Raw materials can be imported duty-free, while sub-components, components and sub-assemblies are allowed at reduced duty rates, ranging from 5 to 15 per cent, as shown in Table 5-2.

Table 5-2 Duty structure for auto part assembly, 2005

	Duty (%)			
	Raw materials	Sub-components	Components	Sub-assemblies
OEM vendors/in-house	0	5	10	15

Source: EDB, 2015

The Five-Year Tariff Plan stipulated that duties on localized parts be reduced over time. The phased duties are described in Table 5-3. However, current duties remain largely at the target levels for 2008-09, as vendors had trouble adjusting to the new TRIMS-compliant TBS.

Table 5-3 Duty schedule for auto parts as per Five-Year Tariff plan, AIDP

Description	**Customs duty on CKD (%)**				
	2007-08	2008-09	2009-10	2010-11	2011-12
Localized	50	50	47.5	45	45
Non-localized	35	32.5	32.5	30	30

Source Government of Pakistan, 2008

In Pakistan import duties on components ranges from 35 per cent to 60 per cent, whereas the simple average applied MFN tariff for selected parts chapters in HS 87 (HS 8706, 8707, 8708) is roughly 37 per cent. Most of the duties in the parts sub-section in HS chapter 87 are bound. When local vendors try to innovate using foreign technology, they face a federal excise duty (FED) that is levied on the royalty and licensing fees that they must pay technology providers. Auto parts imports do not face any preferential tariffs in Pakistan.

Furthermore, in April 2015, a 12.5 per cent regulatory duty has been imposed on steel tubes, pipes, hollow profiles of cast iron and steel, and flat rolled products of steel and iron under SRO 240 (1)/2015. This measure, intended to protect the local steel industry, has meant an increase in the cost of these inputs to auto parts manufacturing.[139]

5.1.5.2 Custom valuations

Since most tariffs are ad valorem, it is important to determine the value of the import so that that payable duty can be calculated. As per the WTO Customs Valuation Agreement, there are six rules for determining the custom value of imports. These include:

- Transaction value
- Transaction value of identical goods

[139] (Customs Today, 2012)

- Transaction value of similar goods
- Deductive method
- Computed method
- Fall-back method

In all countries, the transaction value is the basic assessment rule—it is the price at which the transaction occurred, including all additional payments that were required to make the transaction occur, as evidenced by documentation. If this value is not available or is under doubt, then the transaction value of identical or (if identical is not available) similar goods is taken as the true customs value. If however, neither the imported, identical or similar good transaction values are available, only then must the deductive method be used to impute value. This method assumes the value to be the unit price at which the greatest aggregate quantity of the good has been sold in the importing country, after subtracting any add-ons to the domestic price (transportation costs, insurance charges, national taxes, import taxes, etc.). The computed method is the most complex, and calculates transaction value as the sum of production costs, profits and general expenses incurred in the exporting country. If all other methods fail, the fallback rule is used.[140] This hierarchical WTO ruling is to be sequentially used in order to determine the transaction value.

In Pakistan, the transaction values are not used. Instead the deductive method is used which leads to problems of deducing the correct value. The import tariffs for many goods are calculated by weight, and importers argue that these do not reflect rising production and input costs. For example, import duties for radiators are calculated on the basis of the value of raw aluminum. Aluminum, sold internationally at US$1000/ton, is valued at US$500/ton by Customs in Pakistan.[141] The use of an input rate to value a finished product means that the effective protection to radiator manufacturers is lower than that set by the auto policy. In addition, the rate at which the material is valued is somewhat arbitrary and may not reflect international prices. The existing customs valuation rules (that determine the prices of imported automotive parts) in the country are believed to be in favor of commercial importers of parts and hurt the local vending industry. Hamid and Hayat (2012) also point out that the effective tariff on final products imported from China can be substantially lower than the effective tariff on raw materials used by small local manufacturers. They add that small manufacturers have to pay 16 per cent sales tax and statutory rates of duties since they fall in the category of “commercial importers”, and are not eligible for the exemptions available to large manufacturers under the SROs.

An example of opaque customs valuations is the new Import Trade prices (ITPs) of Chinese motorcycle parts notified in September 2014. The valuations were changed in response to pressure from the clone manufacturers, who had protested for years that the values for their imported inputs were set at levels that were too high. With the changed valuation rules, it is now the non-Chinese OEMs who claim that the prices for commercial importers are up to 400 per cent cheaper than those faced by OEMs.[142] Non-Chinese OEMs posit that this makes it difficult for them to compete, and also makes it harder for local vendors to find a market for their parts. Since valuations must be based on the London Metal Exchange,

[140] (WTO, 2015f)
[141] (The Daily Times, 2014a)
[142] (The Daily Times, 2014b)

they maintain that there is no technical need for this re-valuation. Moreover, it is argued that the Customs department should know that the difference between prices of branded parts (produced by OEMs) and non-branded (Chinese) parts couldn't exceed 25 to 30 per cent. Local OEM manufacturers are more expensive because they must bear input costs, while budgeting for hardening and casting, machining, testing, assembling and overheads. Therefore, differences in import prices of auto parts that range from 123 per cent (ignition coil) to 400 per cent (valve inlet/exhaust) cannot be justified by the government.[143] This, the OEMs claim, has not only affected tax revenues and foreign exchange earnings of the government, but also OEM investment plans and employment. This example illustrates the difficulty in setting correct valuation prices in a dynamic environment that is subject to price fluctuations. Customs rules and irregularities such as these are a major cause of complaint for auto parts manufacturers, automobile assemblers and traders.

The government also re-assessed and modified the rules governing the valuation of replacement auto parts in 2014 in order to address local vendor concerns regarding unfair valuation practices. The Valuation Ruling (VR) now reflects valuation of some replacement parts by weight (piston and ring sets; engine valves; clutch disks, gears and axle shafts; brake pads and disks) and others, by units (crankshafts; camshafts; and oil, fuel and water pumps; and air filters).[144] As a result, both auto parts manufacturers and the Pakistan Motorcycle Spare Parts Importers and Dealers Association (MSPIDA) are pushing for more transparent valuation. This is because of the discrepancy that arises when converting weight (in kg) to per piece (units per kg). They argue that converting from weight to units increases the customs value of the product.[145] Importers who prefer the system of valuation based on weight claim that, although it is an imperfect measure, it is a more objective way of ascertaining quantity as compared to the "by unit" method. The method of valuing by units led to misdeclarations of the number of units in a container, which was not easily verified by customs.

There has been some improvement in the transparency of the system, as discretionary valuation has been reduced. The previous "other" category, which was used as a loophole to misdeclare some parts and pay lower duties, now has assigned duties that are identical to the specified ones.[146] The new VR stipulates that the higher of declared or Customs value will be levied, which is an improvement as compared to before, when declared values were grossly under-reported and clearing agents took no action.

Still, parts importers often misreport the codes of imported parts that have been localized to avoid the 50 per cent duty on products such as shock absorbers, and can pay as much as 15

[143] In more detail, price difference in per cent between OEM part manufacturer and part importer is as follows: carburetor: 177 per cent; CDI unit 321 per cent; cylinder head 146 per cent; ignition coil 123 per cent, insulator carburetor 206 per cent, main shaft and counter shaft 227 per cent, magneto 154 per cent, piston 155 per cent, rectifier regulator 197 per cent, ring for piston 150 per cent, spark plug 317 per cent and valve inlet/exhaust 400 per cent

[144] Valuation Rules for old and used automotive parts have recently been updated (VR No711/2015), in January 2015, for car parts falling under the categories of petrol/diesel engines, axel shafts, chassis frames for trucks, shock absorbers and car bumpers, to name a few. Motorcycle rims, engines and bodies also have fixed per unit prices. (Custom Today, 2015a)

[145] (Aslam, MSPIDA unhappy with valuation ruling of motorcycle parts, 2014)

[146] (Directorate General of Customs Valuation, Government of Pakistan, 2014)

per cent less duty.[147] Importers are also still able to avoid paying full duties on genuine parts by unpacking these components, removing their labels and declaring them as replacement parts, as the checking procedure is neither comprehensive nor efficient.

While there have been some successes in getting the valuation system to change, local manufacturers argue that the process of change is lengthy and expensive as it involves litigation. The part importers lobby is considered very strong, and therefore to get changes implemented that would affect them adversely is very difficult.

There are also substantial issues with under-invoicing and outright smuggling. Even though auto-parts are on the negative list with India and with China, they are smuggled into Pakistan and are readily available. Auto traders too voice concern that this seriously undermines their legal businesses, and since customs channels are circumvented in their entirety, the government loses out on tariff payments.

There is widespread acknowledgement that formal trade figures in the auto parts sector underestimate the actual imports by a large magnitude. Ahmed et al. (2014) estimate that informal trade flows between India and Pakistan alone are US$1.79 billion annually. For the auto sector specifically, they estimate annual informal trade of US$5.64 million and US$170 million for auto parts and tyres respectively. The main Indian products that reach Pakistan informally include tyres, auto components, pharmaceuticals, engineering products such as gear boxes, chemicals, and some textiles.[148] Indian auto parts, particularly gears, differentials, tyres and windscreens, serve almost 30 per cent of the Pakistani market despite being on the negative list.[149] Moreover, Indian motorcycle components, considered better quality than Chinese motorcycle components, are commonly imported through Delhi-Lahore route, to the tune of US$250 million. Often, informal trade continues even if the item may be formally/legally brought in from India as traders circumvent the higher tariffs and transaction costs. Approximately 90 per cent of informal trade is routed through third countries. The prominent routes are Mumbai-Dubai-Karachi and Mumbai-Dubai-Bandar Abbas-Afghanistan-Pakistan. Afghan Transit Trade and the Wagah-Attari crossing are also important routes.[150]

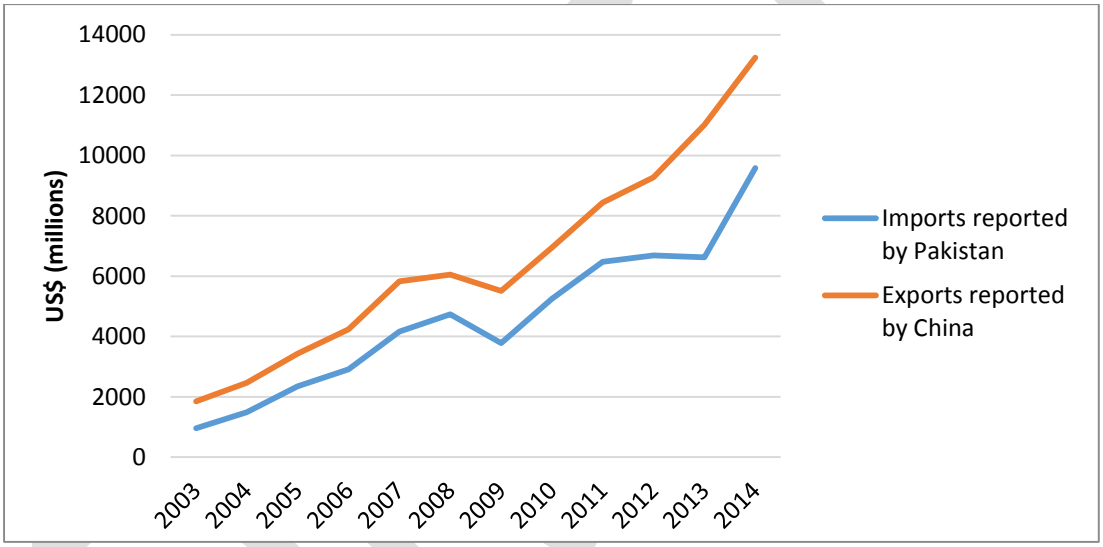
Critical engine and transmission components such as rings, pistons, gas kits, radiators and maintenance parts like air and oil filters are imported from Dubai and Thailand, with under-invoiced imports from the former (of all goods) causing US$1.5 billion revenue losses annually. Local motorbike manufacturers who use Chinese kits also import spare parts worth millions of rupees that are under-invoiced, misrepresenting them as imports for commercial purposes, even while using them in assembly. Under-invoicing is most common with China, with persistent differences of US$1.8 billion between official exports of China and imports of Pakistan (Figure 5-2). In fact, 60.6 per cent of under-reporting can be explained by the top 10 imports of Pakistan from China in 2013.[151]

[147] (Pakistan Today, 2012)
[148] (Kochhar & Ghani, 2013)
[149] (Ahmed et al., 2014)
[150] (Kochhar & Ghani, 2013; Taneja, 2013a; Ahmed et al., 2014)
[151] (Pakistan Business Council, 2014).

Informal trade from China persists despite the FTA, since auto parts are not allowed in the FTA. Ahmed at al. (2014) report that vehicle engine parts are the main informal import from China. Traders of auto parts estimate that 60 per cent of smuggled trade takes place through Uramqi, Chaman and Balochistan. Rising imports of Afghanistan signal another problem, whereby commercial Afghan traders import goods in huge quantities that cannot be supported by market size. Once these goods have entered Afghanistan, Pakistani and Afghan traders collude to then smuggle these goods back across the border, especially at the Chaman and Torkham borders.

It is useful to compare differences in exports to Pakistan reported by China and imports from China reported by Pakistan to understand the extent of under-invoicing.[152] Figure 5-2 illustrates that the imports declared as received by Pakistan are systematically lower than those reported as sent by China.[153] For auto parts in particular, the exports reported by China are three to four times higher than the imports reported by Pakistan. Moreover, this gap appears to be increasing overall.

Figure 5-2 Discrepancies in Pak-China trade data: All goods

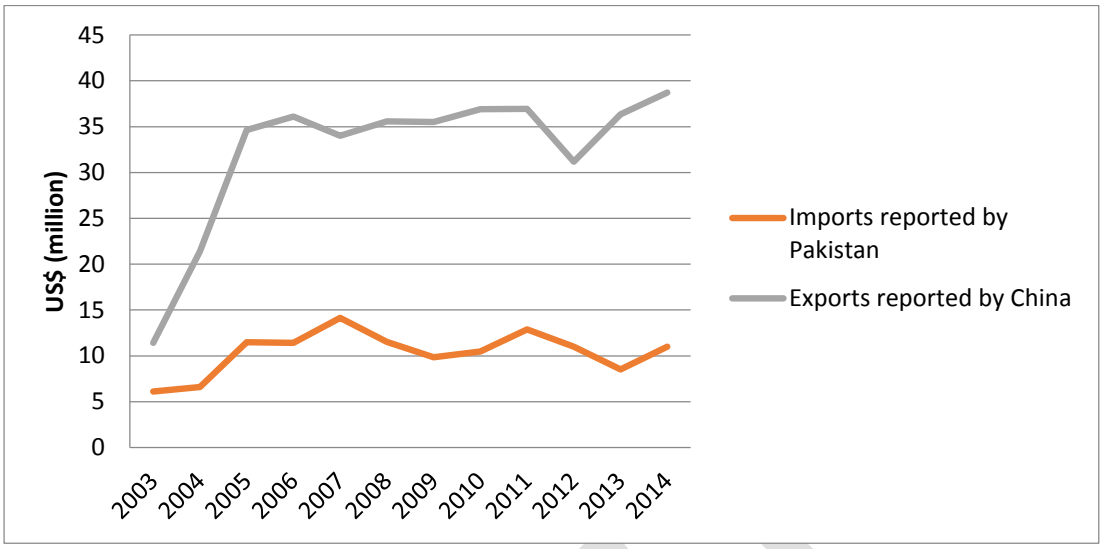


Source: UN Comtrade, 2003-2014

[152] This has been done earlier in Hamid & Hayat (2012), and in Pakistan Business Council (2015) for combined trade in all products.

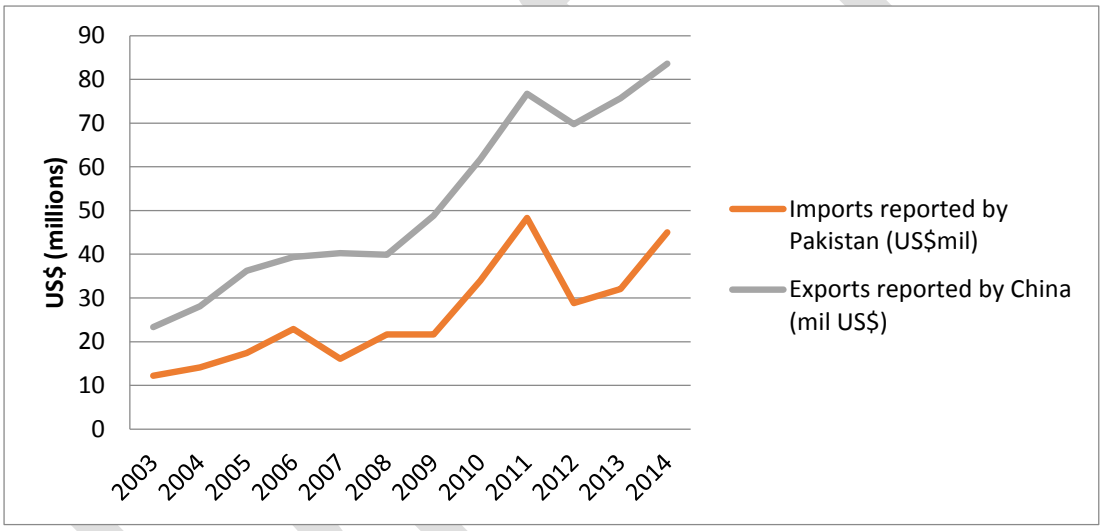
[153] Similarly, the pattern in trade with the UAE is that imports reported by the UAE are substantially lower than exports reported by Pakistan. This is because overvalued exports allow Pakistani businesses to take advantage of product specific export incentives provided by the Pakistani government (Hamid & Hayat 2012). The UAE is also a channel through which trade with India is routed

Figure 5-3 Discrepancies in Pak-China trade data Ch. 8708: Parts/accessories for motor vehicles



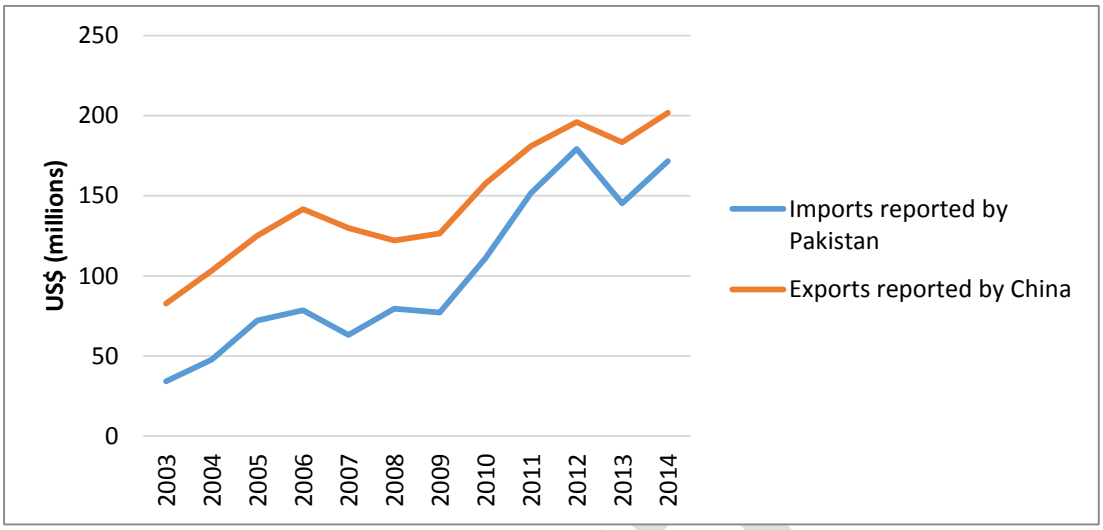
Source: UN Comtrade, 2003-2014

Figure 5-4: Discrepancies in Pak-China trade data - Ch. 84



Source: UN Comtrade, 2003-2014

Figure 5-5: Discrepancies in Pak-China trade data - Ch. 87



Source: UN Comtrade, 2003-2014

Under-invoicing and smuggling are detrimental to the Pakistani economy because of the loss in government revenue and because it implies that auto parts manufacturers are dealing with competition from products of unregulated quality at tariffs that are effectively zero. This limits the extent of the replacement market for local manufacturers, and therefore prevents them from reaching the economies of scale they could benefit from to reduce their costs.

5.1.6 Standards

Pakistan does not have locally developed standards, and the firms follow the standards set by the OEMs internationally. At the moment, since only Japanese cars are manufactured locally, the suppliers typically conform to Japanese International Standards (JIS). This is considered broadly equivalent to American Standards (ASTM). These standards filter down through the supply chain. For example Massey Ferguson sets the standards for Millat Tractors, which in turn sets the standards for radiators produced by Kor Tech. For cars, parts are tested in two stages. At a first stage, localized parts are sent to Japan for testing at Toyota, Honda or Suzuki R&D laboratories. Then, the locally assembled vehicle, using these local parts, is dispatched to Japan for quality approval and certification. This process of quality control is therefore entirely dependent on the global OEMs discretion rather than any Pakistan government requirements.

Firms that maintain standards for the OEMs struggle to compete with imported parts in the replacement market. Unregulated imported parts are typically of poor quality. This drives prices down to the lowest level equilibrium, as consumers are unwilling to pay a premium for a higher quality that is not observable at the time of purchase. With no regulation in the replacement parts market and no border control for smuggling, these sub-standard quality parts at low prices are effectively dominating the local market.

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5.2 Regional Trade

5.2.1 Trade potential

Based on the leading imports of the CARs in HS 8708, it is found that Pakistan has the highest indicative trade potential in these categories. For the SAARC countries, the maximum trade potential of Pakistan was in the category of motor vehicle parts nes, as it accounted for the highest SAARC imports from Pakistan of US$0.83 million. Interestingly, radiators for motor vehicles ranked second, with Pakistan exporting US$0.79 million to the SAARC region.[154]

5.2.1.1 Trade Potential in the regional market: Tariff structures

The tariffs faced by Pakistani auto parts in a selection of regional countries are summarized in Table 5-5 below. The tariffs that these countries attract when exporting auto parts to Pakistan are given in Table 5-6. However, auto parts feature on the sensitive list of several countries, including Pakistan. Pakistan's sensitive list does not allow auto parts imports from neighboring trade partners, regardless of Free Trade Agreements with them (Table 5-7).

Several auto parts may be exported to China (see Table 5-8). However, this has not translated into significant auto parts exports for Pakistan. The WTO Tariff Online Analysis facility allows us to see the ranking of Pakistan in China's imports in the selected category of auto parts. In most categories of HS 8708 and 8714, Pakistan is not ranked in the top 50 because of negligible trade.

India does not have a negative list for Pakistan therefore, in theory, auto parts are allowed to be exported to India. Similarly auto parts do not appear in the sensitive list that Afghanistan maintains against Non- LDCs as per SAFTA.

An analysis of auto parts as per Sri Lanka – Pakistan FTA and China-Pakistan FTA are as shown respectively in Table 5-4 and Table 5-8 below, which shows that Pakistan has been more protective of its auto parts industry as compared to the partner country's such as Sri Lanka and China. These have been much more liberal in their concessions given in the FTA to auto parts (HS 8708 and HS 8714).

Table 5-4 Auto parts on the Pakistan - Sri Lanka FTA

		On Pakistan sensitive as per Pak- SL FTA	**On Pakistan's sensitive list as per SAFTA**	**On Sri Lanka's sensitive list?**	**100% immediate Concession list**	**On SAFTA sensitive list of Sri Lanka**
870810	Bumpers and parts thereof	No	Yes	No	No	No
870821	Safety seat belts	No	Yes	No	No	No
870829	Other	No	Yes	Yes		
870831	Mounted brake lining	No	Yes	No	No	No
870839	Other	No	Yes	No	No	No
870840	Gearboxes	No	Yes	No	No	No

[154](ITC, TradeMap, 2013).

870850	Drive axels with differential whether or not provided with other transmission components	No	Yes	No	No	No
870860	Non driving axels and parts thereof	No	Yes	No	No	No
870870	Road wheels and parts and accessories thereof	No	Yes	Yes		
870880	Suspension shock absorbers	No	Yes	No	No	No
870891	Radiators	No	Yes	Yes		
870892	Silencer and exhaust pipes	No	Yes	Yes		
870893	Clutches and parts thereof	No	Yes	No	No	No
870894	Steering wheels, steering columns and steering boxes	No	Yes	No	No	No
870899	Other	No	Yes	Yes		Yes
871411	Motorcycle saddles	No	Yes	No	No	No
871419	Other motor cycle parts	No	Yes	No	No	No

Table 5-5 Regional tariff structure in partner countries

Average AV duty faced by Pakistan in selected countries	**India**	**China**	**Indonesia**	**Thailand**
HS 8708- Car and Tractor Parts	10.00	5.33	10.00	10.00-30.00
HS 8714- Motorcycle parts	10.00	5.00-30.00	9.38-10.00	10.00-30.00

Source: WTO, 2015d

Table 5-6 Regional tariff structure in Pakistan

Average of AV duties faced in Pakistan by selected countries	**India**	**China**	**Indonesia**	**Thailand**
HS 8708- Car and Tractor Parts	35.00	35.00	35.00	35.00
HS 8714 – Motorcycle parts	N/A	25-35	35.00	25-35

Source: WTO, 2015d

Table 5-7 Treatment of auto parts exports of Pakistan in FTAs (China, Malaysia and Sri Lanka)

For partner country exporter to Pakistan	**Sri Lanka**	
	HS 8708	HS 8714
No concession list of Pakistan-negative list*	X	X
100% Immediate Concession List	X	X
Tariff Rate Quota	X	X
Margin of Preference on Applied MFN rates	X	X
	China	
	HS 8708	HS 8714
Category1-Elimination of Tariffs		
Category 2- 0-5%	X	x
Category 3 - 20%	X	x
Category 4 - 50%	X	x
Category 5 - No concession-sensitive list**	✓	✓
Category 6 – Exclusion (not to be imported)**	X	x

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	Malaysia	
	HS 8708	HS 8714
Highly Sensitive List	✓	✓
Fast Track	X	X
Normal track	X	X
Sensitive Track 1,2,3	X	X
Margin of Preference Track 1 and2	X	X
Tariff Rate Quota	X	X
Exclusion list	X	X

*Notes: * As defined by TDAP in the trade agreement section; ** Category as defined in the Preliminary study on Pakistan and China trade partnership post FTA, pg. 4*

Table 5-8 Analysis of Auto parts under Pakistan-China FTA

		On Pakistan sensitive list	**On China's sensitive list**	**Reduction on margin of preference of 50% (five years)**	**Reduction of margin of preference 0-5% (five years)**
870810	Bumpers and parts thereof	yes	no		yes
870821	Safety seat belts	yes	no	yes	
870829	Other	yes	yes		
870831	Mounted brake lining	yes	no		
870839	Other	yes	yes		
870840	Gearboxes	yes	yes		
870850	Drive axels with differential whether or not provided with other transmission components	yes	yes		
870860	Non driving axels and parts thereof	yes	no	yes	
870870	Road wheels and parts and accessories thereof	yes	no	yes	
870880	Suspension shock absorbers	yes	no	yes	
870891	Radiators	yes	no	yes	
870892	Silencer and exhaust pipes	yes	no	yes	
870893	Clutches and parts thereof	yes	no	yes	
870894	Steering wheels, steering columns and steering boxes	yes	no	yes	
870899	Other	yes	yes		
871411	Motorcycle saddles	yes	yes		
871419	Other motorcycle parts	yes	yes		

Auto parts face a duty of 8 to 10 per cent in India, and Indian auto parts manufacturers mostly specialize in engine parts (amounting to 31 per cent) and drive transmission and

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steering parts (roughly 19 per cent), whereas suspension & braking parts and body & chassis comprise 24 per cent of the total product range in auto parts.[155]

Many local auto parts importers fear that low quality components from India that are not of export-grade quality will be sent to Pakistan, and to that end the proposed standards and safety reforms in the upcoming AIDP 2015-19 will be critical (see Section 1.3). However, while this fear may be well grounded, as Pakistan's capacity to regulate and monitor imports has been limited to date, trade with India also presents important opportunities for auto parts manufacturers. They could source inputs from India rather than from other more distant and more expensive trading partners. Global prices of tin, steel, and iron ore, for example, have shown a decreasing trend over the past five years.[156] In order to make the local parts industry regionally more competitive, Pakistan could seek to source its raw materials like steel, plastic, rubber, tools, dyes, jigs and fixtures from India. This would allow the finished auto parts to be priced more competitively.

In order to analyze the relative comparative advantage of Pakistan in auto parts and vice versa, we have calculated the Balassa RCA indices for auto parts, as well as the Vollrath alternative specifications as have been done for the other sectors of the study. We were able to identify 115 automotive parts and components. Table 5-9 shows those auto parts where Pakistan enjoys a comparative advantage. Comparing these to India we find that for these categories India has a RCA<1. These are the items that Pakistan could potentially export to India.

Table 5-9 Balassa RCAs for products where Pakistan has a comparative advantage over India

Product code	Product description	RCA-Pak	RCA-India
400941	Water hoses of a kind used for engine cooling systems	2.14	0.83
850710	Lead acid accumulator	1.84	0.35

Source: Author's calculations based on data from UN Comtrade, 2013

A similar analysis was done for China. We found that the same holds true for China as well. RCA of China is reported in Table 5-10 below.

Table 5-10 Balassa RCAs for products where Pakistan has a comparative advantage over China

Product code	Product description	RCA-Pak	RCA-China
400941	Water hoses of a kind used for engine cooling systems	2.14	0.35
850710	Lead acid accumulator	1.84	0.40

Source: Author's calculations based on data from UN Comtrade, 2013

On the other hand when the comparative advantage of India is explored, we find that it enjoys a comparative advantage in 25 of the 115 product categories. These RCAs are reported in Table 5-11 below.

[155] (Mehta,2014)
[156] (InvestmentMine, 2015)

Table 5-11 RCAs for products where India has a comparative advantage over Pakistan

HS Code	Product description	RCA-India	RCA-Pak
400821	Weather strip for doors and luggage compartments- of non-cellular rubber	1.74	0.00
400921	Air cleaner hoses and water cooling system hoses; Radiator / engine cooling system hoses ;Vacuum tank hoses	1.44	0.01
401032	Endless transmission belts of trapezoidal cross- section (V-belts), other than V-ribbed, of an outside circumference exceeding 60 cm but not exceeding 180 cm:	1.55	0.00
570330	synthetic turf of sports field- made of man-made or other textile materials	1.78	0.00
681320	Friction material and articles thereof (for example, sheets, rolls, strips, segments, discs, washers, pads), not mounted, for brakes, for clutches or the or the like, with a basis of asbestos, of other mineral	3.38	0.12
681381	Brake linings and pads	2.80	0.00
730791	Flanges for air intake pipes	4.38	0.00
731815	U bolt for leaf springs	1.08	0.04
731822	Thrush washers	1.64	0.00
732010	Leaf springs	1.00	0.09
848310	Transmission shafts (including cam shafts and crank shafts) and cranks:	1.61	0.02
848410	Gaskets and joints; gaskets for water pump inlet pipe and cylindrical block plate	1.20	0.00
851120	Magneto	3.48	0.20
851140	Starter motors	1.10	0.00
853929	Bulbs for automotive vehicles other than tungsten halogen	1.20	0.01
870810	Bumpers and parts thereof	2.12	0.05
870899	Other	1.52	0.09
871420	Of carriages for disabled persons	3.12	0
871491	Frames and forks, and parts thereof	1.42	0.01
871492	Wheel rims and spokes	2.0	0.42
871493	Hubs, other than coaster braking hubs and hub brakes, and free- wheel sprocket-wheels	3.13	0.01
871494	Brakes, including coaster braking hubs and hub brakes, and parts thereof	1.17	0.00
871495	Saddles	1.16	0.00
871496	Pedals and crank-gear, and parts thereof	1.38	0.00
871499	Other	1.89	0.02

Source: Author's calculations based on UN Comtrade, 2013

By the definition of vulnerability used in the report, the above items are also the ones in which Pakistan will be vulnerable in case of liberalized trade with India. Currently these are imported from other countries as shown in Table 5-12.

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Table 5-12 Auto parts imported by Pakistan

HS Code	Product description	Import of Pakistan (US$)	Top exporter to Pakistan
400821	Weather strip for doors and luggage compartments- of non-cellular rubber	3,567,305	China
400921	Air cleaner hoses and water cooling system hoses; Radiator / engine cooling system hoses ;Vacuum tank hoses	1,226,967	China
401032	Endless transmission belts of trapezoidal cross- section (V- belts), other than V-ribbed, of an outside circumference exceeding 60 cm but not exceeding 180 cm:	1,661,773	China
570330	synthetic turf of sports field- made of man-made or other textile materials	2,832,554	China
681320	Friction material and articles thereof (for example, sheets, rolls, strips, segments, discs, washers, pads), not mounted, for brakes, for clutches or the or the like, with a basis of asbestos, of other mineral	1,072,133	China
681381	Brake linings and pads	1,413,011	Thailand
730791	Flanges for air intake pipes	4,274,171	Italy
731815	U bolt for leaf springs	12,259,870	China
731822	Thrush washers	1,005,528	China
732010	Leaf springs	1,024,349	China
848310	Transmission shafts (including cam shafts and crank shafts) and cranks:	18,524,019	China
848410	Gaskets and joints; gaskets for water pump inlet pipe and cylindrical block plate	7,948,429	USA
851120	Magneto	1,144,479	China
851140	Starter motors	841,462	China
853929	Bulbs for automotive vehicles other than tungsten halogen	3,789,957	China
870810	Bumpers and parts thereof	786,862	Thailand
870899	Other	50,581,980	Thailand
871420	Of carriages for disabled persons	7,669	USA
871491	Frames and forks, and parts thereof	61,320	China
871492	Wheel rims and spokes	57,105	China
871493	Hubs, other than coaster braking hubs and hub brakes, and free- wheel sprocket-wheels	407,007	China
871494	Brakes, including coaster braking hubs and hub brakes, and parts thereof	111,151	China
871495	Bicycle Saddles	185,436	China
871496	Pedals and crank-gear, and parts thereof	88,441	China
871499	Other	1,959,661	China

Source: Author's calculations based on data from UN Comtrade, 2013

We conducted a similar analysis for China. It may be seen from Table 5-13 below that China holds a comparative advantage (RCA>1) in 52 of 115 categories.

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Table 5-13 HS codes for products where RCA of China is greater than 1

400921	731816	848390	853921	870891
482110	731822	848410	853929	871410
570330	732690	851120	854430	871420
681320	820600	851130	854442	871491
700721	830120	851190	902580	871492
701400	830210	851220	910610	871493
730791	831000	851230	961380	871494
731511	840731	851240	870830	871495
731519	840732	851290	870870	871496
731815	840790	852721	870880	871499
841590	848180			

Source: Author's calculations based on data from UN Comtrade, 2013

Our Vollrath Indices corroborate the same story for Pakistan. However, the number of products in which India has a comparative advantage goes down to 14 when Vollrath indices are calculated. There are 13 overlaps between the two lists though. The Vollrath indices for Pakistan and India are reported in Table 5-14 and Table 5-15.

Table 5-14 Vollrath Indices Pakistan

Pakistan				
HS code	**Product Description**	**RTA**	**RXA**	**RC**
400941	Water hoses of a kind used for engine cooling system	1.80	0.76	1.82
850710	Lead- acid, of a kind used for starting piston engines:	1.82	0.62	4.23

Source: Author's calculations based on data from UN Comtrade, 2013

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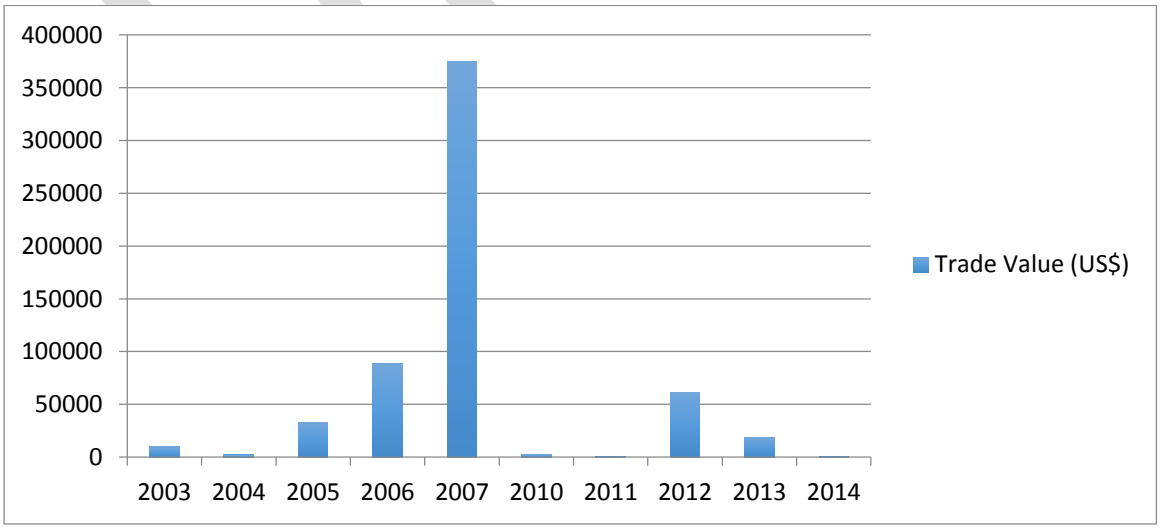
Table 5-15 Vollrath indices India

India				
HS code	**Product Description**	**RTA**	**RXA**	**RC**
400821	Weather strip for doors and luggage compartments- of non-cellular rubber	0.94	0.24	1.37
400921	Air cleaner hoses and water cooling system hoses; Radiator / engine cooling system hoses ;Vacuum tank hoses	0.44	0.04	0.55
570330	synthetic turf of sports field- made of man-made or other textile materials	0.98	0.26	1.40
681320	Friction material and articles thereof (for example, sheets, rolls, strips, segments, discs, washers, pads), not mounted, for brakes, for clutches or the or the like, with a basis of asbestos, of other mineral	1.11	0.93	0.58
681381	Brake linings and pads	1.83	0.73	2.11
730791	flanges for air intake pipes	2.85	1.21	1.90
731816	wheel nuts	1.14	0.75	0.78
731822	thrush washers	0.37	0.17	0.37
848310	Transmission shafts (including cam shafts and crank shafts) and cranks:	0.31	0.16	0.31
870810	Bumpers and parts thereof	1.11	0.44	1.27
871420	Of carriages for disabled persons	1.70	0.85	1.32
871491	Frames and forks, and parts thereof	0.78	0.03	1.42
871493	Hubs, other than coaster braking hubs and hub brakes, and free- wheel sprocket-wheels	2.08	0.85	2.22
871499	Other	0.05	0.32	0.03

Source: Author's calculations based on data from UN Comtrade, 2013

As shown above, compared to Indian auto parts, Pakistan's auto parts do not enjoy a high level of global competitiveness. This has meant that even in countries where opportunities exist, such as with China where an FTA has been signed, there are low exports as shown in Figure 5-6.

Figure 5-6 Pakistan's auto parts exports to China Ch. 8708



Source: UN Comtrade, 2003-2014

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Afghanistan, a regional opportunity for Pakistan, has a poor regulatory structure with the result that existing trade is largely informal. Industry sources estimate that up to 80 per cent of trade with Afghanistan is informal, and consists of Afghani individuals buying directly from factories in Pakistan and taking the goods back informally. Since Afghanistan provides access to Central Asia, its political and infrastructure instability influences trade. Therefore formal estimates for current trade to these regions are unlikely to be reliable. Moreover, since the auto industry in Afghanistan is not developed, potential trade exists only in replacement parts rather than value chains.

The overall outlook for regional trade as the situation currently stands therefore is that there is strong potential, but it is currently underutilized and needs marked improvements in the business environment for opportunities to be tapped appropriately.

5.2.1.2 Automotive Global Value Chains

Global trade potential in the auto parts segment is particularly important to explore, as the production of cars is now organized around global value chains (GVCs). This production structure has tasks and functions that are spread over several regionally dispersed companies. Lead automakers are at the center of a network of suppliers, including foreign affiliates in which they invest directly, contractual partners and external suppliers. Tier 1 suppliers themselves are typically giant firms with a global presence, e.g. Denso, a global supplier of automotive technology, systems and components employs 146,000 people in 220 group companies and has 38,000 active patents.[157] Similarly Saint Gobain, a global supplier of automotive glass, is amongst the top 100 industrial groups in the world, employing 193,000 people in 64 countries.[158] Global integration is developed the furthest in the Tier 1 supplier – automaker relationship. Tier 1 suppliers are typically firms that are able to produce the parts required by the automaker in all major production regions.

Production is typically organized regionally or nationally. The larger parts, in terms of volume and/or weight, and those that are specific to regional models, tend to be produced closer to final assembly plants. These include engines, transmission, seats and other interior parts. Lighter and more generic parts such as tyres, batteries and wire harnesses, can be produced in countries where low labor costs and economies of scale offset the transport costs. Politics also plays a role in locating certain production processes close to end markets, as the auto industry has high visibility and value and is considered a “mother industry”, helping to develop an engineering base via backward and forward linkages. Lead firms can typically require suppliers to co-locate to enable advantages such as just-in-time production, and design collaboration particularly for globally produced vehicle platforms[159].

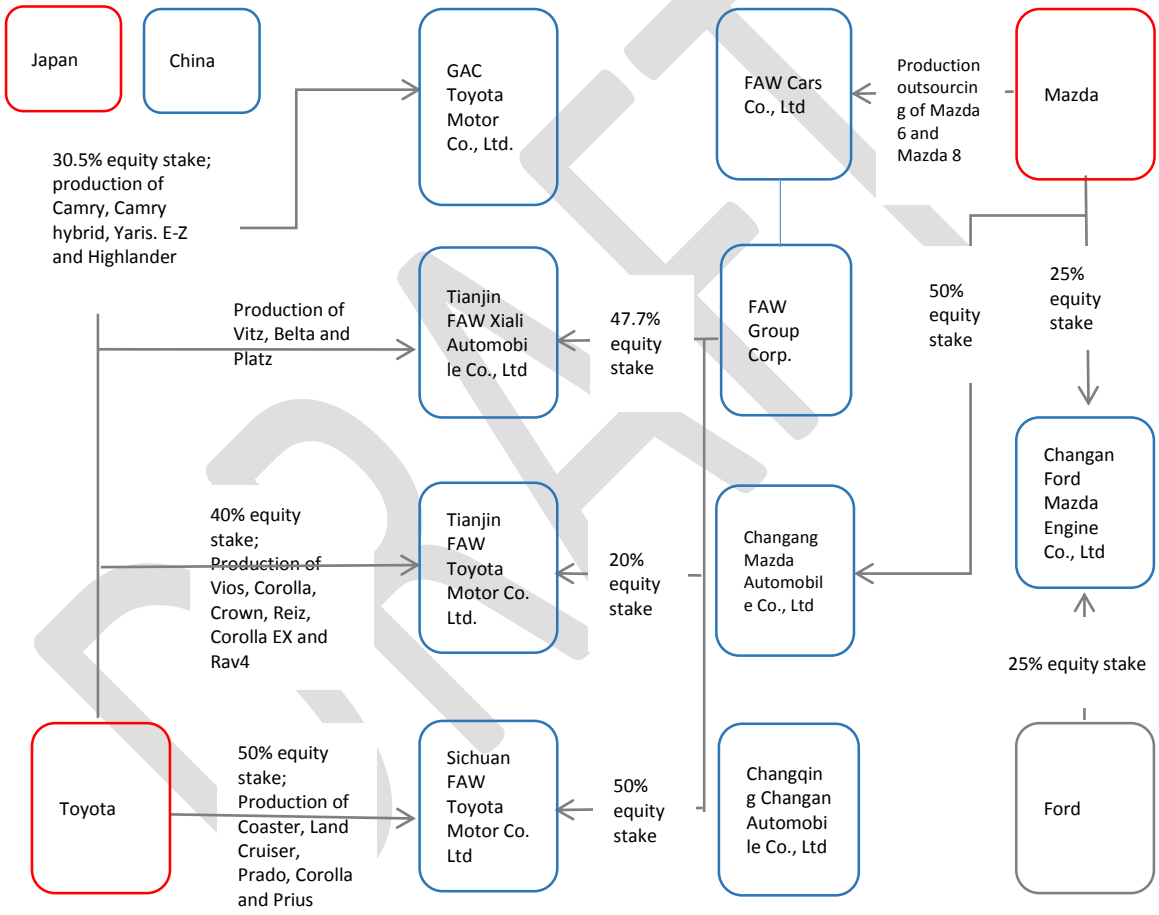
These value chains are based on far more detailed exchanges of information, technology and components than the traditional knowledge transfers of the past. Auto parts must be exactly compatible with the final product so the OEMs are directly involved in providing all the missing pieces required, in addition to the technological know-how. This can include

[157] (Denso, 2015)
[158] (St Gobain, 2015). Available at: http://www.saint-gobain-sekurit.com
[159] (Biesebroeck & Sturgeon, 2010)

intellectual property, trademarks, managerial, business and marketing skills and organizational models.[160]

Baldwin and Gonzalez (2013) argue that this allows nations with lower wages to industrialize much more rapidly than was previously possible. It is possible for developing countries to produce higher value products rather than simply importing parts and assembling them. This is exemplified by China's experience, which increased its share of world manufacturing from 3 per cent to 19 per cent in two decades, by combining its availability of cheap labor with the technology acquired from more technologically advanced countries. Taglioni et al (2015) use the China-Japan value chain to illustrate the main determinants of successful value chain formation across borders.

Figure 5-7 Supplier-buyer links between China and Japan in the automotive industry



Note: Japanese companies are red. Chinese counterparts blue. The arrows indicate ownership or other forms of control. The Japanese Automobile Manufacturers Association states: "In principle, the tie-ups shown above cover only technical cooperation related to motor vehicle production and exclude sales tie-ups."
Source: Taken from Taglioni et al., 2015 who refer the figure as from The Japanese Automobile Manufacturers Association (2013, p.55). Data as of March 2013.

Firm decisions to produce or out-source to a domestic or foreign firm depends on how well connected the factories are, and how well protected assets will be. Taglioni et al. (2015) use

[160] Taglioni et al., 2015

Figure 5-7 (reproduced above) to illustrate actual ownership relationships between Chinese suppliers and Japanese buyers. Both countries are well connected (regionally and globally) and have physical proximity— therefore the first condition of connected factories is met. Assets too are protected through control of the subsidiary. The most strategic assets are protected through capital control over the subsidiary, e.g. majority equity stakes. Older technologies and less strategic assets are shared through licensing agreements. A lower degree of control is maintained through arms-length trading and technical cooperation.

Figure 5-7 also illustrates the complexity of typical relationships in the auto GVC, with suppliers in competition with lead firms. For instance, while FAW manufactures Mazda 6 and Mazda 8 for Mazda, FAW's own cars use technology from Mazda competitors (Daihatsu, Toyota, and Volkswagen) to compete with Mazda at the same time.

5.2.1.3 Global trends in the auto market

Before examining Pakistan's potential role in the supply chains of OEMs, it would be useful to examine the global trends in the auto market, particularly as they pertain to the impact on the supply chain. Recent industry reports (PWC, 2015; KPMG, 2015) report the following trends

A reduction in product differentiation: vehicle quality has increased across the industry, and consumers now expect high-end features as standard, even in the mass market

Most car makers believe that the emerging markets and small, basic cars in both, emerging and mature markets, will experience the highest growth in the next 5 years

An increase in regulatory requirements, including fuel economy and mandatory safety features that were previously optional. This has led to an increase in costs, which require higher volumes to amortize. Amongst consumers buying preferences too, auto makers believe that fuel efficiency is a top-level criterion, followed by safety and comfort

Demand for, and innovation in, fuel cell vehicles is expected to increase. Plug-in hybrids, while remaining the most popular, are likely to see a decline in demand. Battery electric vehicles come in a close second. Electrified vehicles are likely to see an increase in demand

Greater availability of information through in-built sensors and telematics systems of customer and car data. This is of particular interest to value chain suppliers, yet the use of the information is still not well established. Consumers too have access to a multitude of information, which generates greater bargaining power for consumers

Increased electronics and software content, which has increased 10 per cent over the last decade and now constitutes 35 per cent of vehicle cost. Infotainment is a major new frontier that allows OEMs to differentiate and increase profit margins, and also has the greatest potential for change and improvement, as this was considered the most "troublesome" feature of 2014 vehicles. This puts an equal premium on software and hardware, although software improvements are typically quicker paced than hardware. This also means that OEMs are likely to support firms that can innovate technologically

OEMs are reducing the number of vehicle architectures, while increasing the number of models available to consumers. Volkswagen, the leader in this shift, is moving towards four

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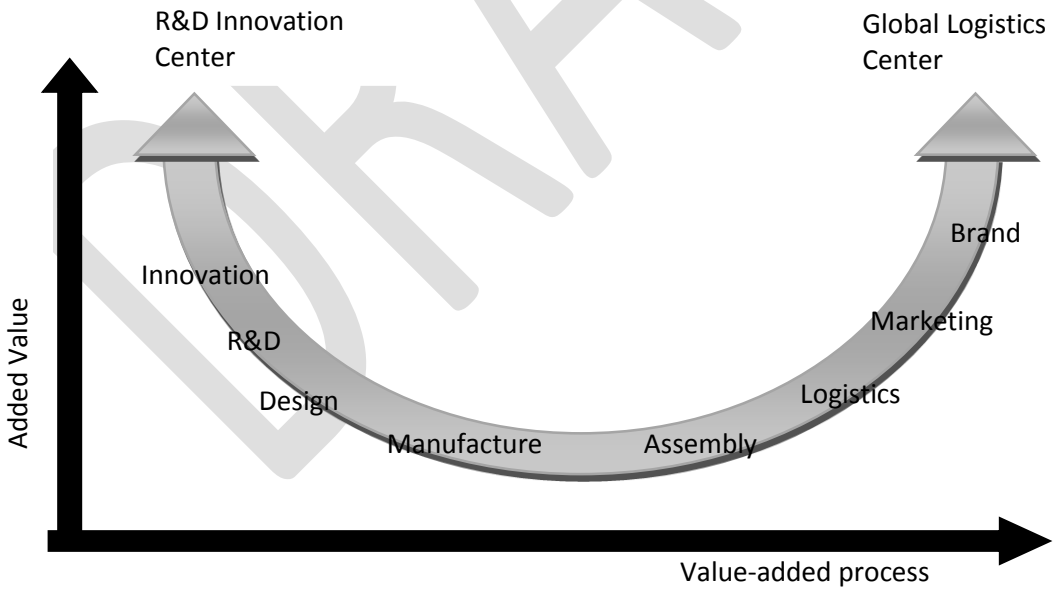
modular platforms. General Motors also plans to have four flexible platforms by 2025, a dramatic reduction in the 30 core and regional platforms that were being used in 2010. While this increases complexity, it allows cost-sharing through the use of common components. Crucially, this is expected to lead to a consolidation of suppliers into fewer, but larger, global players. Ford, for instance, plans to reduce the numbers of suppliers from 1150 to 750.

5.2.1.4 Pakistan's role in global automotive value chains

Pakistan is currently at the lowest rung of auto-part manufacturing —the replacement market for older models, and in basic manufacturing. There are no local Tier 1 suppliers that supply to global value chains. While many local manufacturers supply directly to local OEMs, and have established technical collaborations with global Tier 1 suppliers, they have not been able to enter OEM GVCs so far. Basic manufacturing of the kind engaged in by local firms is in itself the lowest value process in the production chain. As Figure 5-8 below illustrates, the services on either side of basic manufacturing and assembly create higher value, and it is imperative to develop these skills and services to ensure better and higher value participation in GVC.

Figure 5-8 Smiley model of value addition



Source: World Economic Forum, 2012 which refers to Business Week International, 2005

Although not Tier 1 suppliers globally, Pakistani manufacturers have at least taken the first step on the technology ladder. Taiwan also started with a vending industry that was small, fragmented, highly protected and inefficient. It became competitive in exporting replacements parts for American and Japanese old car models and now produces parts for export in the global market. The example demonstrates that entry into GVCs is an

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incremental process and the Pakistani auto parts industry can be considered at the inception stage.

However, as discussed earlier, in order to progress beyond this inception stage into successful GVC integration there are two vital pre-requisites. Firstly, the business environment has to be attractive and has to be able to protect foreign investments and property. Secondly, for cross-border manufacturing units to work successfully, it is imperative to have smooth and reliable trade flows, which includes physical infrastructure.[161] On both fronts, there is substantial progress that still needs to be made in Pakistan.

On the first pre-requisite, the business environment, Pakistan has struggled in the past. The World Bank publishes statistics on the costs of doing business across 189 economies.[162] The table below reproduces the 2015 rankings for Pakistan.

Table 5-16 Doing Business rankings, Pakistan

Topics	DB 2015 Rank	DB 2014 Rank	Change in Rank
Starting a Business	116	109	up -7
Dealing with Construction Permits	125	121	up -4
Getting Electricity	146	145	up -1
Registering Property	114	111	up -3
Getting Credit	131	125	up -6
Protecting Minority Investors	21	19	up -2
Paying Taxes	172	168	up -4
Trading Across Borders	108	112	up 4
Enforcing Contracts	161	161	No change
Resolving Insolvency	78	81	up 3

Source: World Bank, 2014a

Overall, Pakistan ranked 128thout of 189 economies in 2015, faring particularly poorly on paying taxes, enforcing contracts, getting electricity, getting credit and dealing with construction permits. These higher costs of doing business naturally influence the competitiveness of domestic firms and make it a less attractive environment for FDI. In terms of potential for GVC entry, the table shows that trading across borders and resolving insolvency have shown improvements since the last year. Trading across borders, or connectivity, is particularly important for GVC integration.

Table 5-17 below includes more details on trading across borders, showing that both Karachi and Lahore do better than the South Asian average across a number of indicators. There is, however, substantial room for improvement, as traders report deliberate impediments placed in custom clearances as a way to generate side payments. Customs officials exercise a lot of discretionary power. In contrast, informal trade via *khepias*[163] is more reliable and less

[161] (Taglioni et al., 2015)
[162] (World Bank , 2014a)
[163] *Khepias* are professional informal traders who travel frequently and carry large quantities of goods. The goods are taken to established wholesale markets in Pakistan from where they are distributed to retail markets.

costly. These transactions costs (and delays) involved in customs procedures and clearances act as a deterrent to formal trade.

Table 5-17 Trading across borders

Indicator	Karachi	Lahore	South Asia	OECD
Documents to export (number)	8	8	8	4
Time to export (days)	20	22	33.4	10.5
Cost to export (US$ per container)	660	960	1,922.90	1,080.30
Cost to export (deflated US$ per container)	660	960	1,922.90	1,080.30
Documents to import (number)	8	8	9	4
Time to import (days)	17	21	34.4	9.6
Cost to import (US$ per container)	725	1,525.00	2,117.80	1,100.40
Cost to import (deflated US$ per container)	725	1,525.00	2,117.80	1,100.40

Source: World Bank, 2014a

It is imperative to improve connectivity not just with the regional markets (and therefore to the GVC partners), but also to domestic firms throughout the supply chain. This improves speed and reliability, while lowering costs incurred by the domestic firms, thereby enhancing their ability to produce international goods smoothly. Any bottlenecks run the risk of being carried through and disrupting connecting firms.

A useful measure of logistics efficiency is the LPI (Logistics Performance Index), which, like the Cost of Doing Business indicators discussed earlier, is calculated by the World Bank. The index is based on perceptions of the country's custom clearance process, quality of trade and transport related infrastructure, ease of arranging competitively priced shipments, quality of logistics services, ability to track and trace consignments, and frequency with which shipments reach the consignee within the scheduled time. The index is measured on a scale of 1 to 5, with a higher score reflecting better logistics. Table 5-18 shows Pakistan's performance on this index. While Pakistan does significantly worse than neighboring competitors, India and China, its performance is better than the South Asian average.

Table 5-18 Logistics Performance Index 2014

Country/Country Group	Logistics Performance Index (LPI) score
South Asian average	2.61
Pakistan	2.83
World average	2.89
India	3.08
China	3.53

Source: World Bank, 2015a

An important development that is likely to improve Pakistan's logistics and domestic and international connectivity is the planned Pak-China Economic Corridor, which promises transport infrastructure from Kashgar in China, all the way through to Gwadar in the south of Pakistan. It also includes the development of Gwadar Port, opened for commercial activity this year.

An efficient business environment and trade infrastructure would encourage FDI and technical collaborators to come to Pakistan. This in turn would help Pakistani suppliers achieve global standards, improve productivity and acquire design capabilities, all of which are necessary steps to enter GVCs.[164] With the right set of reforms to target the weakest spots in the domestic business environment and trade infrastructure, there is room for optimism regarding Pakistan's potential to contribute to GVCs. On the demand side, the global auto industry is moving increasingly to neighboring giant China, which is now the world's largest vehicle manufacturer, as shown earlier in Figure 1-1. Even though growth has slowed in China, investments by most OEMs are continuing to increase. For instance, Toyota, currently the world's biggest auto manufacturer, has reportedly launched major investments in new factories in China and Mexico to the tune of US$1.3 billion. The Chinese factory should deliver 100,000 cars a year from 2018.[165]

The development of a non-exclusive supply chain of global standards has also meant that domestic firms in developing countries have the opportunity to leapfrog the auto development ladder to become OEMs themselves in a far shorter span of time, and at a fraction of the cost of first generation automakers. Chinese automaker Chery is a key example of such a development. Chinese and Indian firms have acquired well established, but distressed companies in developed markets to assist in the process. For example, Jaguar Land Rover, under the ownership of Tata India, is now looking to invest US$606 million in factory expansion in England, having opened its first overseas plant in China in October 2014. Similarly, The London Taxi Company, now owned by China's Geely, is looking to invest US$379 million in a new plant in England.[166] These developments all signal a faster relocation of the global auto industry towards growing Asian markets, particularly China.

Sturgeon and Van Biesebroeck (2015) note, however, that the auto industries in developing countries have been restricted to those that offer large and growing end markets e.g. India, China and Brazil. It is only in these countries that it is profitable to customize final products to local tastes and conditions. In order to do this, they have driven the co-location of design centers and global suppliers to these large markets too. This leads to the development of domestic Tier-2 and Tier-3 suppliers throughout the value chain. However, developing countries that are located close to large developed markets or trading blocs also have a potential upside in supplying parts to them. For example, Thailand in ASEAN and in East Asian markets, and Mexico in NAFTA, have both benefitted from being proximate enough to supply parts on a just-in-time basis. Mexico has a history of producing wire harnesses and automotive electronics near the Mexico/USA border to benefit from the cheap labor. Similarly, while Pakistan does not offer the large market sizes of China and India, its proximity to these major new auto hubs, should generate substantial opportunities in the auto value chain.

China in particular, with its large auto industry and demonstrated commitments to investing in Pakistani infrastructure, provides important opportunities for Pakistan in entering GVCs through the China route. Proximity to China, an established light engineering base and a good trading relationship with China, could make Pakistan an attractive partner for Chinese firms looking to outsource, particularly in the face of China's rising labor costs. India too has

[164] (Biesebroeck & Sturgeon, 2010)
[165] (The Guardian, 2015)
[166] (Financial Times, 2015)

a growing and prosperous auto industry in close proximity of Pakistan, yet it would be much more difficult to negotiate an entry route into GVCs via India, as trade with India has historically been fraught with political difficulties.

5.3 Sector Impediments

The auto parts sector continues to face obstacles in its development, as discussed below.

Quality and environmental standards

OEMs are unwilling to source higher value addition parts locally as they require the stringent enforcement of standards. Exporting companies currently do meet European and American standards, but this is a prerogative of individual firms, and there is no industry-wide enforcement of standards. The current growth path of this sector is only viable until such time that Pakistan does not enforce the implementation of environmental standards. With compliance costs, export competitiveness would suffer. Absence of standardization has meant rejection rates higher than global norms, making it difficult for OEMs to source components locally as auto parts must be exactly compatible with the final product.

The global trend of increased fuel economy requirements and mandatory safety features suggests that Pakistan must invest in bodies that have the capacity to set and implement safety, quality and environmental standards immediately.

Licensing

One of the major impediments for parts manufacturers is the licensing required to produce local parts to OEM standards. The OEMs typically require manufacturers to enter technical collaborations with their global suppliers, which can include mandatory use of equipment imported from the global suppliers. Technical collaborators need an incentive to come to Pakistan, and with a stronger regional market in India, and the relatively small volumes in Pakistan, this is not an attractive option for them at the moment. Local manufacturers argue that this limits their profitability and ability to enter the OEM supply chain. However, many firms lack the technical expertise to develop the parts in-house without the support of the technical collaborators. Taxes on royalties and licensing fees inhibit technology acquisition further.

Financing

Technology acquisition is also limited by access to finance. Stand-alone firms that are not part of conglomerates rely on self-financing. There is limited policy support in terms of matching grants, R&D tax breaks, exemptions on royalty and technical licensing fees. While the previous AIDP included measures to this effect, they were never implemented. For local vendors, this has resulted in incremental improvements in production processes rather than complete overhauls. Consequently, the vending industry remains small and fragmented.

Technology

Pakistan is currently at the lowest rung of auto-part manufacturing—the replacement marker for older models, and in basic manufacturing. There are no local Tier 1 suppliers that supply global value chains. While many local manufacturers supply directly to local OEMs,

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and have established technical collaborations with global Tier 1 suppliers, they have not been able to enter OEM GVCs so far. Technology acquired by local vendors is often outdated and discarded. Innovation through research and development to help in the "design" phase of the process is needed in order to allow the sector to add value to the parts it produces. Many of the interventions of the last AIDP that included the TASS, could not be put to use.

Business environment

If Pakistan is to successfully invite foreign investment and technology to the sector, the business environment has to be improved. Lack of protection of foreign investments and proprietary assets remains a major concern for global OEMs. The costs of doing business in Pakistan remain relatively high, and these transaction costs deter investors who are thinking on the margin about their production decisions. For GVCs to work successfully, it is imperative to have smooth, reliable trade flows, which includes physical infrastructure. On both fronts, substantial progress is necessary. Current delays and irregularities in customs procedures and clearances act as a deterrent to formal trade. The poor quality of trade and transport related infrastructure along with the difficulty in arranging competitively priced shipments and securing good logistics services, makes it difficult for local vendors to compete with other exporting countries. It also makes it more unlikely for FDI to flow into the sector, in the presence of more attractive regional options.

Smuggling and under-invoicing

Smuggling is a key issue in the auto parts sector. Smuggled auto parts enter from India, China and Afghanistan. These parts are typically of poor quality. This drives prices down to the lowest level equilibrium, as consumers are unwilling to pay a premium for a higher quality that is not observable at the time of purchase. With no regulation in the replacement parts market and no border control for smuggling, these sub-standard quality parts at low prices are effectively dominating the local market. This makes it very difficult for local vendors, because no matter what protection they are afforded through the TBS or the SROs, they cannot compete with smuggled parts that enter duty free.

Customs irregularities

Customs rules and irregularities are a major cause of complaint for both auto parts manufacturers and traders. Firstly, the import tariffs for some goods are calculated by weight, and others, by units. Importers argue that these do not reflect rising production and input costs. This is because of the discrepancy in valuation that arises when converting weight (in kg) to per piece (units per kg), resulting in inflated customs valuations. Secondly, parts importers often misreport the codes of imported parts that have been localized, to avoid the 50 per cent duty. Thirdly, importers avoid paying full duties on genuine parts by unpacking these components, removing their labels and declaring them as replacement parts, as the checking procedure is neither comprehensive nor efficient. Fourth, the industry is subject to rampant under-invoicing, with commercial importers mis-declaring the value of their consignments. However, the NTC is unable to counter under-invoicing by using Safeguard and Anti-dumping laws. Currently, no WTO-consistent countervailing duties have been imposed for auto parts, although this practice is almost universal in the world.

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6 Regional Policy Comparison

This section aims to contextualize Pakistan's auto sector and policies through a comparison with the major auto producing countries in the region. Five major auto producing countries have been selected for the comparison: China, South Korea, India, Indonesia and Thailand. The section is further divided into three parts. The first looks at production and trade data of the auto industry across the six countries, including Pakistan. The purpose is to show the relative position, product cycle stage and degree of openness of Pakistan's automobile industry. The second analyses the differences and similarities in the policy environment governing the sector by comparing both MFN and effective tariff rates in the five countries. The discussion on policy is linked to the relative size and competitiveness of the auto industry in the five selected countries. The last part consists of three short case studies on India, Thailand and China's auto industry. These case studies summarize the specific industrial and trade policy environment which led to the development of the auto industry in these three countries.

6.1 Production and Trade

Figure 6-1 shows the aggregate annual production in 2014 of passenger cars in the six countries selected for regional comparison. Passenger cars is used as a proxy for the sector because of its large share in the auto industry. What is evident is the variation in scale of production across the five countries. China, a relatively late entrant into the automobile industry, is now a clear outlier in terms of scale with an annual production of passenger cars close to 20 million. South Korea, the earliest entrant amongst the six in the auto industry and arguably the most sophisticated and competitive car manufacturer in the region, is a distant second to China in terms of annual production of passenger cars. India's annual auto production is a close second to South Korea's. It is interesting to note that the larger scale of production in both China and India does not necessarily translate into either higher productivity or greater international competitiveness especially in comparison to South Korea. Indonesia and Thailand are fourth and fifth in terms of annual production, while Pakistan is much further down the list with a relatively minuscule annual production of 123,900 passenger cars in 2014.

*Table 6-1 Comparison of Passenger Cars Production for Selected Countries, 2014**

Country	2014 Production Figures
China	19,919,795
South Korea	4,124,116
India	3,158,215
Indonesia	1,011,260
Thailand	742,678
Pakistan	123,900

Source: OICA, 2014.

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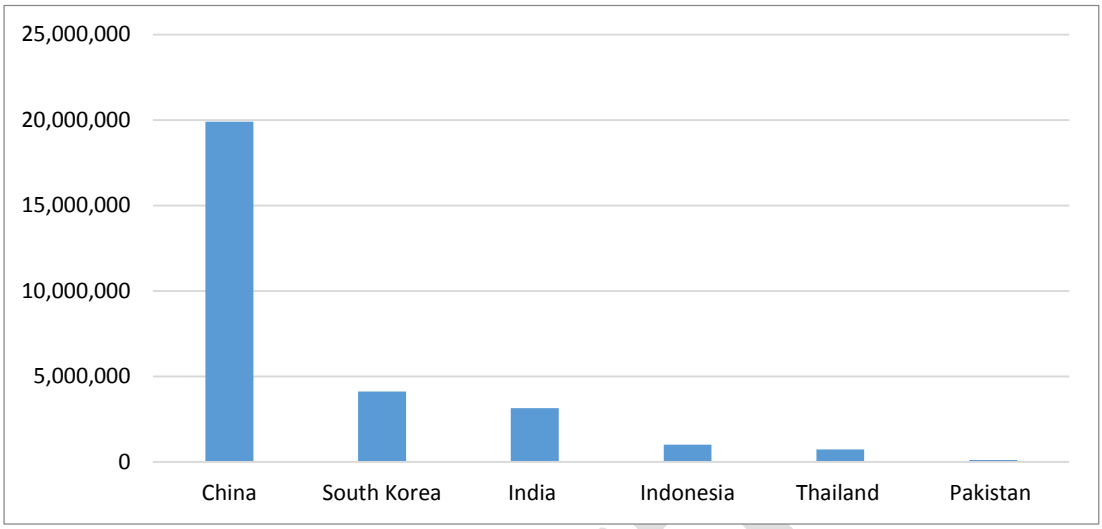
Figure 6-1 Cars Production for Selected Countries, 2014



Source: OICA, 2014

Table 6-2, Figure 6-2 and Figure 6-3 show the extent of trade openness and international competitiveness in the passenger car category across the six countries. The data is on exports, imports and its share in total passenger car production (trade and export ratio). In complete contrast to the production figures, the data on trade tells a very different and interesting story. Although China is the largest producer by a significant order of magnitude, its trade and export ratio is the lowest amongst the six countries. This is indicative of a car industry, with both local and foreign/joint venture firms, producing primarily for the domestic market. Also, Chinese manufactured cars have yet to reach the level of competitiveness and sophistication to create a significant demand in the world market – the export ratio (exports as a percentage of annual production) is just 2 per cent, which is the lowest in the region. Although Chinese imports of cars are much higher than its exports, the overall trade ratio in comparison to other countries in the region is much lower which is suggestive of inward-looking or protectionist policies.

As mentioned earlier, South Korea was an early entrant in the auto sector and has achieved the scale and level of competitiveness to become a major global player. Its total annual exports of cars of around 2.7 million and its export ratio of 66 per cent is much higher than most countries in the region. The only country which comes close to South Korea in terms of competitiveness and degree of trade openness in the sector is Thailand which also has a very high export ratio of 64 per cent (Figure 6-3).

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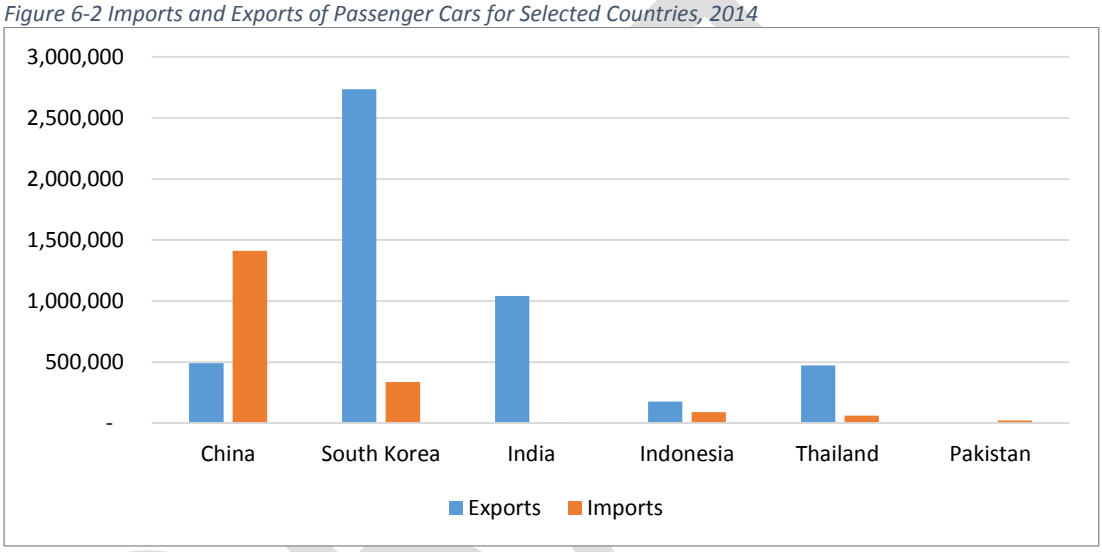
Table 6-2 Comparison of Cars Exports and Imports for Selected Countries, 2014

Country	Exports*	Imports*	Trade Ratio	Export Ratio
China	490,562	1,411,696	10	2
South Korea	2,735,583	336,572	74	66
India	1,041,308	7,729	33	33
Indonesia	177,921	90,885	27	18
Thailand	473,177	62,413	72	64
Pakistan	-	23,028	19	-

Source: The source of data for all countries, except Pakistan, is UN Comtrade, 2014. According to UN Comtrade, 2014 car imports for Pakistan are 1,305,130 and exports are 17,155. However, since these figures are inaccurate, we have obtained the figures mentioned above from EDB.
*Note: *Figures for imports and exports in Table 6-2 are the aggregates of import and export figures for petrol cars (HS Codes 870321, 870322, 870323, 870324), diesel cars (HS Codes 870331, 870332, 870333), and other/hybrid cars (HS Code 870390)*

Figure 6-2 Imports and Exports of Passenger Cars for Selected Countries, 2014

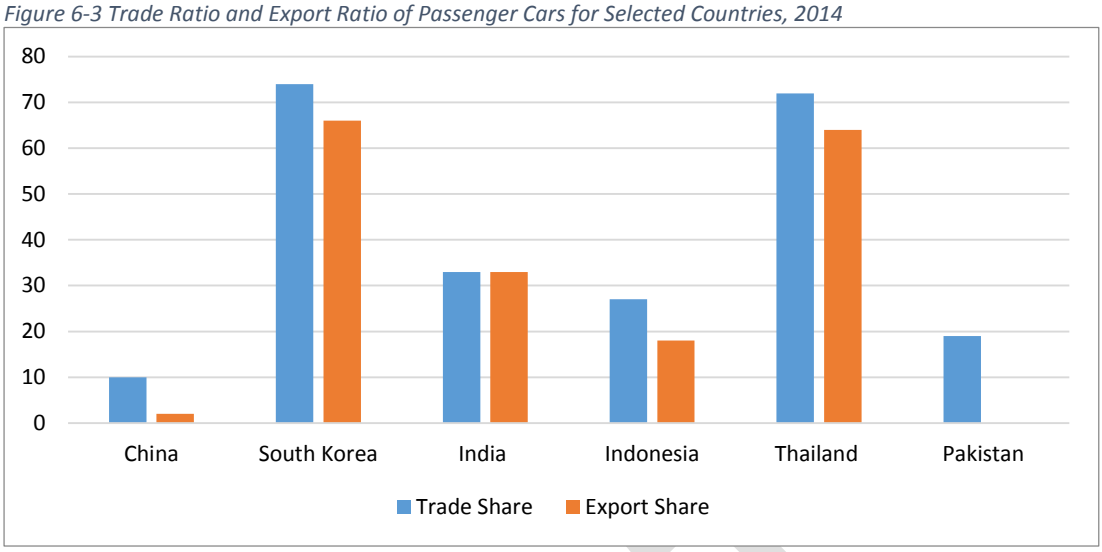


Source: UN Comtrade, 2014; EDB, 2014

The Indian car manufacturing industry has shown significant growth since the country liberalized its trade and investment policies in the 90's. The exports of passenger cars have been on the rise and in 2014 were over 1 million – second in the region after South Korea. The trade ratio has also reached 33 per cent albeit with negligible levels of car imports. The low levels of imports is a consequence of a highly protectionist trade policy regime in the auto sector. Although India has promoted foreign direct investment and joint ventures in the auto sector over the past three decades resulting in phenomenal growth of the industry, this has been achieved under an umbrella of protective trade policies.

In comparison to the regional players, Pakistan's relative trade profile in the auto sector is not much different from its relative standing in terms of scale of production. Pakistan's auto industry, in particular car manufacturing, is dominated by a handful of joint ventures with major Japanese players such as Toyota, Honda and Suzuki. The industry essentially serves the domestic market and does not have the scale and productivity to export to the world or the regional market.

Figure 6-3 Trade Ratio and Export Ratio of Passenger Cars for Selected Countries, 2014



Source: Author's calculations based on data from UN Comtrade, 2014 and EDB, 2014

6.2 Auto trade policy environment – a regional comparison

This sub section focuses on a comparison of tariffs on passenger cars across the selected countries.

6.2.1 MFN Tariffs

Table 6-3 and Figure 6-4 show a summary of applied MFN tariff rates on passenger cars across the six countries in the region. A detailed breakdown of the applied MFN rates at 6-digit level is presented in the Appendix 10.4. India offers the highest level of protection to its auto industry (passenger cars) with an average tariff rate of 100 per cent. The second highest average MFN tariff rate, 70.5 per cent, is imposed by Pakistan followed by Thailand, which is marginally lower. However, unlike India, which has the same maximum and minimum applied MFN tariff, both Pakistan and Thailand have large variations in the applied rate. China and Indonesia have lower MFN tariff rates with an average of 25 per cent and 29 per cent, respectively. South Korea has the most liberal trade regime in the auto sector with a relatively low average MFN tariff of 8 per cent. As discussed before, South Korea, has a developed and globally competitive auto industry which explains its relatively open trade policy regime. The exception is Thailand which, despite a fairly developed auto sector with a high trade ratio, is still protected by a 70 per cent average MFN tariff rate. This level of protection is comparable to Pakistan's, which has a much smaller production scale and a far lower level of sophistication in the auto industry.

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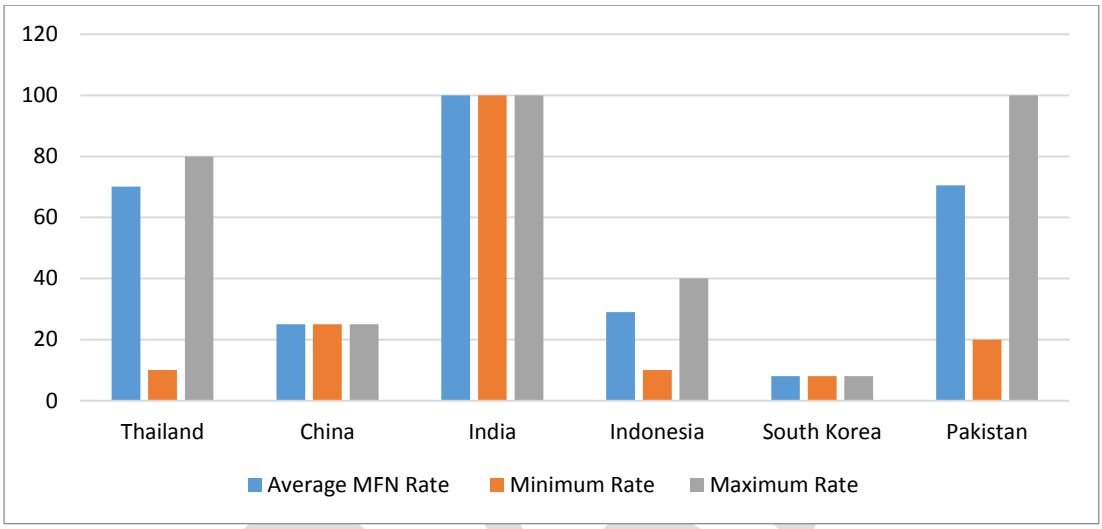
Table 6-3 Applied MFN rates for HS8703[167]

Country	Average	Range
Thailand	70.1	10-80
China	25	25-25
India	100	100-100
Indonesia	29	10-40
South Korea	8	8-8
Pakistan	70.5	20-100

Source: WTO Tariff Download Facility, 2014

Figure 6-4 Applied MFN Rates on Cars for Selected Countries, 2014



Source: WTO Tariff Download Facility, 2014

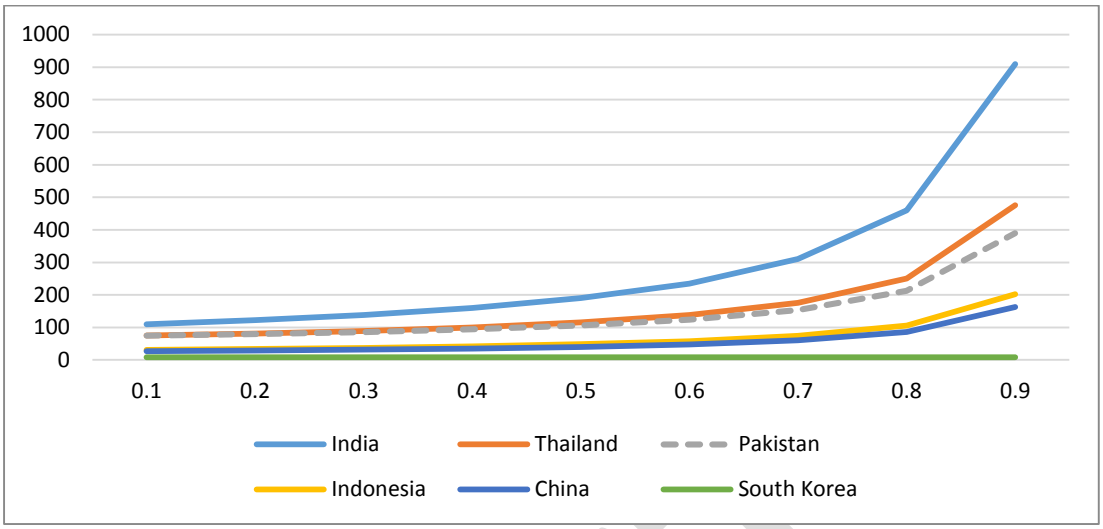
6.2.2 Effective Rates of Protection (ERP)

A more comprehensive measure of the degree of protection is the effective rate of protection (ERP). ERP measures the percentage change in value added as a consequence of a tariff. It takes into account the tariff on both the final and the intermediate goods or inputs in a products value chain. A detailed overview of the methodology used for calculating ERP is provided in Appendix 10.2.

Figure 6-5 below compares the ERPs across the comparison countries using average MFN applied tariff for passenger cars and auto parts. This is therefore indicative of the effective protection rates in the auto sector at a broad level, rather than a precise calculation.[168] The figure shows that India and Thailand are both more heavily protected than Pakistan, while China, South Korea, and Indonesia are less protected.

[167] HS 8703 is described as "Motor cars and other motor vehicles principally designed for the transport of persons (other than those of heading 87.02), including station wagons and racing cars."
[168] ERPs are calculated using 4-digit code averages for Cars (HS 8703) and Auto Parts (HS 8708). These are broad averages – HS 8703, for example, includes not only passenger cars of all engine sizes, but also golf cars, ambulances, prison vans, etc. HS 8708 is defined as "parts and accessories of the motor vehicles of headings 8701 to 8705 (cars included)," but parts used in cars also fall outside HS 8708, e.g. ball bearings (HS 848210), parts for spark-ignition type engines (HS 840991). These ERPs should therefore be interpreted as a rough guide. A precise ERP would use the exact quantities of imported inputs which vary by car type, weighted by the exact tariff. CBU tariffs can also vary by engine size.

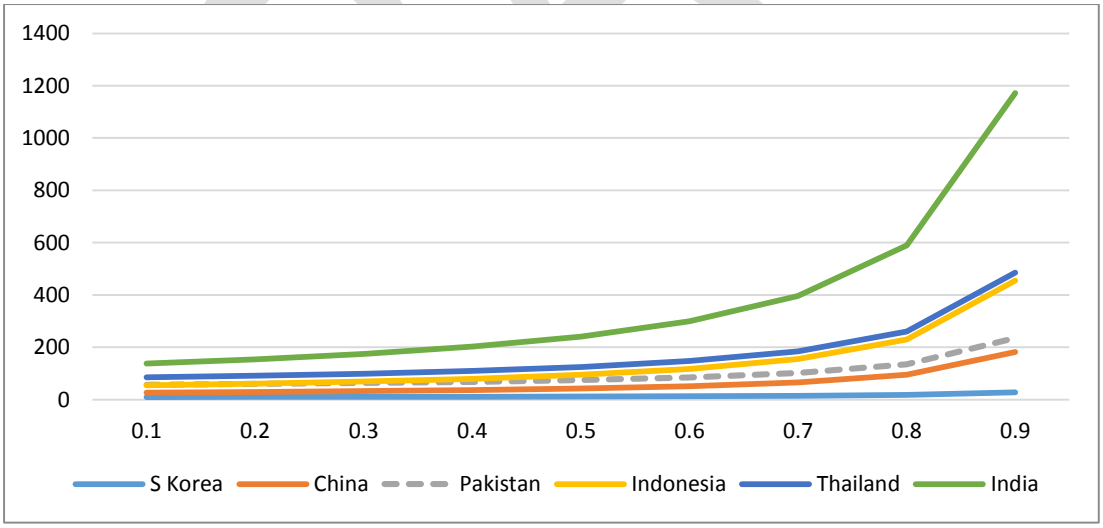
Figure 6-5 Effective rates of protection using MFN applied tariffs



Source: Author's calculations, using tariff data from WTO Tariff Download Facility, 2014

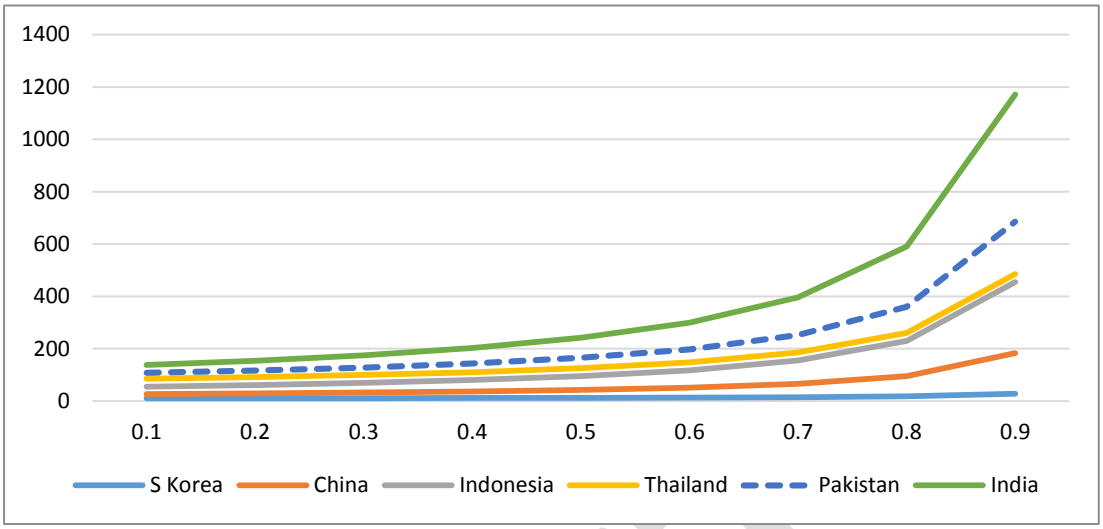
In Pakistan, the tariff for CBU cars varies by engine size. Figure 6-6 and Figure 6-7 compare the ERPs for Pakistan's least and most protected cars respectively, with regional averages using MFN bound rates, since applied rates were not available at the HS 8-digit level that classifies cars by engine size. Interestingly, Pakistan has significantly lower ERP in the smaller car category compared to India, Thailand and Indonesia. However, in the 3000 cc and above category, Pakistan is much more protective with ERPs second to those in India at all levels of import content. South Korea, as expected, has the lowest ERP, while China is the second least protective of the selected countries.

Figure 6-6 Regional Comparison of ERPs with Pakistan's least protected car (under 1000cc)



Source: Author's calculations, using tariff data from dutycalculator.com, 2015

Figure 6-7 Regional Comparison of ERPs with Pakistan's most protected car (over 3000cc)



Source: Author's calculations, using tariff data from dutycalculator.com, 2015

The comparison of ERPs shows that Pakistan's auto sector is certainly not unusual in the protection that it receives vis-à -vis other, more established countries in the region. This can also be seen in the context of global trends in auto sector protection. Figure 6-8 below maps protection rates by industry for all countries for which trade in value-added data are available in the OECD-WTO Trade in Value-Added (TiVA) Database. Looking at the effective and nominal rates of protection across industries globally, we can see that the motor vehicle industry is the second most protected industry on the basis of effective protection, and the third most protected when considering nominal protection. Seen in this context, Pakistan's auto sector protection is not unusual. The auto industry is considered a mother industry for engineering with important spill overs to other sectors, along with being an industry that requires large scale investments. This makes it an ideal candidate for protection across the range of countries that have developed their auto sectors in the long run.

Figure 6-8 Nominal and Effective rates of protection for all countries covered in TiVA database (2008)

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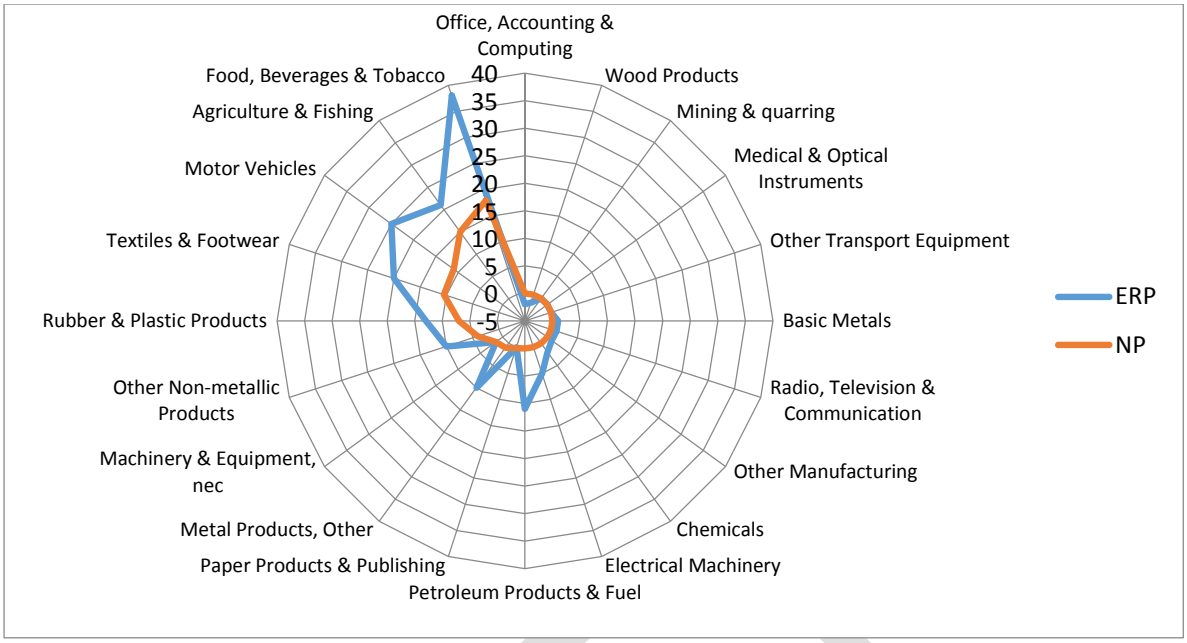

Source: Diakantoni and Escaith (2014)

6.2.3 Local content requirements

Local content requirements have been removed in all countries over the last decade in compliance with WTO rules. However, many countries including Pakistan continue to promote domestic content through providing concessions on the use of local components (see Table 6-4).

Table 6-4 Auto policies of selected countries

No localization policy	Year removed	Countries promoting localization
Malaysia	2002	Pakistan
Thailand	2000	Iran
Philippines	2003	Egypt
India	2002	Venezuela
China	2009	Cambodia

Source: Ahmed M., 2013

In countries that do not have an explicit focus on achieving indigenization through formal localization requirements, production has risen. For example, in India, volumes of motorcycles and cars increased following the removal of localization policy. In Mexico and Turkey, production rose by 65 per cent and 35.2 per cent respectively, between 2008 and 2011 upon the removal of the deletion program. Moreover, policies in Pakistan compare unfavorably with regional countries, owing not only to localization policies, but also tariff variations across cars, parts and motorcycles. The attractiveness of the sector is lowered by frequent policy changes and new entrant investment policies that require use of a certain proportion of local parts to qualify for benefits. In addition, the protectionist approach towards regional countries— as reflected in bilateral FTAs that offer no concessions to partners— is also to blame for the lack of industrial deepening in the automotive sector, despite years of protection.

Regional comparison shows that auto parts are relatively more protected in Pakistan, which makes the final products more expensive. Also, excessive reliance on Japan for imported

auto parts persists in spite of protection. In addition, the investment climate in the country is not conducive to growth, which is why the sector remains focused on assembly instead of manufacturing. A comparison of regional tariffs indicates that Pakistan has a larger variation in its duty structure, especially when compared to Thailand. There is high tariff escalation in Pakistan's automotive sector, with raw materials facing import taxes of 0-5 per cent, intermediate inputs and components of 5-10 per cent, and finished goods of 30-100 per cent. Table 6-5 shows a breakup of tariffs and other taxes on CBU and CKD cars across selected countries. CBUs are generally more protected in all countries, with the highest rate of tariff protection in India and Vietnam. Pakistan has the highest CKD tariff range and also the highest VAT/sales tax which contributes to the relatively higher car prices when compared to the region.

Table 6-5 Complete duty structure in selected countries for cars

Country	CBU tariff (%)	CKD tariff (%)	Excise duty/WHT (%)	VAT (%)	Corporate tax (%)
Pakistan	65	32.5 to 50	3 or 5	16	35
India*	100	10 to 30	10	12.5	34
Malaysia	30	0 to 10	20 to 50	10	25
Indonesia	35	0	-	10	25
Thailand	60	0	35	7	30
Vietnam	100	0 to 5	-	5 to 10	25

Note: India also levies an additional duty to countervail local taxes (4%), countervailing duty (12%), educational cess (2%), and national calamity contingent duty (1%)*
Source: Ahmed & Batool, 2015

6.3 Case Studies

6.3.1 China – Auto Policy

China's auto policy can best be described as carefully managed with an ultimate objective of establishing an indigenous industry. The basic policy followed by China has been open market access to foreign automakers in exchange for technology transfer through a 50:50 Sino-Foreign equity joint venture. This policy has not given the desired results yet, and consequently the government continues to pursue an active industrial management policy in the auto sector. Foreign automakers have been reasonably successful in carefully guarding their technology from the Chinese, therefore very little in terms of actual product development has taken place. A key reason for the failure of these joint venture agreements is linked to the weak intellectual property protection in China which becomes a greater threat given the fact that local Chinese partners are allowed to hold interests in multiple joint ventures simultaneously.

The most recent policy regime in China is provided by the Foreign Investment Industrial Guidance Catalogue, 2014 issued by the National Development and Reform Commission (NDRC). The key policy features include:

1. The 2014 Catalogue maintains 50% requirement for joint venture. However, the Ministry of Commerce announced on 10 April 2015 that the shareholdings of Chinese parties in joint ventures should be more than 50%. The new policy now only allows foreign companies at most two joint ventures for passenger and commercial vehicles or motorcycles. The limit does not cover the situation where a foreign firm joins with domestic counterparts in mergers. The new guidelines have reduced

much red tape for foreign companies by simplifying certain processes and procedures.

2. For the first time, the revised guidelines categorize complete manufacturing of auto vehicles as a 'restricted' industry so new foreign investments will have to go through a different set of procedural scrutiny. Therefore, while some procedures have been relaxed, others have been tightened to maintain greater control.

3. The current policy is evidently tilted in favor of local industry. This is reflected by the policy on parts and research and development. Foreign companies are allowed to establish wholly owned enterprises if they will manufacture auto parts or will support research and development for localization of parts. There are no restrictions on number of interests that can be maintained under this line of manufacturing.

4. Given the fact that the existing policy regime has not been successful in establishing the local industry to a desirable size and foreign owned companies have continued to make large profits and maintain a controlling share in the Chinese market, the Anti-Monopoly Law has been introduced and is said to be targeting key European luxury car manufacturers. Articles 13, 14 and 17 prohibit horizontal monopoly, vertical monopoly and abuse of market power. Under horizontal monopoly, NDRC now regulates the prices of parts that foreign companies charge to Chinese joint ventures. The current stance has been that foreign companies have been fixing prices. Similarly, foreign companies have been accused of fixing prices vertically for repair maintenance and services. Finally, Article 17 regulates what the foreign companies may or may not sell through their approved dealerships in China. These regulations are clearly indicative of an increased protectionist policy by China. These prohibitions also apply to online sales of cars. In September 2015, a further regulation has been announced demanding carmakers to make public all information about repairing and maintaining all models of the vehicles they sell.

5. Another policy change that is intended to lower the profits of foreign manufacturers in China is the recent allowance of the parallel import of automobiles, which refers to the practice of car dealers importing genuine automobiles from foreign markets to China without the permission of the foreign automakers or their authorized dealers, usually at a substantially lower price. This forms an alternative channel for customers to purchase imported vehicles, in addition to the traditional authorized dealers. Although China has never explicitly prohibited parallel auto imports, the Administration of Branded Automobile Sales Implementing Procedures issued by the Ministry of Commerce (MOFCOM), NDRC and State Administration for Industry and Commerce (SAIC) in 2005 state that foreign auto makers must authorize chief dealers to establish distribution networks and sell cars in China, while the chief dealers and lower-level authorized dealers must be registered with the SAIC. These rules have helped foreign automakers keep a tight grip on the distribution network, and parallel auto imports have long lived in a grey area. As a result, the number of automobiles that have entered China through the parallel import channel has been minimal. The parallel imports have been introduced in Free Trade Zones of

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Shanghai, Fujian, Tianjin and Guangdong. This is likely to impact the profits of foreign established dealerships.[169]

Importing a car (especially used) is next to impossible in China. The first requirement is having a local resident status to be able to import. Only legal residents (holders of “Z” visas) are allowed to import cars, eliminating this option for holders of business visa (“F”) or tourist visa ("L"). However, not everyone who qualifies as resident can bring in a vehicle; only those who have "foreign expert status" which is provided by the PSB (Public Security Bureau) and the visa departments are allowed.

Importing a car for personal use in China is only possible if all the requirements are met. Returning Chinese citizens are allowed to import their vehicle only if they are returning diplomats or can get an import permit.

Foreigners are allowed to import one new car per person and only if the Customs Office has approved the import permit. To ship in a car of a common brand, it is necessary to prove that it is less than a year old and in good condition, since Chinese customs do not allow old cars to be imported. In the case of rare models which are probably not authorized for sale in the Chinese market, one may have to pay additional and rather expensive testing fees.

To get a car shipped into China, all import duties, VAT and sales taxes must be paid. The amount of these payments depends on the type and size of the car. Personal vehicles are considered a luxury in China, so the import duties can be as high as 200% of the car’s value.

The age and value of the vehicle must be supported by proper and valid documentation. There must be a written application to the Customs Office, Import Cargo Declaration and an invoice for the vehicle which proves its value. In addition, foreigners should present original business license, customs certificate, passport, Chinese residence card and work permit. In order to have the car imported, each destination city's Environmental Bureau has to check if local environmental standards are met. All incoming cars should pass a Euro 3 emissions standards test. Even if the above requirements are met, there are still some cases in which a vehicle may not be allowed to enter the country. For example, diesel motorcars and motorcycles are prohibited in China. Also, only left hand drive vehicles are allowed. Even though in some cases right hand drive vehicles are imported, it is impossible to register and use them on the roads. If a person does not meet these requirements they will not be allowed a permit to import a car, however, it is possible to get somebody with the relevant documents to undertake the process but the vehicle will need to remain registered to them for a minimum of 6 months after arriving in the country before anyone else can legally take possession of it. Another problem with shipping a car to China is that only a few ports allow vehicle imports.

There has been a history of subsidies and tax cuts by the Chinese regulators to trigger demand for local autos. The most recent initiative has been a reduction in the vehicle purchase taxes from 10% to 5% and also an introduction of a round of subsidies for auto purchases by rural residents that will cover passenger vehicles with engines less than 1.6

[169]For example an Audi Q7 sport imported at Tianjin under parallel import was selling at a price of RMB 660,000 ($106,000), 20% cheaper than RMB 828,000 by German manufacturer’s authorized China dealerships. In US the same car sells for around $48,000.

liters. The subsidies will also cover mini-commercial vehicles and light pickup trucks. A major beneficiary of this increased demand will be the Chinese auto manufactures.

Another policy to support local industry is laid out via the enforcement of environmental protection measures. There is a drive in China to pollute less and under this initiative all 'yellow label' cars will be eliminated from roads by 2017. In order to stimulate local auto industry, China has announced to produce more than 5 million New Energy Vehicles on government incentives. The government has also announced construction of 12,000 new charging stations and 4.8 million new charging piles around the country to support this move. In 2014, a 10% tax exemption was announce, followed by further tax cuts on domestic purchasing by 50% in 2015. The industry has been classified as an 'emerging industry' and hence benefits from more subsidies, breaks and facilitation. All this when matched with tightening of other policies suggests that local players are likely to dominate the auto sector in China.

6.3.2 Thailand – Auto Policy

Thailand's auto industry has grown on the back of policies that have supported local manufacturers to become more competitive. Thailand has never had an extremely protective regime; however, support to local manufacturing has always been a priority. Thailand's local auto industry under the 'vision 2021' will be developing state-of-the-art testing facilities, research and development centers, automotive information centers and an automotive academy, while the government is providing policy integration and policy research support. The vision intends to transform Thailand into a global green automotive production base.

Over the recent past Thailand's policy paradigm in the auto industry has been governed by systematic administration of favorable policies; the formulation and implementation of Thailand Automotive Industry Master Plan 2002 – 2006, Thailand Automotive Industry Master Plan 2007 – 2011, and Thailand Automotive Industry Master Plan 2012 – 2016. These are the major contributing factors to the sustainable development of the Thai automotive industry and to Thailand's position as one of the leading automotive production bases, although some of the planned projects have not been fully implemented yet, e.g. technology and engineering capability enhancement and development of testing and research and development center.

Four key factors that have ensured sustainable development of Thailand's automotive industry include: favorable government policy to promote investment and domestic market expansion through systematic integration, developments to accommodate technology changes by enhancing the capacity of green technology development, increase domestic value creation through productivity improvement for parts manufacturers and quantitative and qualitative human resource development.

Table 6-6 shows the chronology of key investment and trade policy changes in Thailand. The year 2003 marked a substantial shift where, in terms of trade policy, Thailand had liberalized significantly. Since 2003, Thailand has taken an industrial policy approach to provide strategic support for local manufacturing in the auto sector. As mentioned above, since 2002 key interventions in the auto sector have been dominated by the Master Plans (third one is in implementation). In light of the first plan in 2004, the Board of Investment substantially changed its policy by paying more attention to the issues underlying the long-term

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competitiveness of the country, namely, the development of indigenous technological capability and human resources. A special investment package promoting 'skill, technology, and innovation' (STI) was initiated. Firms were given one or two years of extra tax incentives if they performed the following activities within the first three years; (i) spend at least 1 to 2 percent of their sales/revenues on research and development or design; (ii) ensure that scientists or engineers with at least a bachelor's degree make up at least 5 percent of their workforce; and, (iii) ensure that at least 1 percent of their total payroll costs is spent on the training of their employees, and at least 1 percent on training the personnel of their local suppliers.

Thailand's policy makers saw real gains in promoting eco-friendly manufacturing in the auto sector. As a result the late 2000s policy increased support towards the economical and environment-friendly cars. Preferential incentives together with significant requirements for producing four out of five engine components locally were given to interested carmakers. This is part of the Master Plan for Automotive Industry (2012–2016) which aims to establish Thailand as a global green production base.

Along with the aforementioned government policies, the Thailand Automotive Institute (TAI) was established by a Cabinet resolution on 7 July, 1998 to strengthen cooperation between the government and private enterprises in order to enhance the competitiveness of the Thai automotive industry. As a result, TAI is a sector-specific promotional and intermediary agency for the automotive industry. TAI provides data, training, consulting, and testing and calibration services to firms, especially local parts suppliers. Under the most recent 5-year plan the following initiatives are being supported:

1. Excellence in Research and Technology Development
2. Excellence in Human Resources Development
3. Entrepreneur Strength Enhancement
4. Creation of good business environment via developing infrastructures to accommodate strategic plan. This strategy is striving to develop sufficient infrastructure to accommodate the implementation of the action plan on research and development, human resource development and automotive parts manufacturer development. The infrastructure required is testing and research and development center, automotive human resource development Institute and automotive information center.
5. Creation of good business environment via policy integration. The government has established a National Automotive and Parts Industry Policy Steering Committee to integrate the policies related to automotive and parts industry development, and to accommodate trends on future competition, technology and innovation.

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Table 6-6: Chronology of Trade and Investment Policies Impacting Thai Automotive Industry, 1960 -2015

1961	1960 Industrial Investment Promotion Act provides incentives for the local assembly of automobiles.
1962	1962 Industrial Investment Promotion Act announced 50% reduction in tariffs on CKD kits: new rates, passenger cars 30%; pick-ups 20%; and trucks 10%.
1969	Ministry of Industry set up Automotive Development Committee (ADC). 20% increase in tariffs on CBU vehicles: new rates, passenger cars 50%; pick- ups 40%; and trucks 30%.
1971	MOI restricted the number of locally assembled passenger car, pick-ups and trucks models. Announced local content requirement (LCR) measures to become effective in 1974: domestically assembled vehicles had to use locally produced parts to at least 25% of the total value of the vehicle.
1976	An import duty rebate scheme for export producers came into operation.
1978	Banned CBU imports and increased import duty on completely knocked down (CKD) kits to 80% Suspended approval of new assembly plants to reduce over capacity. Tariffs of CBU passenger cars and CKD passenger cars were increased to 150% and 80% respectively.
1982	LCR requirement for all vehicles set at 45%
1983	The duty rebate scheme (introduced in 1997) was supplemented by outright import duty exemption for intermediate inputs imported by export-oriented firms (that is, firms exporting more than 30% of total output) approved the Board of Investment
1983	Intermediate inputs imported by export-oriented firms (firms exporting more than 30% of production) approved by the Board of Investment were exempted from import duties
1985	Mandatory local-content list imposed Ban on imported CBU vehicles with engine capacity over 2,300cc lifted.
1986	LCR for passenger cars lifted to 54%. List for compulsory and non-compulsory parts introduced.
1989	Ceiling on production capacity of existing assembly plans lifted.
1990	Abolished restrictions on domestic production of series and models. Replaced quantitative import restriction (including the ban on imports of CBUs under 2.3 liters) on passenger cars with tariff.
1991	Reduced tariffs on all types of CBUs and CKD kits: 1. CBUs over 2.3 liters from 300% to 100% 2. CBUs under 2.3 liters from 180% to 60% 3. CKDs for cars, pickups and vans from112% to 20% Required use of locally produced diesel engines for 1-ton pickup trucks
1992	Exempted pick-up trucks from exercise tax
1993	Ban on new assembly plants lifted.
1994	Supply of parts and components by domestic firms to automotive assembly for export was exempted from all domestic taxes as part of the government policy for facilitating development of backward linkages of auto industry
1995	Reduced CKD tariffs from 20% to 2%.
1997	Abolished local ownership requirement on foreign-invested projects (announced 1993; implemented 1997). Implication/streamlining of customs procedures for facilitating importation of intermediate inputs used in production for export commenced.
1999	Raised tariffs on CKD vehicles from 20% to 30-35% to cushion against the potential adverse impact of impending LCR abolition.
2000	Abolished LCR requirement. The WTO Agreement on Customs Valuation came into operation
2003	Tariff preferences under the ASEAN Free Trade Agreement (AFTA) came into full effect: import duties applicable to intra-ASEAN trade down to 0--5% First Master Plan 2002-06
2007-11	Thailand Automotive Institute Thailand formulated Thailand Automotive Industry Master Plan 2007 – 2011. Thailand automotive industry became a major automobile production base in Asia. Implemented policies to promote eco-friendly vehicles and promoted investment in eco-friendly car production aiming to export 50% of the production. It is worth noting that since 2003 not much has changed on the trade policy front, in fact more

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	emphasis has been on building local competitiveness Second Master Plan 2007-11
2015	ASEAN Free Trade Agreement (AFTA) will be in effect in 2015 which led to Vision 2021 and strategic plan for Thailand automotive industry.[170] 3rd Master Plan 2012-16

6.3.3 India – Auto Policy

Indian auto sector has shown rapid growth in the last few years. This phenomenal growth is a consequence of policies that have both protected local industry and at the same time supported it to become more competitive. The government of India has developed an adequate protection mechanism by imposing various tariff and non-tariff barriers. Besides that, the government has formulated a range of policies that discourage import of automobiles and promote localization.

For the import of CBU vehicles, importers are required to obtain certain permissions from the government which entails a long bureaucratic process. Only a right-hand-drive car can be imported. Left-hand drive automobiles are prohibited from entering the country (except for consulates and some other special categories). The Indian government has entirely banned individuals from importing cars whose engine capacity ranges from 1000 - 2500 cc. While new cars can be imported via the customs port at Mumbai, Calcutta and Chennai, used cars can be imported only from the Mumbai port. Also, the used car cannot be older than three years (from the date of manufacture). The Exim policy of 2001 lifted quantitative restrictions on importing used cars.

Customs duty is calculated based on the ex-factory price; the standard duty is 119.65% on new cars, and 181.43% on used cars. CKD cars attract a customs duty of anywhere between 38 to 48%.

The most popular way of importing a car to India is via the “Transfer of residence” clause, whereby Indians settled abroad when relocating to India can get their cars shipped to India after owning the car for at least 12 months in the foreign country. Upon import, the car cannot be sold for 2 years (from the date of import). Moreover, to qualify for this clause, the non-resident Indian importing the car should have lived overseas for at least a 2-year duration, the payment for the car should have been made abroad, and the car should be imported within 6 months of the person’s arrival into India. Additionally, under this scheme, the customs duty must be paid in foreign exchange. If a handicapped person is importing the car, then the customs duty may be paid in Indian rupees. Official permission is required before selling the car in India.

The following individuals can qualify for importing cars under this scheme:

1. Any individual can import a car whose value is more than USD 40,000. There are no restrictions on the imports of these cars.

[170]In all FTAs, Thailand is looking for greater market access for its exports of goods -- particularly agriculture, processed food, textiles and clothing, automobiles and electrical parts -- and services, especially for Thai temporary workers in hotels, restaurants and health-related sectors. The overall goal is to move early into FTAs, hard on the heels of Singapore, so that Thailand is well placed to be a regional trade-and-investment hub.

2. Foreign nationals (including persons of Indian origin) married to Indian nationals. The methodology adopted by Customs authorities in assessing duty on a motor vehicle is based on the ex-factory price on the date of original purchase. Adjustments are made for:
    i. Foreign nationals working in India.
    ii. Branch/Offices of foreign firms, companies and institutions established in India.
    iii. Companies incorporated in India having foreign/Non-Resident Indian (NRI) equity
    iv. Accredited Journalists/Correspondents of foreign news agencies.
    v. Indian firms executing contracts abroad.
    vi. Charitable and Missionary Institutions.
    vii. Physically handicapped persons.
    viii. Honorary Consuls of Foreign Governments.

With respect to paperwork and documentation, cars costing more than USD 40,000 do not have to undergo homologation from the Automotive Research Association of India (ARAI). If the car's value is less than USD 40,000, the vehicle has to be submitted for testing to the Vehicle Research and Development Establishment (VRDE), Ahmednagar, of the Ministry of Defense, the ARAI, Pune, the Central Farm and Machinery Training and Testing Institute, Madhya Pradesh, or any other notified testing agency by the Government. The importing agency is expected, at the time of importation, to submit a certificate issued by a testing agency (notified by the central government) that the second hand vehicle being imported has been tested immediately before shipment and that the vehicle conforms to all the regulations specified in the Motor Vehicles Act, 1988.

The second hand or used vehicle imported into India should have minimum roadworthiness for a period of 5 years from the date of importation into India with assurance for providing service facilities within the country during the five-year period. For this purpose, the importer shall, at the time of importation, submit a declaration indicating the period of roadworthiness in respect of every individual vehicle being imported, supported by a certificate issued by any of the testing agencies, which the central government may notify in this regard.[171]

All imported vehicles (under USD 40,000) must go through a strict homologation process that examines the vehicles against standards laid down by the Indian government. All imported vehicles are tested for safety specifications/rating, emission standards, vehicle noise standards, fuel consumption standards, etc.

Moreover Indian government has devised extensive testing procedures that hinder the penetration of imported auto parts and shield the local auto manufacturers. In short, there are several procedures that delay and hence, increase the cost of importing automobiles and auto parts into India.

[171] (Team-BHP, 2015)

On the facilitation side there are various polices that support local industries to build their competitiveness. Some key initiatives are discussed below:[172]

1. Government of India is supporting automobiles manufacturing, the main driver of 'Make in India' initiative, as it expects passenger vehicles market to triple to 9.4 million units by 2026, as highlighted in the Auto Mission Plan (AMP), 2016-26.
2. In the Union budget of 2015-16, the government has announced to provide credit of Rs. 850,000 crore (USD 127.5 billion) to farmers, which is expected to boost the tractors segment sales.
3. The government plans to promote eco-friendly cars in the country i.e. CNG-based, hybrid, and electric vehicles and also made mandatory 5 per cent ethanol blending in petrol.
4. The government has formulated a Scheme for Faster Adoption and Manufacturing of Electric and Hybrid Vehicles in India, under the National Electric Mobility Mission 2020 to encourage the progressive induction of reliable, affordable and efficient electric and hybrid vehicles in the country.
5. The AMP 2006–2016 designed by the government is aimed at accelerating and sustaining growth in this sector. Also, the well-established Regulatory Framework under the Ministry of Shipping, Road Transport and Highways, plays a part in boosting this sector. Moreover, the AMP 2006-2016 reinforces initiatives under the AMP 2012-17 such as:
    i. Establishment and support of Automotive Skill Development Council (ASDC) to augment human resources in the auto sector. Over Rs. 9 crore has been allocated as initial funding for skills development in the sector.
    ii. Cluster development program covering over 460 auto component manufacturers to improve productivity, consistency, quality and scalability of tier 2/3 companies.
    iii. A technology up-gradation and development scheme has been initiated that provides inexpensive capital to SMEs. Under the scheme, an Auto Component Technology Development Fund (ATDF) has been set up that is being provided Rs. 2500 crore which will be used for financing 50% of the project cost by way of soft loan at 4%.
    iv. A world class National Automotive Testing R&D center is being set up with an expected cost of Rs. 1,718 crore. This will be able to provide all the required testing and research and development facilities for production of top quality auto parts and automobiles.

Moreover, Ministry of Communications & Information Technology has launched a scheme in 2014 providing special incentives to auto electronic part manufacturers. Under the scheme, electronics manufacturers in the auto sector who are over 10 years old are being reimbursed CVD/excise for capital equipment, subsidy of 25% is being given on CAPEX, 75% grant for common facilities centers and 75% grant for cost of skilling. This discussion clearly indicates that it is not only high degree of protection but specific government interventions that are fueling growth in the Indian Auto sector. Table 6-7 and Table 6-8 show the customs and excise duties applicable in the Indian auto sector.

[172] (India Brand Equity Foundation , 2015)

Table 6-7 Customs duties for the auto sector, India 2015

Criteria / Applicability	Import Duty in %
Used car import	125
Cars CBUs whose CIF value is more than $ 40,000 or Petrol Engine > 3000 CC or Diesel engine > 2500 CC	100
Cars CBUs whose CIF value is less than $ 40,000 and Petrol Engine < 3000 CC and Diesel engine < 2500 CC	60
Two-wheeler CBUs with engine capacity <800 cc	60
Two-wheeler CBUs with engine capacity >=800 cc	75
Commercial Vehicle CBUs (Trucks & Buses)	20
CKD containing engine or gearbox or transmission mechanism in pre-assembled form but not mounted on a chassis or a body assembly	30
CKD containing engine, gearbox and transmission mechanism not in a pre-assembled condition	10

Source: Society of Indian Automobile Manufacturers website[173]

Table 6-8 Excise duty on the auto sector in India, 2015

Vehicle Category	Excise Duty
Small cars	12.5%
Length >4m but engine capacity less than 1500cc	24%
Length >4m and engine capacity more than 1500cc	27%
SUVs/MUVs (length >4m, engine capacity >1500cc and Ground clearance >170mm)	30%
Hybrid cars	12.5%
Specified components of Hybrid vehicles	6%
Electric cars, 2W & 3W	6%
Specified components of Electric vehicles	6%
Buses	12.5%
Trucks	12.5%
Three wheelers	12.5%
Two wheelers	12.5%

Source: Society of Indian Automobile Manufacturers website[174]

6.4 Conclusion

A comparison of policies across countries that have successful auto sectors shows several common trends. These countries have all pursued active industrial policies, using a variety of consistent instruments such as protection and incentives to encourage local content, investment and transfer of technology. As the auto sector has developed, the level of protection to the auto sector has been reduced in these countries. Using the historical paths of other countries with developed auto sectors to inform Pakistan's policies, a set of consistent policies that provide investment and transfer of technology incentives in a stable policy environment with continued tariff protection would be recommended. It is essential

[173] (Society of Indian Automobile Manufacturers , 2015)
[174] (Society of Indian Automobile Manufacturers , 2015)

that the full complement of policies be provided to ensure that the auto sector is able to utilize the tariff protection effectively. Without the complementary policies, tariff protection alone is unlikely to allow the auto sector to develop, and would in fact contribute to an uncompetitive market structure with reduced choice and elevated prices for consumers.

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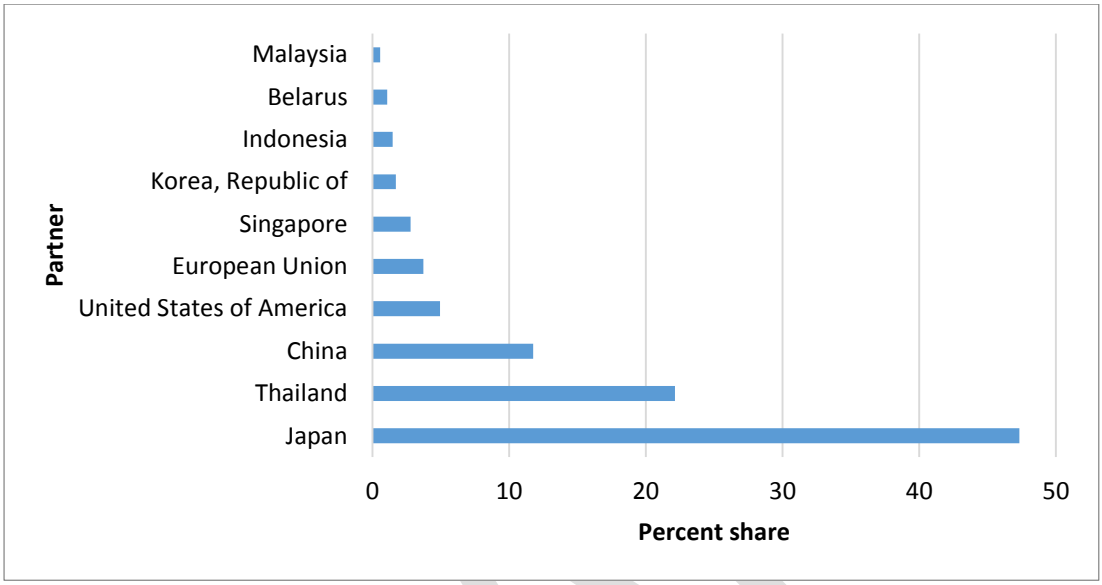
7 Trade opportunities and challenges

7.1 Trade in the auto sector

Pakistan's trade in the auto sector is mostly based on imports. Pakistan's top three suppliers include Japan, Thailand and China (see Figure 7-1).

Figure 7-1 Principal suppliers, share in imports for 2013 - HS 87



Source: WTO, 2015e

Pakistan has always run a trade deficit in the automotive sector. In addition, it may be seen from Figure 7-2 below that exports of this sector are very low compared to overall exports. Pakistan's major regional export destinations are Sri Lanka, Bangladesh and Nepal in South Asia and Indonesia, Thailand and Philippines in East Asia.

However, given the opportunity to source its imports regionally, Pakistan may finally be able to take advantage of its strategic location in the midst of the world's fastest growing region, and in a vibrant automotive and parts market. Foreign exchange savings through cheaper imports could lead to an overall strengthening of foreign reserves and the economy.

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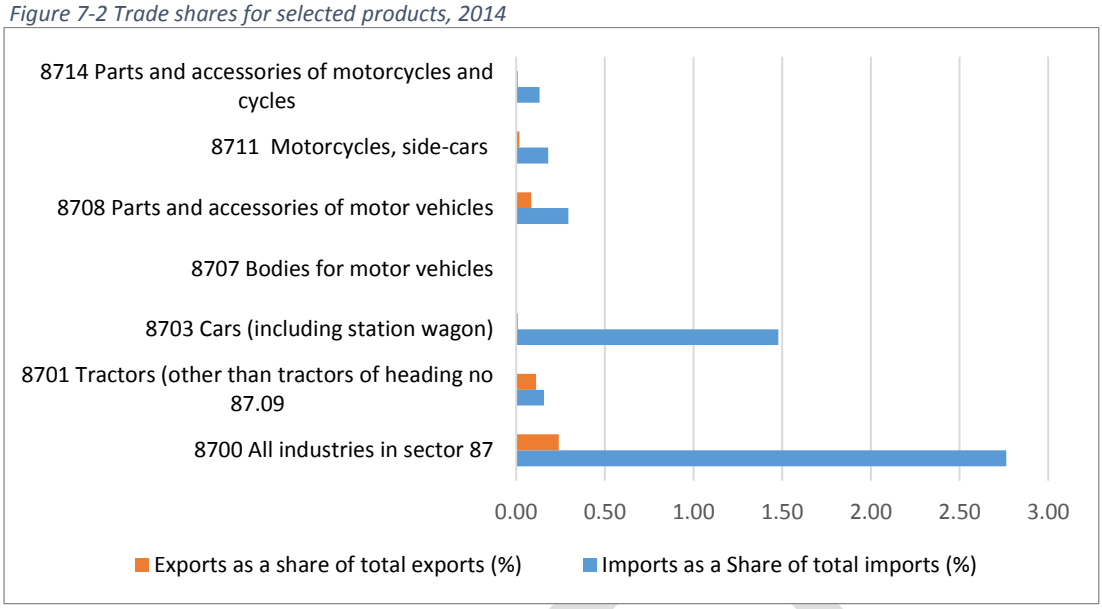
Figure 7-2 Trade shares for selected products, 2014



Source: ITC, Trade Competitiveness Map, 2015a

Historically, the more lucrative markets have been the US and EU. However, rising incomes and demand in Asian countries now make them potentially more profitable trade partners for Pakistan. In the sections below, we discuss the opportunities and challenges faced by the Pakistani auto sector in deepening ties with regional partners.

It appears that tariffs faced regionally by Pakistani products are not very high (see Table 7-1).

Table 7-1 Average tariff faced by all Pakistani products, by country

Country	Tariff faced (%)
China	16.8
Sri Lanka	27.7
Bangladesh	17.0
India	9.8
Iran (Islamic Republic of)	66.1
Indonesia	18
Kazakhstan	12.3
Kyrgyzstan	8
Malaysia	19.3
Tajikistan	4.9
Thailand	41
Uzbekistan	27.6
Afghanistan	14.7

Source: ITC, MacMaps, 2013

These *ad valorem* rates apply to all products, and are not reflective of the preferential tariffs offered to Pakistan by its trade partners. In addition, while Pakistan receives more preferential treatment in its exports than it offers to other country's imports (84 per cent versus 42 per cent), the preferential tariff margin remains low. Specifically, one third of

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Pakistan's overall exports have a small preference margin of 0.1 to 2.5 per cent.[175] Since the automotive sector is so heavily protected in most countries, it is expected that it would be excluded from preferential tariff treatment, and Pakistan auto exports would face high MFN tariff rates.

Given the interest in regional trade, automotive trade with India, Afghanistan and the Central Asian Republics will be discussed in detail. At the same time, the impact of regional trade agreements on the automotive and parts sector of Pakistan will be assessed. Finally, given that regional trade in South Asia will involve movement of goods across land-locked markets, existing transit trade will also be reviewed.

7.2 Regional trade

In general, regional trade has been on the rise. By 2011, neighbouring countries accounted for about a quarter of Pakistan's total exports and more than a third of its imports. These include UAE, China, Afghanistan, India, and Iran, which have become as important as the European market and more significant than the US market for Pakistan in terms of trade. This rapid growth reflects the potential that regional trade holds for Pakistan—despite inadequate implementation of the SAFTA and ECO trade agreements. Indeed, estimates suggest that economic trend growth over the next two decades could rise by more than 2 to 3 per cent, as evidenced by the fact that between 2002 and 2011, Pakistan's exports to Afghanistan increased by a factor of eleven.[176]

There has been an increased awareness in the government quarters that regional integration is necessary to realize gains from trade, as may be seen from the experience of the ASEAN countries. Currently, the South Asian region is the least integrated in the world, with intra-regional SAARC trade accounting for only three per cent of SAARC world trade of US$970 billion in 2013.[177] This is on account of poor connectivity in the region, as well as the historical baggage of two of the biggest economies of South Asia, which makes regional inter-linkages difficult. In addition, the security situation in Afghanistan— the critical land link to Central Asian Republics (CARs) — adds uncertainty. Low levels of regional trade may also be noted by the Overall Trade Restrictiveness Index (OTRI) of South Asia, which is rather high.

7.2.1 Trade with India

India represents a huge market for Pakistan, but one that has been largely inaccessible, despite Pakistan having been granted Most Favored Nation (MFN) status by India in 1996. Pakistan was set to reciprocate by December 2012. But even after changing the name from MFN to Non-Discriminatory Market Access (NDMA) in order to reduce domestic opposition, the automotive and agricultural lobbies contested the move, stalling trade talks. It remains to be seen whether the obstacles will be overcome to move back towards granting the NDMA.

[175] (Reis & Taglioni, 2013)
[176] (Hamid & Hayat, 2012)
[177] (Pakistan Business Council, 2015)

Nonetheless, the Indian market remains critical for Pakistan, especially for automotive parts. The Indian auto component export market has grown rapidly with a compound annual growth rate (CAGR) of 17 per cent between 2008 and 2013, and is expected to reach US$115 billion by 2020. Many global OEMs have started to procure components from India. Component manufacturers (including Tier 1 parts producers such as Bosch, General Electric and Delphi) have also begun to outsource components from India.[178] At the same time, India is also aggressively importing parts, with a CAGR of 14 per cent over the 2008-13 period, of which almost 60 per cent are sourced in Asia. Top regional import partners of India are China, Japan, South Korea and Thailand. Yet bilateral trade in auto parts between India and Pakistan is almost negligible at US$2.4 million in 2012-13 (US$1.89 million exports to Pakistan and US$0.52 million imports from Pakistan).

The Auto Policy 2002 and Auto Mission Plan 2006-16 are the guiding policies for the automotive sector in India. This includes license free importing and manufacturing, more R&D budgets, lower tariffs, no import restrictions, membership of UN ECE convention on technology standards and most importantly, 100 per cent permissible FDI, without government approval.[179] The sector has focused on the adoption of new models and shop-floor practices, and has become home to design and research facilities of international auto manufacturers, such as GM, Ford, Honda, Hyundai, and Mercedes. In addition, it is fast becoming a research hub, with strong presence of Intel, Microsoft, GE and Boeing. India has expressed interest in partnering with Tier 1 and Tier 2 companies in Pakistan for product and process ventures, but much will depend on quality, volumes and technology.

India can import all automotive products from Pakistan, with the exception of 12 items on the Indian SAFTA Sensitive List (SSL) for Pakistan (Table 7-2). As Pakistan has yet to offer NDMA, imports from India are restricted through the negative list maintained by Pakistan and the Pakistan SSL for India. Items belonging to the automotive and parts sector, especially automotive parts, comprise one third of the 1209 item negative list at the HS 8-digit level.

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[178] (Mehta, 2014)
[179] ibid

Table 7-2 Revised SAFTA sensitive list of India

HS code	Description
400510	Rubber compounded with carbon black/silica
400819	Rods and profile shapes of cellular rubber
400829	Rods and profile shapes of non-cellular rubber
4012	Retreaded tires
401693	Gaskets, washers, and other seals of vulcanized rubber
731819	Other threaded articles of iron and steel
850110	Electric motors of an output not exceeding 37.5w
853929	Filament lamps, excluding ultraviolet or infra-red lamps
870110	Pedestrian-controlled agricultural tractors and similar tractors for industry (excl. tractor units for articulated lorries)
870120	Road tractors for semi-trailers: Of engine capacity not exceeding 1800cc
870130	Track-laying tractors (excl. pedestrian-controlled)
870190	Tractors (excl. those of heading 8709, pedestrian-controlled tractors, road tractors for semi-trailers and track-laying tractors)

Source: ICRIER

The overall trade potential of Pakistan is US$3.8 billion, whereas for India it is estimated at US$16 billion, almost four times as much. Pakistan's current exports to India stand at US$0.3 billion, and auto products that Pakistan cannot export to India on account of the SSL cost Pakistan an additional US$1.2 billion. This means that 32 per cent of total trade potential cannot be realized due to Indian import restrictions. Taken together, the actual trade potential of Pakistan for India falls to US$2.3 billion. The situation for India is similar— 58 per cent of India's export potential is in items that Pakistan keeps on its negative list or SSL.[180]

As Table 7-2 shows, India's sensitive list for Pakistan, which consists of a total of 614 items, contains 12 items at the HS-6 digit level that belong to the auto sector. It was agreed that in exchange for Pakistan granting India NDMA, India would reduce its list to 100 items, while Pakistan would do the same by 2020. Pakistan's current sensitive list has 936 items (at HS 6-digit level), of which 69 items belong to the auto sector.[181] Maximum tariffs on all items except those on the sensitive list would decrease to 5 per cent by 2018. But as India granted Sri Lanka (the other non-LDC member of SAFTA) additional duty-free access to its market under the India-Sri Lanka Free Trade Agreement in 2005, even if India were to reduce its sensitive list for both countries, Sri Lanka would gain more relative to Pakistan as its products would face 0 per cent duties, while Pakistan's exports would face a duty of 5 per cent.[182]

There are 385 auto items under the HS 8-digit level (or 167 items under the HS 6-digit code) on Pakistan's negative list for India. If Pakistan grants NDMA to India, the negative list will be dismantled, and trade in auto products that do not fall on the Pakistan SSL will be governed

[180] (Taneja, 2013b)
[181] (Ahmed & Batool, 2015)
[182] (Taneja, 2013b)

by the SAFTA regime. Roughly 66 per cent of the products that are currently on the negative list would face duties of 30 to 35 per cent if NDMA is granted, i.e. the MFN applied rate. [183]

Table 7-3 Frequency distribution of MFN rates of auto products under negative list

MFN duty (%)	Frequency
0-15	7.8
15-25	4.9
25-30	6.5
30-35	65.9
35-50	3.4
50-75	8.1
75-100	3.4

Source: Nag, 2014

There are 54 items that are common in the current negative list and the SAFTA Normal Track List (those items which may be imported from India). If NDMA is granted to India, only these products would be allowed into Pakistan at 5 per cent customs duty. The remaining 86 per cent of auto products are on Pakistan's SAFTA Sensitive List for India, and would not face preferential tariffs. In addition, it has been revealed that of these 54 items, many are specialized products (for instance, cash-carrying vehicles, carriages for disabled persons, meters for measuring temperature and revolutions). However, India's export potential in some products, such as motorcycle engine components, is slightly more critical to Pakistan.[184] Indeed, India has re-branded itself from "Made in India" to "Make in India". The" Make in India" campaign launched by the Modi government aims to produce high quality manufactured goods in India for domestic and export purposes. Foreign carmakers already operating in India have responded well, with investments by Honda, Japan to the amount of US$156 million for car and motorcycle production. Local steel and aluminum producers have entered into JVs and Technical Assistance agreements with internationally established steel producers.[185] But India would have to compete with Pakistan's current import partners—Japan, China, Thailand, and South Korea.

However, before trade potential can be realized, tariffs and non-tariff measures will have to be dealt with bilaterally. Recent studies have suggested that Pakistan and India could enter into an Argentina-Brazil type agreement, whereby the bigger economy (Brazil), had to import US$1 worth of cars for every US$1.50 that Argentina imported.[186] Effectively, Brazil is allowed to sell in Argentina 1.5 times of what it imports from there. Quotas are re-negotiated annually. Along similar lines, India would have to import from Pakistan a certain number of cars in exchange for Pakistan's imports. Within quota units would not face any duties.

Before opening up trade with India, Pakistan must negotiate mutual recognition of standards for the auto sector, as Pakistan uses European or Japanese standards, while India requires Bharat standards. FDI through technology transfer must be encouraged, but this may only happen if the Board of Investment, Pakistan and the Engineering Development

[183] (Nag, 2014)
[184] (Nag, 2014)
[185] (Bose, 2015)
[186] (The Economist Intelligence Unit, 2014)

Board, Pakistan relax the time for localization for foreign entrants from three years to the medium and long term. Pakistan and India can allow trade on the basis of identical and transparent tariffs on both sides, and Pakistan should substantially lower duties on raw material imports from India.

The PSQCA must create accredited testing laboratories near the border to make sure that Pakistani products can meet international standards, and also that sub-standard products cannot enter the local market. The Ministry of Environment, the PSQCA, the Hydrocarbon Development Institute, and PAMA can use Euro III as a benchmark to improve emission standards. In the meantime, lowering duties on Euro III- (and above) compliant engines will help lower production costs, as can importing engines from India. Intra-industry trade must be promoted through MOUs between the central banks of both countries that would make banking and credit facilities easier.

Even though India granted MFN status to Pakistan in 1996, Pakistani exports have not been able to penetrate the Indian auto sector. While domestic constraints such as infrastructural bottlenecks, energy shortages, low human capital, inadequate R&D, inconsistent policies and problems of scale are undeniably important, non-tariff barriers faced in India, trade perception issues amongst Pakistanis and information asymmetries are equally important. At the same time, parallel informal trade through third countries and the persistence of traditional smuggling routes decrease the need for formal trade, which is, in any case, prone to disruptions on account of historical differences.

Indian traders are, on average, better informed about recent trade facilitation measures taken by both countries. According to a trade perception survey of a 200 firm sample from Pakistan, only 22 per cent of Pakistani traders were aware that India allows imports of all goods from Pakistan, while 18 per cent knew that it had removed duties on all but the SAFTA sensitive list for Pakistan. The corresponding figures from India regarding concessional duties available for imports from Pakistan under SAFTA was 57 per cent, while 7 out of every 10 Indian traders knew that barring the negative list of 1209 items, India can export all products to Pakistan. [187]

Yet trade facilitation has not stopped informal trade. Currently, at almost 10 per cent, auto components rank second in informal trade. Informal trade was estimated at US$545 million in 2005, with Pakistani imports accounting for US$535 million through the Mumbai-Dubai-Karachi route. Goods were first exported legally to Dubai from Mumbai and then shipped to Iran, from where they were smuggled over land across Afghanistan to Pakistan, eventually reaching Karachi.[188]

However, lowering tariff barriers could make informal trade less attractive. It is likely that both formal and informal trade will occur simultaneously for a few years, because existing informal relationships and established trust due to repeat interactions over the years will have lowered transaction costs. The cost of trade through formal channels will undoubtedly be higher in the initial years of trade liberalization.

[187] (Taneja, 2013b)
[188] ibid

7.2.2 Homologation and certifications

Homologation refers to the granting of approval by a public body on the basis of meeting certain technical specifications as well as quality and safety standards. Certification requirements are the most common non-tariff measure (NTM) levied against Asian exporters, followed by traceability, labelling, marking and packaging requirements. The time taken to acquire homologation certification ranges from a few days to a couple of months,[189] and this makes exporting a daunting process for new exporters. In addition, existing exporters also experience uncertainty due to the discretionary nature of the application of standards, customs valuation, and port clearance (see NTMs below). Countries that are members of the International Laboratory Accreditation Cooperation (ILAC) should move towards acceptance of certificates issued in the other country. For instance, India and Pakistan already do so for textiles, so it may be possible to follow the same principle for the automotive and automotive parts sector.

7.2.3 Non-tariff measures (NTMs)

NTMs include both technical and non-technical barriers to trade. While globally tariffs have come down, they have been replaced by non-tariff measures, especially Technical Barriers to Trade (TBT) and Sanitary and Phyto-sanitary Measures (SPS). These are mostly in place to safeguard quality and safety (see Table 7-4), but often they are more stringent than multilaterally determined norms. For developing countries such as Pakistan, compliance with such standards is very expensive due to poor infrastructural capacity. This can reduce any competitive advantage arising from cheap labor or PTAs. Progress has been made in addressing these issues between India and Pakistan with the Agreement on Technical Barriers to Trade (TBT) and on Sanitary and Phyto-sanitary Measures (SPS), but there is room for more generous implementation on both sides.

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[189] (Cadot, Malouche, & Saez, 2012)

Table 7-4 Non-tariff measure, classified by chapter (first tier)

Technical measures
SPS: To protect human or animal life from risks arising from additives, contaminants, toxins or disease-causing organisms in their food; to protect human life from plant- or animal-carried diseases; to protect animal or plant life from pests, diseases, or disease causing organisms; to prevent or limit other damage to a country from the entry, establishment or spread of pests; and to protect bio-diversity.
TBT: Technical regulations and procedures for assessment of conformity with technical regulations and standards, excluding measures covered by the SPS Agreement.
Pre-shipment clearance and other formalities: Compulsory quality, quantity, and price control of goods prior to shipment from the exporting country
Non-technical measures
Export-related measures: Measures applied by the government of the exporting country on exported goods such as Export license, quota, prohibition, and other quantitative restrictions.
Price control: Measures implemented to control or affect the prices of imported goods in order to support the domestic price of certain products when the import prices of these goods are lower; establish the domestic price of certain products because of price fluctuation in domestic markets or price instability in a foreign market; or to increase or preserve tax revenue
Licenses, quotas, prohibition, and other quantity control measures: Control measures to restrain the quantity of goods that can be imported, regardless of whether they come from different sources or one specific supplier.
Charges, taxes, and other para-tariff measures: Measures, other than tariffs measures, that increase the cost of imports in a similar manner (as price control), i.e., by fixed percentage or by a fixed amount
Finance: intended to regulate the access to and cost of foreign exchange for imports and to define the terms of payment. They may increase import costs in the same manner as tariff measures
Anti-competitive: Measures to grant exclusive or special preferences or privileges to one or more limited group of economic operators.
Trade-related investment: Measures to grant exclusive or special preferences or privileges to one or more limited group of economic operators or restrictions on the importation of products used in or related to local production, including in relation to the amount of local products exported; or limitations on access to foreign exchange used for such importation based on the foreign exchange inflows attributable to the enterprise in question.
Distribution restrictions: Distribution of goods inside the importing country may be restricted. It may be controlled through additional license or certification requirement.
Post-sales services: Measures restricting producers of exported goods to provide post sales service in the importing country.
Subsidies: Financial contribution by a government or public body, or via government entrustment or direction of a private body (direct or potential direct transfer of funds: e.g., grant, loan, equity infusion, guarantee; government revenue foregone; provision of goods or services or purchase of goods; and payments to a funding mechanism), or income or price support, which confers a benefit and is specific (to an enterprise or industry or group thereof, or limited to a designated geographical region).
Government procurement: Measures controlling the purchase of goods by government agencies, generally by preferring national providers.
Intellectual property: Measures related to intellectual property rights in trade: Intellectual property legislation covers patents, trademarks, industrial designs, layout designs of integrated circuits, copyright, geographical indications, and trade secrets.
Rules of origin: Rules of origin cover laws, regulations, and administrative determinations of general application applied by governments of importing countries to determine the country of origin of goods. Rules of origin are important in implementing such trade policy instruments as anti-dumping and countervailing duties, origin marking, and safeguard measures.

Source: Cadot, Malouche, & Saez, 2012.

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7.2.4 Non-tariff barriers (NTBs)

Of all of Pakistan's trading partners, the issue of NTBs is raised most during trade with India. Trade between India and Pakistan is plagued by procedural obstacles or non-tariff barriers to trade, which range from discretionary behavior towards exporters, bias for specific set of producers, delays, opaque customs practices, excessive fees, and at times, even obstruction.[190] Visa restrictions, transportation and infrastructural constraints as well as tedious customs procedures all contribute to unnecessary delays in the processing of consignments from Pakistan across the Wagah-Attari border. In addition, despite the Integrated Check Post that has been built on the Indian side, there remains need for improved containerization of cargo and electronic checking. Checking of Pakistani goods and services is more thorough due to security concerns, especially at the Mumbai port, and this raises costs as goods must be stored for long periods. This particular grievance was tackled in the Customs Cooperation Agreement signed in 2012 that would curtail the arbitrary stoppage of goods at both ports but again implementation has been found lacking.

Ports of entry and exit are also specified for goods, and cost advantages are often nullified due to higher freight and insurance costs. For auto products specifically, India does not allow imports through 145 entry ports. Moreover, inadequate off-loaders and fork-lifters at Attari result in damage and demurrage costs.[191]

Auto parts producers are hesitant to send new products to India due to high risk, as custom valuations of new products are cumbersome. Disputes arise due to reported overvaluation of customs duties and there is no mechanism to air such grievances. Prior to 2012, when an agreement was signed on dispute resolution, there was no formal platform for settling trade disputes. However, recourse to this platform is not yet common.

The banking system is inadequate, as many Indian banks do not accept letters of credit (L/Cs) from Pakistani banks. However, India and Pakistan have agreed to open bank branches in their respective countries. While India has recently allowed investment from Pakistan, it has not liberalized its investment regime in a similar manner as Pakistan. Insurance and banking restrictions along with equity limits on the amount of investment possible in Indian companies make the investment climate uncertain. At the same time, the Reserve Bank of India also controls Indian investment in Pakistan.

Inter-state taxes, cesses and levies make duty valuation in India opaque, as many exporters often do not know if their product will be competitive once all taxes have been applied. The requirement of mentioning a minimum retail price on the product makes this even more challenging, as these exporters have no experience with the Indian market. Business visas are of a short duration and require a set of cumbersome conditions, while SAARC business visas are difficult to obtain and their validity has been reduced from one year to three months.

[190] (Basu, Kuwahara , & Dumesnil , 2012)
[191] (SDPI, 2014)

Table 7-5 Common NTBs faced by Pakistani exporters

Trade-related administrative NTBs	Export and import licenses
Transit issues	Technical barriers to trade
SPS measures	Rules of origin
Clearance procedures	Quotas
Payments	Customs documentation
Pre-shipment inspection	Customs valuation
Immigration requirements for cross-border traders	Safeguards

Source: Cadot, Malouche, & Saez, 2012

7.2.5 Trade with CARs

The five Central Asian Republics of Kazakhstan, the Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan represent a potential market for Pakistan, with a combined GDP in 2013 of US$333.18 billion. In 2012-13, bilateral trade between Pakistan and the CARs amounted to US$2353.8 million, of which Pakistan's exports were US$2066 million.192 Access to the CARs is through Afghanistan, Iran and China. Currently, Pakistan has been provided transit access through Afghanistan, but trade remains limited on account of poor infrastructure, weak contracting, and lack of transport facilities.

Car production took place in only two countries in the region—Kazakhstan produced 37,157 cars in 2014, while Uzbekistan produced 245,660 vehicles.[193] The average car age in Central Asia is estimated as slightly above 20 years, with most cars on the road having been made in Russia. Moreover, the relatively small size of the fleet of vehicles implies that there is demand for cars in Central Asia.[194] Kazakhstan is the most promising economy in the region, and is a middle upper income country that relies mostly on oil exports. Recently, due to falling oil prices, GDP growth has fallen from 6 per cent in 2013 to 4.3 per cent in 2014.

The combined population of the region was about 68 million in 2014,[195] while the Afghan market comprises 32 million people, or 2 per cent of Asia's total population. Uzbekistan however has the highest population density per square km of 67.5, followed by Tajikistan (55.9 per km^2). Road density is lowest in Kazakhstan, at 0.01 per km^2, mainly because of poor quality rural roads. The railway density is also very poor in the region, at 5.4 rail-km per 1000 km^2, which is three times lower than the average of low- and middle-income countries. This is worrisome as 90 per cent of cargo was transported by rail in 2000.[196] The road density in Afghanistan is 0.8 km per square km.[197]

[192] (Arshad, 2015)
[193] (OICA, 2014)
[194] (Kojima, Bacon, Fodor, & Lovei, 2000)
[195] (Pakistan Business Council, 2015)
[196] (Grigoriou, 2007)
[197] (Samad & Ahmed, 2014)

Table 7-6 CARS: Per capita incomes

Country	Per capita income US$
Kazakhstan	12183.5
Kyrgyz Republic	1298.6
Tajikistan	1113.2
Turkmenistan	8270.5
Uzbekistan	2046.1
Pakistan	1342.7

Source: Pakistan Business Council, 2015

Pakistan is considerably late in accessing the CAR market, as Iran, India, China, and Turkey have already established a market presence. Trade in the CARs is on the rise with a liberalizing market economy and increasing per capita incomes. The demand for auto products is increasing with a growing motorization index and auto industry stakeholders opine that issues of left-hand drive (CARs) versus right-hand drive (Pakistan) should not be significant. For the CARs, the significance of imports from neighboring countries has increased between 2000 and 2011, recording import growth per annum ranging from 16 to 26 per cent. More importantly, China has over-taken Russia as the top exporter to CARs. Interestingly for Pakistan, the CAR import basket from its neighboring countries (Turkey, Iran, India, China, UAE and Russia) contains many items from the auto sector that Pakistan can export.

Given the explosive economic growth in these liberalizing economies, and the physical proximity of Pakistan to the land-locked CARs—Peshawar is closer to Tashkent (1,281 km) than Karachi (1,382 km) — Central Asia holds great promise for auto sector exports of Pakistan. It has been estimated that the trade potential of Pakistan with respect to the Central Asian region is about US$7 billion. Pak-Kazakh trade is already on the horizon, with a bilateral trade target of US$5 billion by 2017. A trilateral transit trade agreement (TTTA) between Afghanistan, Kazakhstan and Pakistan and improved connectivity through rail and road is also being considered. The Central Asia- South Asia-1000 (CASA-1000) power project that will allow Pakistan to import 1300 MW of energy from Tajikistan and the Kyrgyz Republic through Afghanistan will also help alleviate power shortages faced by local industry.[198] The TTTA between the three countries has almost been finalized, with a provision to also include the other CARs. In order to deepen trade ties, a PTA between the three countries was also discussed, as was a joint business council. [199]

An appropriate strategy is needed that focuses on a few sub-sectors that are likely to provide the greatest immediate benefits. Our preliminary findings suggest the most promise in motorcycles, auto components and tractors. However, trade with the CARs requires a stable Afghanistan, as overland trade with the CARs fell by 40 per cent between 2000 and 2011 due to a deteriorating security situation in Afghanistan.[200]

[198](Customs Today, 2015c)
[199] (The Frontier Post, 2015a)
[200] (Hamid & Hayat, 2012)

7.2.5.1 Potential trade

This section examines existing trade trends to explore the potential for trade between the CARs and Pakistan. In addition, the composition of the Central Asian trade basket is highlighted to ascertain which of their global auto imports can be sourced from Pakistan, i.e. are part of its export basket. Sectors with the highest potential will be examined in more detail in later sections. This is an indicative measure of trade potential, because other factors such as tariffs, non-tariff barriers, transportation and transaction costs will factor heavily in the trade equation. However, this simple exercise may be thought of as an upper bound for bilateral trade.

In order to get a rough notion of the potential for automotive trade between the CARs and Pakistan, the formula for indicative trade potential was used:

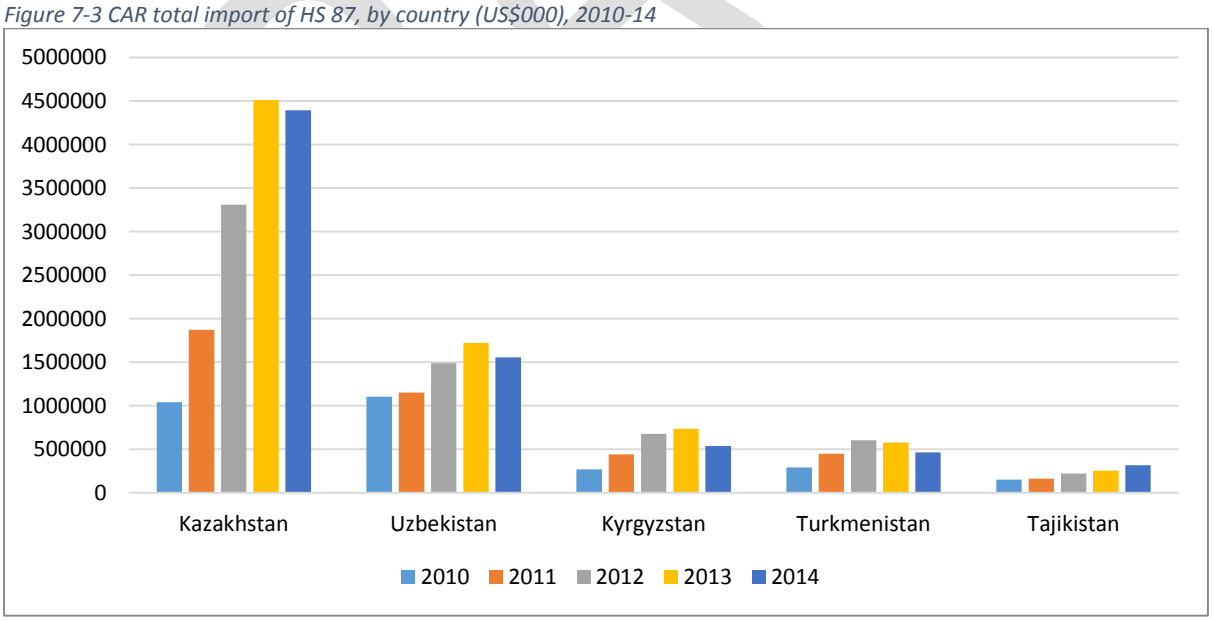
$$Min\ \{supplier\ global\ exports, receiver\ global\ imports\} - \{existing\ trade\}$$[201]

With Pakistan as supplier and CARs as receiver.

It must be noted, however, that calculated values are rather high for categories where trade occurs, because existing trade is so low, and is limited to two or three tariff lines.

By looking at the composition of the import basket of the Central Asian Republics, it may be seen that the region represents a large market for the automotive and parts sector. The top importers of chapter 87 are Kazakhstan, leading with imports of US$4.4 billion and Uzbekistan following with imports of US$1.7 billion (see Figure 7-3).

Figure 7-3 CAR total import of HS 87, by country (US$000), 2010-14



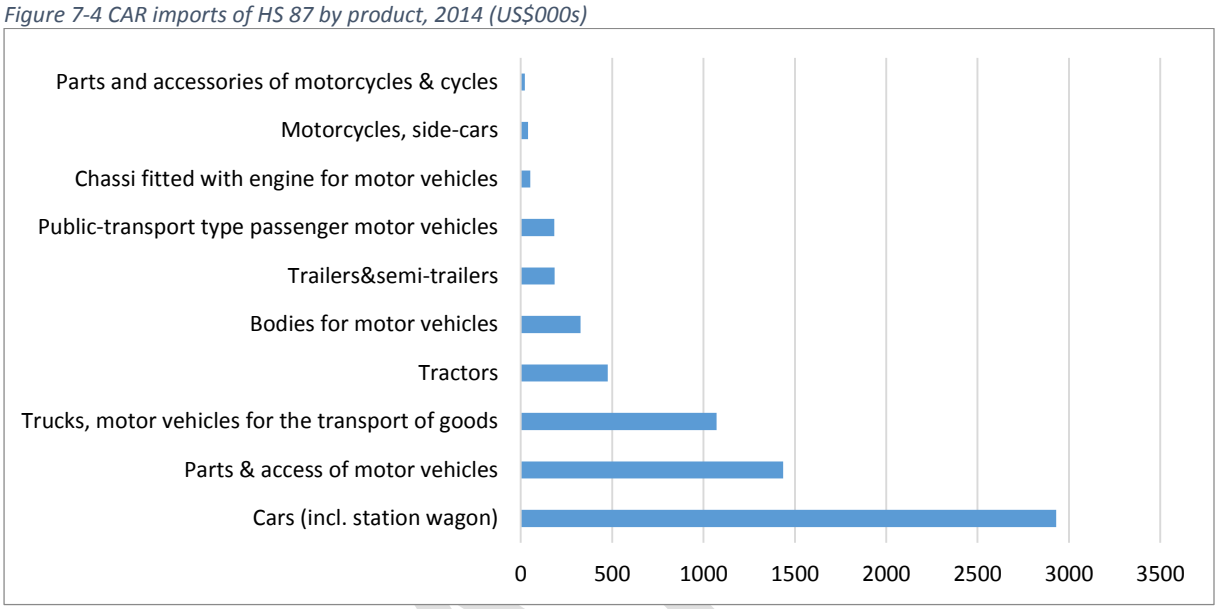
Source: ITC, TradeMap, 2010-2013.

At the product level, within chapter HS 87, the top CARs imports include vehicles and auto parts (Figure 7-4). However, Pakistan has very insignificant exports of cars at the moment

[201] (ITC , 2004)

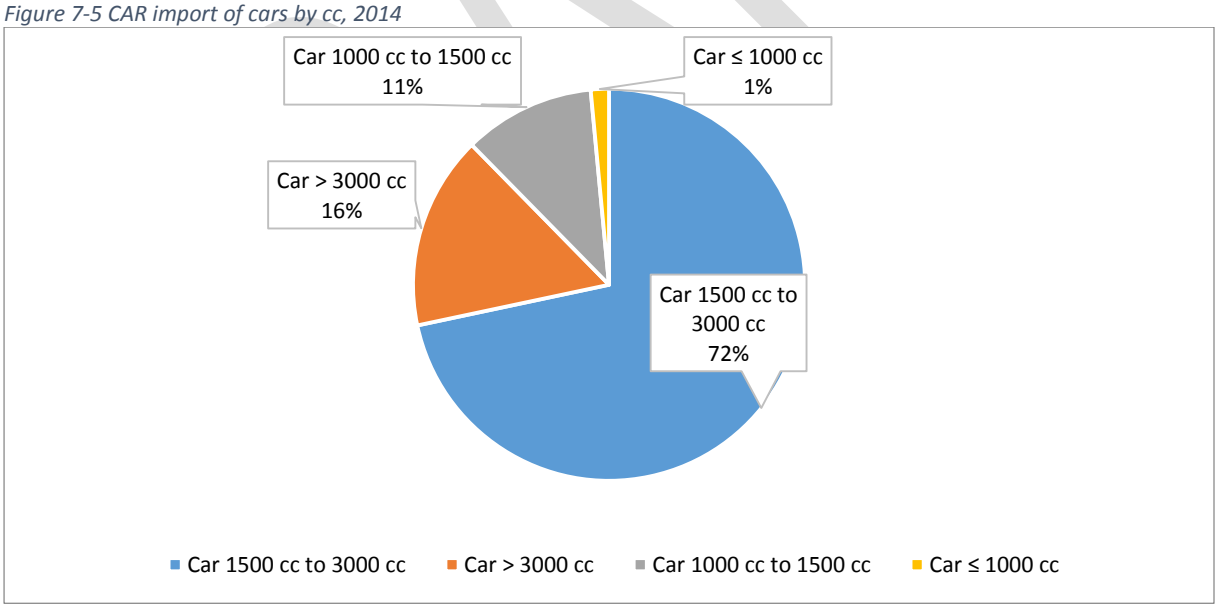
owing to technical licensing arrangements with principal firms that do not allow Pakistan's car OEMs to directly export under the principal's name. Therefore, we do not calculate the trade potential for vehicles in this section. Although some motorcycle original equipment manufacturers have acquired regional and global rights to sell directly, this is not the case for the car sector.

Figure 7-4 CAR imports of HS 87 by product, 2014 (US$000s)



Source: ITC, TradeMap. 2015

Figure 7-5 CAR import of cars by cc, 2014



Source: ITC, TradeMap, 2015

Imports of medium-sized cars in the 1500cc to 3000cc engine capacities were most popular in the CARs, while large cars, with engines exceeding 3000cc were also imported in large quantities. Unfortunately, Pakistan does not have the capacity to export either of these, unless Toyota, Japan or Honda, Japan shift regional production to Pakistan, and use it as a regional export hub by taking advantage of Pakistan's strategic location.

On the other hand, within the automotive parts sub-heading in HS 87 alone, the top two imports of the Central Asian region, namely, motor vehicle parts and transmissions for motor vehicles nes, are also Pakistan's top two exports in this sub-category (Table 7-7). This shows that Pakistan may diversify its export markets, as there is very high demand in the CARs. In fact, as may be seen, total demand in CARs for motor vehicle parts nes is US$0.72 billion, whereas Pakistan's total exports are only US$0.01 billion. This means that there is a very large regional market that Pakistan can avail, and its domestic vendors can achieve the volumes necessary to lower costs, provided that standards are well-enforced, and the government supports them through cheaper raw materials and aggressive export marketing through the commercial attachés with diplomatic missions in these countries.

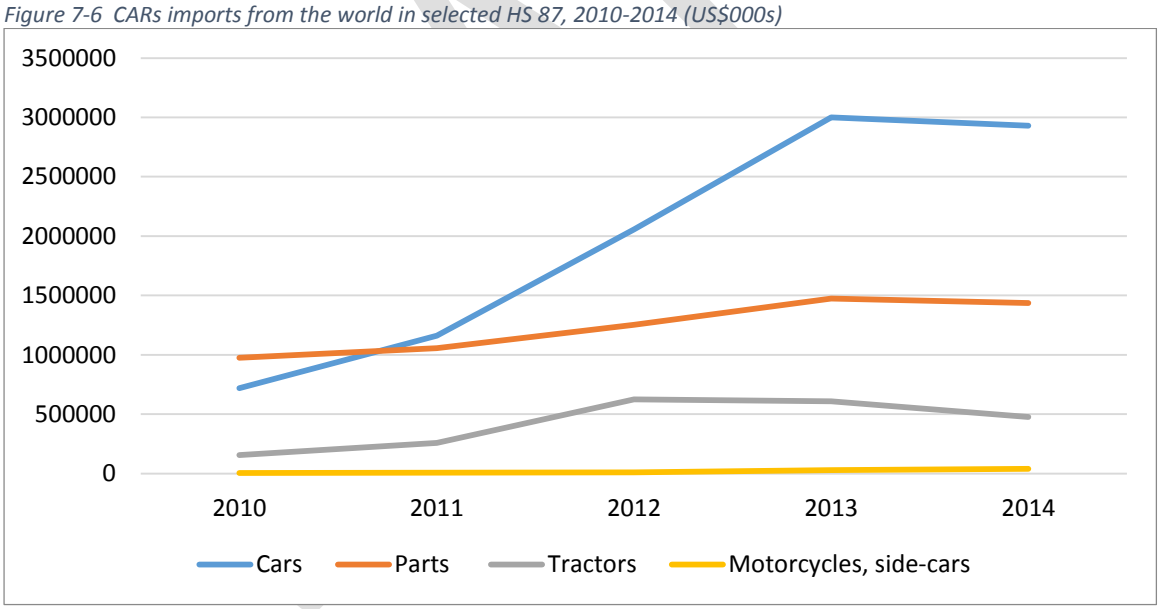
Table 7-7 Product-wise break-up of HS 8708 in 2014 (US$000s)

Description (HS code)	CAR Imports	Pakistan Exports
Motor vehicle parts nes (870899)	720713	13104
Transmissions for motor vehicles (870840)	196545	4586
Parts and accessories of bodies nes for motor vehicles (870829)	84947	2149

Source: ITC, TradeMap, 2015

In a separate exercise, we have also looked at the potential for bilateral trade by identifying the fastest growing products within the HS 87 chapter, to get an idea of future trade patterns for the CARs. While tractors have not constituted a traditional import of CARs, demand picked up in 2012 (Figure 7-6 and Figure 7-7).

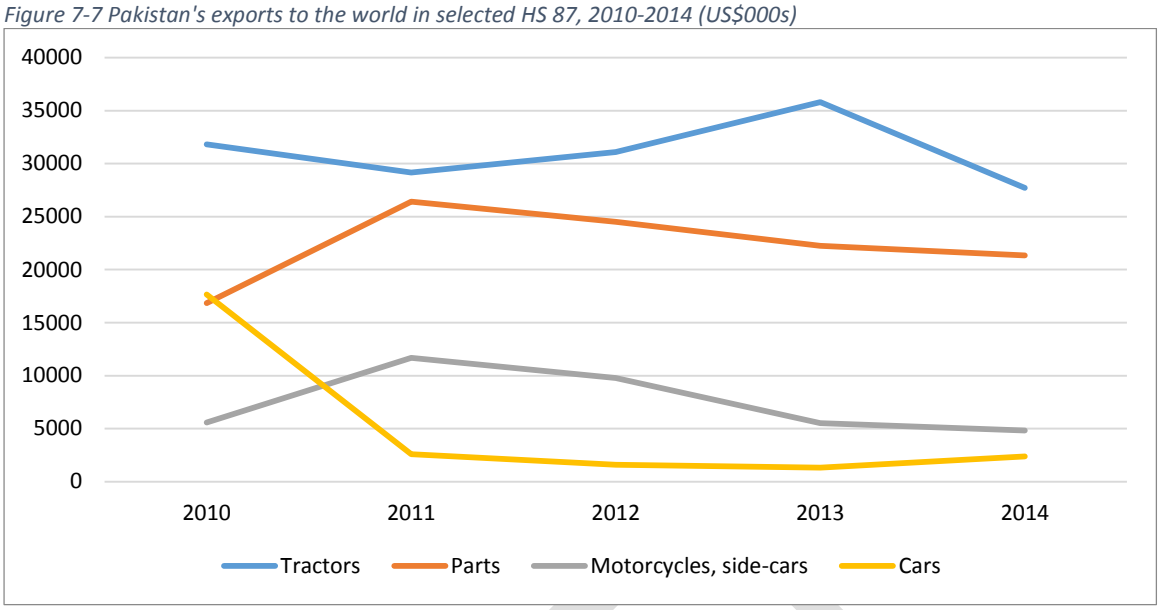
Figure 7-6 CARs imports from the world in selected HS 87, 2010-2014 (US$000s)



Source: ITC, TradeMap, 2015

As can be seen from Figure 7-6 and Figure 7-7, demand for tractors in Central Asia rose sharply in 2012 and 2013, as did Pakistan's exports to the world of the same. However, it must be noted that this analysis is based on trade figures—other issues of compatibility of Pakistan's tractors with Central Asian topography and soil conditions, as well as the required horsepower of the vehicle, will determine actual exports.

Figure 7-7 Pakistan's exports to the world in selected HS 87, 2010-2014 (US$000s)



Source: ITC, TradeMap, 2015

Similarly, as was found in the previous analysis, there is overlap in the trade basket of both countries for the parts segment. Figure 7-6 shows that there has been a continuous healthy increase in demand for automotive parts in the CARs, which represent the second-largest export of Pakistan in this sector.

7.2.6 Regional trade Agreements

Free and preferential trade agreements are becoming more critical in helping countries unlock their trade potential with their trading partners. Specifically, if we look at the impact of trade agreements on the automotive and parts sectors of countries, the smaller partner has always benefitted. Although tensions have always existed between Argentina and Brazil, Argentina was able to negotiate market access in Brazil through MERCOSUR (see below). Turkey has also successfully navigated opening up to the EU, and has in fact replaced India (due to labor issues) as a top offshore location for parts manufacturing.[202]

Pakistan has signed Free Trade Agreements (FTAs) with China, Mauritius, Malaysia, and Sri Lanka, as well as with the SAARC countries. However, most of the auto products are exempt from duty reductions as they are on the sensitive lists that Pakistan maintains with these countries.[203] The two Preferential Trade Agreements (PTAs) that Pakistan has entered into with Malaysia and China are the deepest as they span trade in goods and services, as well as logistical infrastructure and transit trade facilitation. In the coming years, these will reap the greatest economic benefits for Pakistan, in terms of trade creation, investment, joint ventures, and technology transfer. Other FTAs that simply aim to create market access are expected to be less successful.

[202] (EY, n.d.)
[203] (Government of Pakistan, 2008)

Table 7-8 Trade agreements of Pakistan

Trade Agreements
South Asian Free Trade Area (SAFTA) [a]
Free Trade Agreement for China
Preferential Trade Agreement with the Islamic Republic of Iran
Preferential Trade Agreement with Mauritius
Free Trade Agreement for Malaysia
Free Trade Agreement for Sri Lanka
Economic Cooperation Organization [b]
Global System of Trade Preferences Among Developing Countries

Note: [a] Includes Bangladesh, Bhutan, India, Sri Lanka, Maldives and Nepal; [b] Afghanistan; Islamic Republic of Iran; Pakistan; Tajikistan and Turkey.
Source: WTO, 2015e.

The South Asian Association for Regional Cooperation (SAARC) countries include Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka, with India, Pakistan and Sri Lanka as non-LDC member countries. A Tariff Liberalization Program (TLP) was adopted under the South Asian Free Trade Agreement (SAFTA) that was signed in 2004 and operationalized in 2006. The TLP is to be completed by January 2016. Two phases of the TLP took place: in the first, India, Pakistan and Sri Lanka reduced their tariffs to 20 per cent by 2008 and to 0-5 per cent by 2009. The TLP also applied to non-LDC members, who were to reduce their tariffs in two phases, to 20 per cent by 2008, and to 0-5 per cent by 2013. However, non-LDCs that had tariffs above 20 per cent on the auto sector had to reduce tariffs on a "margin of preference basis" of 10 per cent per annum. This meant that countries with highly protected auto sectors would benefit more than those countries that had average MFN applied tariffs below 20 per cent.

Tariffs on items on the SAFTA Sensitive List (SSL) need not be reduced, although the number of items must come down over time. Currently, Pakistan's list covers 22.6 per cent or 1183 tariff lines. India's SSL comprises 884 tariff lines, amounting to 16.9 per cent of total lines.[204] Only toughened (tempered) safety glass for use in vehicles, aircrafts and vessels (HS code 70071100) is allowed at 10 per cent concession from SAARC countries, while the rest of the items fall on the SAFTA sensitive list of Pakistan. Pakistan may export tractors to Bangladesh and Sri Lanka at SAFTA rates, but not to India, as they fall on India's Sensitive List.[205]

Currently, Pakistan's SAFTA Sensitive List has been revised twice (2008 and 2012), while a pruned SSL (2015) for Phase III has also been drafted.[206] A minimal use of product exemptions (i.e., sensitive lists) and progressive reductions in existing exemptions over time, liberal rules of origin, cooperation on trade facilitation measures, and a prohibition on tariff rate quotas would help Pakistan make the most out of SAFTA. Without such measures, SAFTA could encounter the same problems as the South Asia Preferential Trade Agreement (SAPTA) and fall short of promoting intra-regional trade.

[204] (SAFTA Agreement)
[205] (Trade Development Authority of Pakistan , 2015)
[206] (SAFTA Agreement)

7.2.6.1 Pak-Malaysia FTA

Under the 2006/7 Pakistan-Malaysia FTA, Pakistan has offered a 5 per cent tariff reduction for five auto parts, including glass for doors, rear and windows, (HS codes 70071110, 70072110) and parts of air/vacuum pumps, compressors, fans and hoods. Similarly, spark plug imports from Malaysia attract 10 and 15 per cent lower tariffs than before. The majority of auto tariff lines fall in the Highly Sensitive List (HSL), consisting of 765 or 11.23 per cent of total tariff lines covered in the FTA. Nevertheless, Pakistan's imports of HS chapter 87 were the fourth highest in the HSL import category, and accounted for 0.41 per cent of Pakistan's total imports from Malaysia in 2010 (when Pakistan's global imports of the same were 3.48 per cent). On the other hand, Malaysia included 450 items or 4.24 per cent of total covered lines on its HSL, and Pakistan's total exports fell by 35.6 per cent between 2005 and 2010.[207]

7.2.6.2 Pak-Sri Lanka FTA

As per the Pak-Sri Lanka FTA of 2005, Pakistan has offered 100 per cent immediate concession to motorcycles of engine capacity less than 50cc, and in the 250-500cc range.[208] However this will not mean much, as Pakistan hardly has any imports in this category. Sri Lanka offers concessions on motorcycles and tractors, along with some parts (for instance, locks for vehicles, seatbelts for tractors, and electrical ignition for internal combustion engines, coaxial copper cables and speedometers).[209] Recently, in the last bilateral review meeting, working groups were created for investment and the automotive and parts sector of both countries. If Pakistan and Sri Lanka are able to resolve certain issues like increasing Indian presence in Sri Lanka, and duty-free access that it has awarded to Sri Lanka, trade diversion and trade creation may occur for Pakistan.

7.2.6.3 Pak-Mauritius PTA

Pakistan does not offer any concessions for auto products to Mauritius under their PTA.[210] Similarly, no items from the automotive and parts sector are exempt from duties under the Economic Cooperation Organization.[211] On the other hand, as per the Iran-Pakistan FTA, lubricating fuel for internal combustion piston engines and new pneumatic tyres of rubber for cars and motorcycles are given preferential treatment by Iran. However, as Pakistan currently has insubstantial exports of the same, there is not much to be gained. Pakistan on the other hand, has allowed 10 per cent duty reduction only on bumpers and parts thereof.[212]

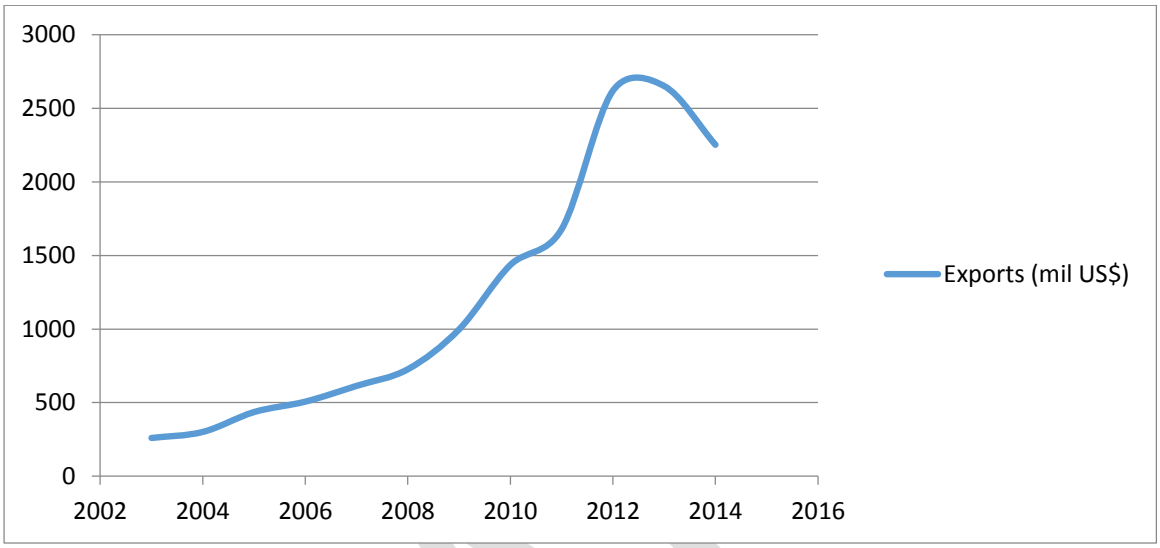
7.2.6.4 Pak-China FTA

The most important FTA for Pakistan is the Pak-China FTA of 2006. Pakistan and China trade amounted to US$11.3 billion in 2014 (see Figure 7-8) and the second phase of PTA

[207] (Paracha & Manzoor)
[208] (100% Immediate Concession List, Sri Lanka Attachment II-Annex B)
[209] (No Concession List of Sri Lanka)
[210] (TDAP)
[211] (Government of Pakistan, 2004); (SAFTA Sensitive List for Pakistan Phase II)
[212] (TDAP)

negotiations have been underway since 2011. Despite the fact that Pakistan's No Concession List for China excludes all sub-chapters of the automotive and parts sector,[213] trade figures reveal that overall auto imports of Pakistan grew by almost 260 per cent between 2005 and 2013 (pre- and post-PTA).[214] Pakistan has agreed to reduce tariffs to 0-5 per cent in five years for crane lorries[215] and, also to reduce the margin of preference (MOP) from 20 per cent and 50 per cent in the next five years for some auto parts.[216]

Figure 7-8 Pakistan's exports to China, 2002-2014



Source: UN Comtrade, 2015

On the other hand, China has offered to remove, in three years, tariffs on firefighting vehicles as well as duties on a number of parts related to tractors and dumpers such as brakes and drive axles with differential. The same treatment will apply to parts of seats and filament lamps for motor vehicles.[217] Moreover, China will allow exports from Pakistan at 0-5 per cent duties in five years for a range of automotive parts that include, but are not limited to, safety glass and rear-view mirrors for vehicles, leaf springs, mountings for vehicles, bumpers and parts of motor vehicles, parts and accessories of bodies for motor vehicles, brakes & parts of trucks and special purpose vehicles (SPVs), gear boxes and clutches & parts for tractors and dumpers. In addition, duties will also be phased out on fully-built tractors, crane lorries, dumpers, and special purpose vehicles.[218] Perhaps the most significant tariff lines that are due for liberalization in the next five years are high value added components under Category III, whereby there will be a reduction on the margin of preference from 50 per cent. These include bodies for tractors, buses, trucks, SPVs; shock absorbers of cars, tractors, buses, SPVs, and trucks; radiators; clutches and parts of buses and trucks, along with mufflers & exhaust pipes and safety seat belts of motor vehicles.[219] There is just one category—parts and accessories of SPVs— that will face MOP reductions from 20 per cent. At the same time, China's No Concession List includes all cars from less than 1000cc to more

[213] (TDAP)
[214] Author calculation based on UN Comtrade data
[215] (Pakistan's offer list: Category II)
[216] (Pakistan's offer list: Category IV)
[217] (China's offer list: Category I)
[218] (China's offer list: Category II)
[219] (China's offer list: Category III)

than 2500cc, diesel cars, minibuses, buses, trucks, and motorcycles. Pakistani motorcycles face the highest tariffs of 45 per cent. Critical components such as spark ignition reciprocating engines for vehicles of chapter 87, diesel engines and ACs for motor vehicles, ignition wiring sets of motor vehicles, gearboxes for buses and trucks, automatic gearshifts for saloon cars, and drive axles with differential for buses and trucks also face duties in the range of 10 to 30 per cent.[220] At the HS 6-digit level, there was an increase in almost 71 per cent of identified products belonging to the auto parts category that Pakistan imports from China, pre and post-FTA (comparison years 2005 and 2013).[221]

7.3 Transit trade

Pakistan has yet to take full advantage of its strategic location, surrounded by the vast Chinese market in the north, the petrodollar Middle Eastern economies in the south west, and the newly liberalizing oil rich Central Asian Republics (CARs) to the northwest. With the potential Indian market in the east, Pakistan can gain from improved connectivity with its neighbors, especially through transit trade, financial and transportation services. By diversifying into the service sector, which already contributed 56.3 per cent to GDP in 2014,[222] Pakistan can function as a regional entrepôt, with access by air, sea and land. Freight savings by air would be substantial, as Karachi airport is roughly the same distance from regional commercial centers (Dubai, Doha, Delhi, Mumbai, etc.). However, the current performance of Pakistan in terms of connectivity is poor, with a Logistics Performance Index score of 2.83/5 in 2014, with 1 being the lowest value. The relative performance of Pakistan is discussed in detail in Table 5-18. Meanwhile, the Trading across Borders rank is 108 out of 189 countries (see Table 5-17).[223] This means Pakistan still has a long way to go in order to strengthen its logistical infrastructure that will include port and border investments, and an upgradation of its road network (see Table 5-16).

The China Pakistan Economic Corridor (CPEC) is a step in this direction, and will link South and East Asia, by connecting Western China (Urumqi) to Gwadar port, through the key cities of Karachi, Lahore and Islamabad. In turn, the CPEC will help China access the Middle East as well as Western Africa.

In addition, the newly revamped National Trade Corridor aims to link Pakistan with China, the CARs and South Asia through road and rail networks, representing an investment of US$9 billion. Of this amount, US$5 billion is for highways and US$1.5 billion is to be spent on upgrading the rail network to Iran and Afghanistan. The remaining US$2.5 billion is intended for modernizing ports, airports and other trade facilities. This will cut losses that currently amount to 4-6 per cent of GDP arising due to poor transport sectors, and could benefit the economy by increasing total exports from current levels of US$25 billion to US$250 billion by 2030. [224]

[220] (China's offer list: Category V)
[221] Author calculation based on UN Comtrade data.
[222] (CIA , 2014)
[223] (World Bank, 2014b)
[224] (Board of Investment, Government of Pakistan, 2015)

7.3.1 Afghanistan and Pakistan Transit Trade

The Afghanistan and Pakistan Transit Trade Agreement (APTTA) 2010 allows Afghan commercial and non-commercial cargo into Pakistan, India and other countries. Specifically,

i. Afghan commercial cargo imported through Karachi, Port Qasim or Gwadar port;

ii. Afghan commercial cargo from Afghanistan to India through Waggah;

iii. Afghan commercial cargo from Afghanistan to other countries;

iv. Non-commercial cargo (of Afghan government, diplomatic missions and NGOs)

v. Pakistan cargo from Pakistan to CARs

Auto trade can take place through the commercial transit cargo route. For instance, vehicles privately imported by Afghan companies can go to Afghanistan through Pakistan if they have a valid *jawaznama* (import permit issued by Afghanistan). Vehicles are allowed tax free into Pakistan through a Temporary Admissions Document (TAD) for a maximum of 30 days, after which they are re-exported to Afghanistan. Trade can occur though the border stations of Chaman, Torkham, Sost and Waggah. Pakistan can access Iran, Uzbekistan, Tajikistan and Turkmenistan through designated border posts in Afghanistan. Similarly, goods from Afghanistan can enter India and China through Waggah and Sost. Transport includes bilateral and international traffic, where bilateral traffic is between Afghanistan and Pakistan, and international involves land transit from Afghanistan via a prescribed transport route through Pakistan to other countries. Trade is made more difficult by the requirement of nine Goods Declarations (GDs), but are exempt from duties (import and export) and taxes. Another important feature of the APTTA is that goods cannot travel from India to Afghanistan through Pakistan, just as, Pakistan argues, India does not extend any transit facilities to Pakistan for trade with Bangladesh or Nepal.

Pakistan does not earn any direct revenue from this trade, as customs duties are not levied on goods in transit. However, the indirect benefits are port and freight charges, clearance fees, demand for transport and tracking companies, and increased employment of agents (clearing, shipping, and border) and goods handlers.

The APTTA has led to two problems for Pakistan pertaining to illegal trade. Illegal trade includes smuggling (illegal trade across the border) as well as leakages in transit. In principle, goods may not be off-loaded at any point along the designated trade route. Nevertheless, leakages may occur along the various check posts, and Afghan goods do enter the Pakistani market.[225] Goods in transit for Afghanistan from India or China are often diverted to the domestic market. Secondly, goods are often re-exported into Pakistan after crossing the border into Afghanistan.[226] Thirdly, even though auto parts are on the negative list of Pakistan in the APTTA, smuggling has not been curbed. Indeed, a Pakistan Business Council study argues that the incentive for smuggling auto parts is too high, because Afghan tariffs are much lower, 5 per cent, as compared to 35 per cent customs duty and 16 per cent sales

[225] (MOC, Government of Pakistan, 2011)
[226] (USAID, 2014)

tax in Pakistan.[227] Similarly, informal trade in the auto sector (excluding tyres) from India using the ATT route was estimated at US$5.7 million.[228] Used cars illegally enter the country using the ATT route in order to benefit from lower import tariffs in Afghanistan. Used cars enter the Karachi port and are re-exported to Afghanistan, and then make their way back to Pakistan through ATT. An estimated 30 per cent of used cars are thus smuggled.[229]

The issue of illegal trade is being tackled through many new initiatives. A Web Based One Custom (WeBOC) e-portal was introduced in 2014. It is a paperless Pakistan Customs system that links, in real time, clearing agents, brokers, terminal operators, cargo handlers and customs officials to ensure timely clearance.[230] To prevent leakage of goods from Afghanistan through the transit trade facility, Afghan officials have been allowed access to the WeBOC to electronically verify the *jawaznama*. This means that importers will not have to submit it manually. The ISAF Containers Scam Report of 2011 by the federal tax ombudsman suggested that leakages from containers travelling through Pakistan for Afghanistan cost the exchequer almost US$0.37 billion in duty and tax evasion between 2007 and 2011. In-built applications in the WeBOC will also allow Pakistani officials at Karachi, Peshawar and Quetta to check the monthly history of importers and control clearance procedures.[231] In addition, a tracker system has been installed by a private company to monitor any unscheduled stops or route deviations of transit consignments to Afghanistan along the Chaman and Torkham routes.[232]

Smuggling arises due to differentials between Afghan and Pakistan customs rates, the porous nature of the long border, the presence of high transaction costs and corruption. Moreover, Iran is emerging as an attractive alternative transit platform, and Iran-Afghanistan transit trade has increased.[233] To stop theft and pilferage, the Directorate Transit Trade has been keeping a record of major traded items, cross-checking numbers with local and Afghan border control authorities.[234] In order to overcome these constraints, Pakistan must become a signatory to the Transports Internationaux Routiers (TIR). Using one global transit system will help streamline costs and documentation, and improve transparency of the customs process.

In addition, signing a FTA with Tajikistan and Uzbekistan will be also be beneficial as it will reduce the incentives for Afghan smuggling of Pakistani goods into the CARs. Currently, local goods are sent to Afghanistan under transit trade and are then re-exported to the CARs, damaging local industry and costing the GOP lost taxes.[235] In order to make smuggling less attractive, there must be uniformity across customs duties and taxes in Pakistan and Afghanistan. Unless this happens, the two current trends of firstly, formal Afghan-Pakistan trade being replaced by informal trade, and secondly, increasing Afghan formal trade with Iran, will continue.

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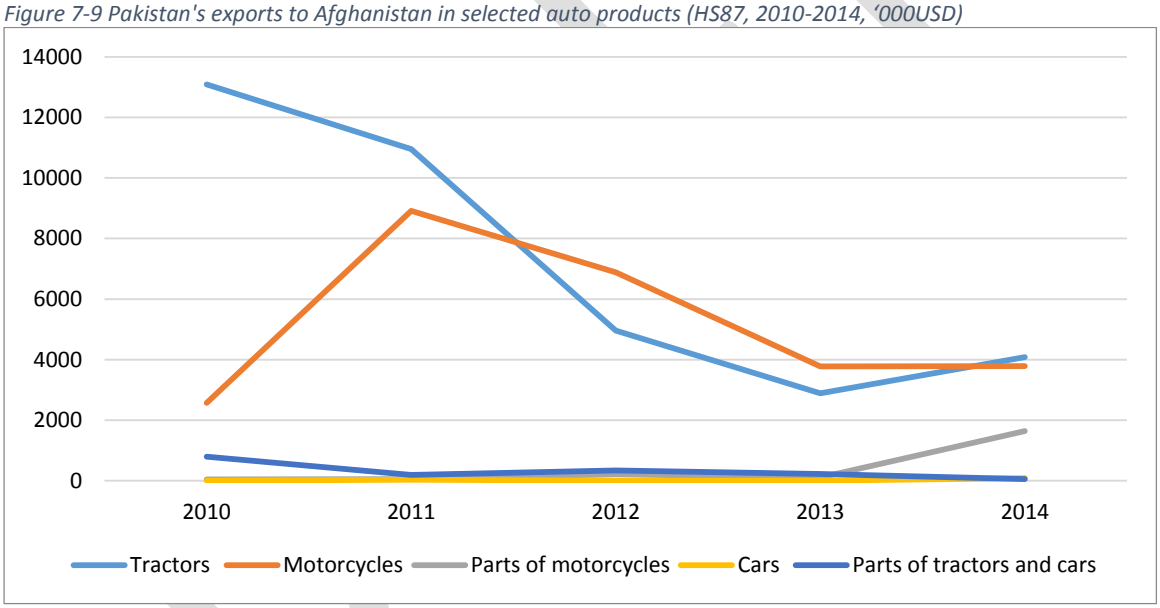
[227] (Adnan, 2011)
[228] (SDPI , 2014)
[229] (JICA, 2011)
[230] (Idrees, 2014)
[231] (Sajid, 2014)
[232] (Aslam, Transit trade: EDI testing in Weboc successfully completed, 2014)
[233] For an excellent review of issues with APTTA, see Pak Afghan Joint Chamber of Commerce and Industry (PAJCCI), (2013). Pak Afghan trade: Trends and issues Perceptions of business community.
[234] (Aslam, Pakistan shortest, secure transit trade corridor: DG Farid, 2014)
[235] (Daudzai, 2015)

India has also expressed a keen interest in transit trade and the CARs, with investment planned for port development in south-eastern Iran. This deal has been in limbo since 2003, but as of May 2015, the US$85 million investment by India has been finalized. The port will provide India access to Afghanistan and CARs without having to go through Pakistan, and is located close to Gwadar port. Two berths at Chabahar port for containers and cargo terminals would be provided to India.[236] India has also approached Kazakhstan explored comon interests.[237]

7.3.2 Trade with Afghanistan

Closely linked to transit trade is the issue of trade with Afghanistan. Transit trade had increased since the implementation of the APTTA in 2010, with Pakistani exports increasing at a faster rate than Afghan imports. Between 2000 and 2010, annual export growth of Pakistan for Afghanistan was 29 per cent. This constituted 13 per cent of overall export growth of Pakistan over this period. However, even though total Afghan imports (formal and informal) continue to rise, Afghanistan is no longer the 2nd largest export market for Pakistan (as in 2011) and is now the 6th largest (2014).[238] This could be largely due to unrecorded trade.

Figure 7-9 Pakistan's exports to Afghanistan in selected auto products (HS87, 2010-2014, '000USD)



Source: ITC, TradeMap, 2015.

It may be seen from Figure 7-9 that Afghanistan is a very healthy market for Pakistan's tractors and motorcycles, in that these are the top two exports to Afghanistan. At the same time, it must be noted that due to the poor security situation following 2013, exports to Afghanistan fell dramatically. Exports of tractors have taken place indirectly through third party buyers for Millat tractors. Al-Ghazi Tractors can export directly as it has special one-time permission to export to Afghanistan through its own dealers, under its own name, and not as New Holland. Similarly, the export of 70cc motorcycles to Afghanistan remains viable,

[236] (Customs Today, 2015d)
[237] (The Frontier Post, 2015b)
[238] (Hamid & Hayat, 2012)

even though it is a niche market. However, poor road infrastructure is making it increasingly likely that soon the demand will shift to more powerful engines. Although Pakistan does not face any issues of standards and homologation, some NTBs persist. One motorcycle OEM has pointed out the complete stoppage of exports due to the requirement of a license, which is not often available to the exporter. This may easily be done away if brought to government notice, because it is a one-time barrier.

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8 Policy recommendations

The main features of the auto sector, as seen above, are a segmented and highly concentrated market with limited innovation, quality and choice for consumers. Decades of tariff protection have been undermined by an unpredictable and frequently changing policy environment, which has created rents and discouraged competition. Consequently, the industry has not matured and remains in its infant stage. Local auto parts manufacturers remain embedded in a monopsonistic relationship with the local OEMs, who are in a position to dictate the prices they pay for local auto parts and components. This is even more problematic when seen together with the lobbying efforts and persistent market domination of the incumbent firms, because it means that change is unlikely.

The sector runs a large trade deficit, as imports (mostly of auto parts) outweigh exports. Existing exports cater mainly to niche markets. Export demand for Pakistani products is small in the absence of technical licensing arrangements between local OEMs and their principal firms. For example, tractor exports are only viable in a few markets due to franchise agreements with principals. In auto parts, the export bundle comprises components that have environmentally unfriendly production processes or are based on outdated technologies. In most cases, these exports are meant for the aftermarket, and represent export demand that is both shrinking and unsteady. Coupled with the poor standards that characterize the industry and the irregular implementation of existing auto policies and investment incentives, there is an urgent need for policy reform in this sector.

Our analysis identifies both products and partners that constitute a viable export market for Pakistan. The options are limited, but this means that strategies may be more targeted and make better use of already limited resources. Products may be identified on the basis of growing global demand. However, this also makes the margin for error smaller. Globally and in Pakistan, the auto industry has been subsidized because of its potential role in driving industrialization through its spillovers to upstream and downstream businesses. This is a valid reason to continue to support the auto industry even today. Subsidies and protection afforded to the sector during the incubation period can be outweighed by the benefits accruing due to long-term growth in the auto and linked industries.

In light of the binding constraints of the automotive and parts sector as discussed extensively with stakeholders across industry and government, the following guiding principles apply across the auto sector in the areas of improving the business and trading environment, reforming trade policies and tariffs, as well as setting and implementing standards.

Industrial policy

Industries like the auto sector need sustained, long-term support from the government in order to become successful, and in that way Pakistan's policies have not been unusual. Strurgeon and Van Biesebroeck (2010) point out that Tier 2 suppliers typically have difficulty in meeting the standards set by foreign car makers (evidenced by the experience of China and India). The pattern they describe is that as a local automotive industry develops, the country usually runs a deficit in parts as it imports advanced components. As the final assembly matures, parts manufacturing capacity also improves and can take on an export status. China maintained a deficit in parts up to 2005, showing surpluses only once the industry had matured. The top ten parts exporters today have all had a long history of

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assembly operations. For example, Thailand and Malaysia started as assembly destinations, with both countries undertaking protectionist policies in order to develop their vending industries. Korea's auto sector was also heavily protected, first allowing just one producer in the auto sector to capture economies of scale, and then two more and eventually a third. India, too, followed a very ISI-based industrial policy by developing one local car and its associated parts industry. Once specialization had been achieved, they liberalized their auto sector in 1991.

The advantages of protection have not come through in the case of Pakistan. Any form of state protection (tariffs, subsidies, quotas, investment incentives) has negative repercussions. These include allocative inefficiencies, leading to a diversion of funds from more competitive industries and infrastructure to import substituting sectors. This also leads to deadweight losses due to rent-seeking activities by parties earning or wanting to earn the benefits of protection. Perhaps the most critical difference in the experience of Pakistan is that protection was neither time-bound nor performance-based, as was the case in Japan and South Korea. In South Korea, the government created contests between top firms in a growing sector to pick "winners", who would then qualify for state assistance if and only if they met certain export criteria, or if they used latest technologies. Support was conditional and governments were quick to withdraw it from firms, allowing them to cut their losses in sunset industries.

Pakistan could adopt market-friendly industrial policies, where the state provides a level playing field and sets the stage for economic development by providing public goods such as infrastructure, energy, and a good financial system (banks and equity markets to raise funds). In addition, a proper regulatory regime of standards, along with well-protected property rights and a sound contracting environment will be a prerequisite for healthy automotive growth. Then, it simply becomes a matter of letting the market do its job. However, in reality markets are often missing, incomplete, or weak in developing countries, and the state then has to step in. In East Asia, there were two forms of state intervention. In the governed-market model, the state could either "lead" or "follow" the market. In the former, it actively pursued policies to support sectors that it identified, contingent upon their success in achieving sector missions. In the other, the state "followed" the market, by implementing policies that the industry required. In neither instance, however, was the state or the industry dominating the relationship—it was a case of "mutual hostages", whereby the state and the industry needed each other just as much in order to progress.[239]

Business and investment climate

The most critical aspect of the state-business relationship in countries that have successfully implemented industrial policies is that they require a stable policy environment, so that the government can credibly signal its intent to the industry, and they, in turn, make the necessary investments ahead of time. In general, businesses are much better at optimizing their investment decisions, as long as the government helps plays the role of a facilitator. Frequent consultations through a triple helix partnership between industry, state and academia will ensure dynamism in identifying, creating and meeting targets to diversify our existing export basket. In countries such as Pakistan, where SMEs are predominant, it is

[239] This section draws on discussions of industrial policy by Wade, 1990 and of crony capitalism by Kang, 2002

useful to have well-functioning industrial clusters as it is much more difficult to enter GVCs as a small independent unit. This requires foreign investment and technology partnerships, which in turn require a stable and efficient business and trade environment. Sharing a border with China -the world's largest auto manufacturing country - the potential for developing strong value chain links is literally at Pakistan's doorstep.

Exports can only increase when supported by a strong set of investment incentives, along with public sector investments in the trade and logistics infrastructure to improve the costs of doing business in Pakistan, not just for foreign, but also for domestic firms. Industry has been subject to frequent changes in the policies, which have dealt a blow to incentives to invest in Pakistan. Costs of doing business in Pakistan are also quite high which has discouraged investment by existing players, and has kept new entrants—and the attendant competitive forces–at bay. The government needs to provide reliable and competitively priced energy and physical infrastructure. In addition, a regulatory environment is required in which permits and licenses are efficiently acquired, contracts are enforced and assets are protected.

However, such changes in the economic and business environment will require stable long-term policies. In the short run, the limitations of the current business and economic environment can be circumvented to some extent by developing Export Processing Zones (EPZs). These provide facilities such as physical infrastructure, bonded warehouses (where inputs can be obtained at lower tariff rates for exportable products), favorable tax conditions, and one-window facilitation for licenses and permits for exporting firms. The role of EPZs to facilitate low-cost, efficient imports of world-class inputs is essential, as it allows firms to become competitive and reliable, both prerequisites for global success in the auto sector. Customs efficiency is another important determinant of the costs of trading. Border management reform, investments in border trade facilities and electronic data systems all have the potential of facilitating trade.

This means that

- Policies should be stable and long term
- Any changes should be phased in over a time period that allow the industry to adjust to those changes and plan accordingly
- Investment policies that exist on paper should be implemented
- In order to have a cohesive approach to industrial policy, particularly in a heavy investment sector such as auto, the various ministries (Ministry of Commerce, Ministry of Science and Technology, Engineering Development Board, Ministry of Finance, Federal Board of Revenue, National Tariff Commission) all need to work in coordination to the same objective. The bottlenecks to implementation should be resolved as a priority
- The auto industry has the capacity to intelligently engage with policy-makers. It should follow the lead of India, where top global consultants are hired to scope new growth prospects. Meanwhile, the government should enhance its own research and evaluative capabilities to ensure that neither side is able to monopolize the policy space

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Trade environment

The historical precedence has been that developing countries start with local assembly, followed by the development of the parts sector. Given that one objective of all auto sector policies has been to develop the local vending industry, it is the higher value end parts that must be targeted, so that the Pakistani auto parts market can transition from the current levels of poor technology and low value addition. Investment— especially foreign—must be invited to develop pre-production design and development, and post-production marketing and branding. Passenger cars are becoming more and more technology driven globally, and auto parts manufacturers that supply to OEMs are partners in innovation and technology improvements.

To introduce foreign competition at this stage of auto sector development in Pakistan, may be beneficial to consumers in the short-term as it brings immediate improvements in prices and choice. But it would mean that the auto industry will turn into a mere assembly operation. Already global players are waiting for Pakistan's new Auto Policy before making their investment decision. There is intense pressure on the government to allow the import of SKDs and also, a new category, MKDs, which these new entrants could then assemble in the country. This would be a major blow to the existing vending chain, and the future development of technological capacity in the engineering and manufacturing sectors.

It is therefore important to take a long-term view and consider policies that address the root causes of the failures thus far. Instead of curtailing imports, the trade and tariff policies must be such that they encourage exports from Pakistan. This is the key reason for India's export success—the import licensing system (that focused on inputs and intermediate goods) of the 1980s was dismantled in two phases, in 1991 and then in 2001. Once they started following export promotion policies, all other industrial, trade and economic policies were tailored to help achieve this objective, for example through scheduled and phased tariff reductions and the creation of a safe environment for foreign investment. In order to succeed in exporting the identified products to the target markets, Pakistan will need to undertake export marketing.

This will include

i. A thorough study of the regional market, jointly by the government and industry. This will allow identification of current and expected demand patterns to determine specific products, such as parts and accessories, which Pakistan could export. However, a realistic assessment of constraints would be necessary to set achievable goals

ii. Modelling trade instruments on the Indian NTB model that is WTO-compliant. This must only be done in instances where there is legal justification (anti-dumping, consumer and environmental safety, etc.)

Pakistan has followed an unbalanced trade policy over time. It has not been able to dismantle its import substitution policies for the automotive sector, despite their inefficacy. The trade related investment measures that Pakistan followed were not very successful, but this has been true of other countries that have used them too. For example, Australia's local content requirements were very costly, and took 13 years to dismantle. However, Pakistan can, like Australia, have more success with its TBS, if it views the WTO-mandated trade

policy reform as an opportunity to overcome the historical weaknesses of governance that are reflected in the auto sector in the guise of lobbying, corruption, rent-seeking and cartelization. Pakistan must use the WTO trade rules to break the momentum of old policies. If tariff reform is carried out in proper spirit, the TBS can help create the predictability and transparency necessary to eliminate discretionary policies.

In addition, Pakistan must leverage its position in the CPEC through long-term policies, and also try to maximize its gains from all existing trade agreements. The only way that the auto sector products can be removed from the "no-import" lists is if protective controls are slowly dismantled, with an explicit focus on creating a healthy and sustainable auto sector, as opposed to one that is surviving through artificial protection on borrowed time.

To that end,

i. Pakistan must negotiate its FTAs cautiously to ensure market access of its exports: a list-centric approach will prevent any meaningful trade deepening

ii. In the case of the Pak-China FTA currently being re-negotiated, a special and separate trade agreement could be modeled on the US-Canada or Argentina-Brazil lines. While the US-Canada agreement is no longer WTO compliant, in its essence it sought to ensure equitable gains from trade agreements for both the small and big country. The Auto Pact stipulated that America maintain 1965 production-to-sales ratio in Canada, and also included a localization policy, whereby car makers would have to ensure that they raise Canadian value addition by 60 per cent for cars. Although this Pact was removed in 2001, it allowed the Canadian car market to enjoy scale economies by producing one or two models. Such mass production lowered production costs, and helped establish the domestic vending industry, which then supplied to the leading global car makers. This eventually helped Canada benefit more from the North America Free Trade Agreement.

iii. A positive image branding for the industrial sector is required, under the auspices of the TDAP, which must extend its current role beyond organizing visas for international trade fairs

Standards

The issue of setting and enforcing standards in the auto sector is critical. The more profitable activities in the automotive sector now pertain to services in pre-production design and development, and in post-production marketing and branding. Passenger cars are becoming more technology driven, and global suppliers to OEMs are partners in innovation and technology improvements. In order to enter these value chains, Pakistani suppliers will need to attain global quality standards at competitive prices and engage in production-related services. However, facilities to define and test standards are currently unavailable at the PSQCA and policy makers are entirely dependent on the OEMs to set standards. To ensure that local capabilities are developed, international collaboration with accredited bodies such as the International Road Transport (TIR) and the Transport and Road Research Laboratories will be required. Investment in Pakistan of international accreditation and testing entities such as Global GAP or ISO is urgently required to allow Pakistan to export.

Specifically, Pakistan must seek:

- Compliance with international SPS and TBT requirements through government technical assistance programs

- Reforms in national testing and certification bodies, with mandatory testing for all producers

- Incentives to adopt costly quality control through matching grants by the government to ensure good management practices and consistent quality

- Implementation of a set national standards by a regulatory body that is independent of the industry stakeholders. These national standards may be constructed on the basis of international best practices, but it is critical that the government ensure that violations are penalized

- Improvement in the enforcement mechanism of the Federal and Provincial governments to ensure that sector-specific standards are met by tractors, two-wheelers, cars, and auto parts manufacturers. This would allow regulation of low quality imports, and also guarantee that local OEMs do not lower their global standards for the Pakistani market

Tariffs

The need for tariff reform is urgent, as the current tariff regime consisting of CDs, RDs and SRO concessions provides effective protection that exceeds the already high nominal protection made available under the statutory duty rates. In addition, the SRO concessions apply with certain conditions, which means that the same item may be imported with different duties. Regulatory duties are also imposed once the good has been imported. In effect, the prices faced by importers depend on the customs duties, regulatory duties, and SRO concessions in place. All three serve to increase protection for domestic producers of final automotive goods. Effective protection has increased since the introduction of the TBS in 2006, even more than nominal protection, because regulatory duties do not apply to inputs and intermediate goods, whereas SRO concessions do apply to them. This creates tariff dispersions across the automotive sector, as tariffs for inputs, assemblies, and components are low (their output is not protected), whereas the output tariffs for the automotive sectors (motorcycles, cars, and tractors) is rather high. In effect, the latter import substituting sub-sectors are more protected than the former. This means that vendors and OEMs face vastly different extents of support. This gives some degree of market power to OEMs against entrants and smaller competitors. At the level of the economy, such high and dispersed effective protection for the auto sector distorts efficiency and creates rents. The following suggestions would help in removing this bias and easing the sector gradually out of its current situation.

The tariffs on localized and non-localized parts must be unified. In principle, local vendors enjoy a tariff on their final output of 50 per cent. However, they are unlikely to get such high prices from OEMs because it is the OEM that mostly shares the technology for production and specifies the technical content, quantities and delivery schedules. Local vendors are currently too small to successfully penetrate the export market due to poor quality, so there are no other vents for their output. Moreover, since OEMs have the capacity to produce these parts in-house, they are able to keep vendors in check by producing themselves if the vendors raise prices. Most vendors are small and medium sized enterprises that do not

enjoy the size advantage that is required to avail the concessionary import of inputs (raw materials, components, and sub-components). As a result of these unfavorable conditions, imported auto parts are often preferred to domestic ones. This impedes the development of local basic engineering in Pakistan, as without domestic production, the requisite backward linkages of the vending industry are not created. This allows the OEMs to continue seeking cheap imports of parts, and the cycle continues. Therefore, lowering the tariff on localized parts will not have any negative impact on the vending industry.

Regulatory duties must be eliminated immediately. Preferential margins for our trading partners have increased, because RDs are not levied on imports from trade partners with whom a PTA or FTA has been signed. This is especially critical in light of the Pak-China FTA, because it means that available tariff protection for Pakistani producers has decreased due to the RDs. As the purpose of the RD was to improve the balance of payments after the global financial crisis of 2008, the increase in Pakistan's imports from China on account of new or wider preferential margins has negated that intent.

The difference between tariffs on inputs and outputs must be reduced in order to lower the effective protection available to the sector. This is critical because it will encourage the development of the domestic vending industry and allow the replacement of imports in a more economically sustainable manner, rather than through artificially erected barriers. The negative impact of decreasing tariffs on CBUs would not be too high for OEMs because there is some cushion in the tariff, i.e., they do not price up to the level of available nominal protection for fear of increasing their prices and risking their demand.

The government would also benefit from a more unified and low tariff structure. The existing multiplicity of tariffs, and their cascading structure make smuggling and under-invoicing attractive. The government would save more foreign revenue through the reduction of smuggling than it would lose due to lowered import taxes. Although not specifically calculated for the auto sector, a recent study has estimated the potential benefits to Pakistan's economy over time of tariff reforms. Estimates of the quantitative benefits of tariff rationalization indicate that reducing the peak import tariff to 25 per cent and leaving all else as is, including concessions and exemptions, would reduce import prices by 0.6 per cent, and lower tariff revenues by 3.7 per cent, but have a lower impact of 1.8 per cent on total import tax earnings. At the same time, the study finds that high value added sectors such as chemicals & allied products and machinery & equipment will begin to grow immediately. A second simulation of having a maximum uniform tariff of 10 per cent and removing all exemptions, in the medium term, raises tariff revenues by 79.2 per cent and total import tax revenues by 36.4 per cent. Import prices will marginally go up by 1.4 per cent,[240] but this would represent a *Pareto* optimal change, as previous prices were kept artificially low due to tariff protection. Secondly, allowing the price signal to work will help allocate resources better, and prevent production inefficiencies. Moreover, it will also help attract investment to high return sectors instead of sectors chosen arbitrarily on the basis of lobbying. Thirdly, the low tariffs on inputs inevitably lead to substitution of domestic production for imports, i.e. imports of intermediates and raw materials increase. But the government is unable to earn much revenue from these imports, because both taxes and c.i.f. prices of imports parts are so low.

[240] (Reis & Taglioni, 2013)

On the basis of the above discussion, and given the limitations of using tariffs to promote development of the auto sector in the past, tariff reforms must be introduced to ease the existing complex system of taxes, customs duties, regulatory duties, and special duties in the sector. This means that

i. Tariffs are not the appropriate instrument to support the sector, as they create economic distortions

ii. Existing higher tariffs should be lowered since there is a cushion in the tariff, i.e. there is a difference between actual and available protection

i. Tariffs on sub-components and assemblies must in general be reduced to the level of zero to five per cent in the next three to five years

ii. Tariffs on CKD kits must not differentiate between localized and non-localized parts, because as long as differentials exist, implementation will be administratively difficult and irregularities will be common

iii. Tariffs must be brought down to a single rate for CKD kits, original equipment components and replacement parts

iv. The additional sales and income withholding tax that discriminate against importer-traders must be reduced. Traders face a total import duty of 45.1 per cent while importer-manufacturers pay less duties (27.8 per cent) on the same product

v. Regulatory duties introduced in 2008 must be phased out

vi. Tariffs must be lowered in a pre-announced and phased manner

Customs valuations

The base of customs assessment can be either weight or value. Some countries, such as Switzerland, exclusively use weight as their tax base. But most countries assess customs duty on value. For instance, imports into the EU, Japan, Indonesia, Australia, and China attract customs duty that is a percentage of the value of imported goods. The import price/customs value is based on the c.i.f. (cost, freight, and insurance) value and also includes the costs of packaging, loading and handling. The customs value is determined according to the WTO rules (discussed in Appendix 10.4) to calculate the payable duty. Specifically, with regards to automotive products, duties are assessed on value, rather than weight. However, there are precedents for using weight as a tax base for levying excise duties. Singapore determines excise duty on the basis of both value (automotive products) as well as weight (oil, tobacco and alcohol). It has no customs duty on auto products, but imposes an excise duty of 20 per cent on motor vehicles and associated parts, and of 12 per cent on motorcycles and their parts.[241]

[241] (Singapore Customs, 2014)

Pakistan is currently following a combination of assessment by both value and weight. The rationale provided for this is that it was done to counter industry claims of unfair practices, especially as related to the "take over" legislation introduced in 2006 in section 25A of the Customs Act. In the case of under-invoicing, customs officials could "take over" any consignment whose value they felt had been mis-declared. This was done for motorcycle parts. A local bidder could offer to buy the imported goods at a higher price (20 per cent or more) from the actual importer, who in turn had two choices: either increase the declared value to the local offer price or forfeit his goods to Customs, and receive remuneration equal to (mis)declared value and five per cent extra.[242]

When such valuation is weight-based, there is an incentive to under-report the weight of import shipments, although this may be verified from the manifest, and cross-checked with the weight reported by the importer on the entry bill. Secondly, custom officials should not rely on either commercial importers or local OEMs to determine custom values of imports. While Import Trade Prices of auto parts have been notified for commercial importers, customs authorities must guarantee that valuation for inputs imported by both commercial importers and OEMs is appropriate and in line with market values to prevent distorting the price signal, such that the import regime remains neutral. This is critical both for the development of the auto parts vending industry and for auto manufacturing and assembly. However, as per the current duty structure, it is currently cheaper to buy auto parts from commercial importers than import in CKD form. This defeats the very purpose of the TBS.

Therefore, valuation at customs of imports needs to be made more transparent and accurate. Due to the issue of poor valuation systems, under-invoicing and smuggling, revenues earned on imports in the form of sales tax, WHT, customs duty and FED in 2013-14 were much less than they should have been, had imports not been under-valued. There needs to be a transparent rule-based assessment system in place to estimate import duties and taxes.[243]

Recommendations specific to each sub-sector pertaining to the four identified areas of intervention are given below.

8.1 Passenger cars

i. For new CBUs, taxes must be unified and reduced to 70 per cent in ten years, eliminating the practice of charging different duties by engine capacity

ii. Imports of used cars should not be used as a means to create competition for local car makers, and the allowable age of used cars should not exceed three years

iii. The existing TR, personal baggage and gift schemes for import of used cars are being abused by commercial importers and stringent controls must be implemented

[242] (WTO, 2008)
[243] (The Daily Times, 2014a)

iv. Tariffs on used cars must be in ad valorem (per cent of value) terms instead of fixed duties (in US$) to allow for changes in exchange rate and international car prices

v. Policy stability is necessary to ensure government credibility and encourage long-term investments as the car sector requires up-front and lumpy investment

vi. A uniform industry-wide national standard must be created for cars, with the requisite testing and enforcement facilities —the government needs to build its capacity to implement it

vii. The car financing/leasing market must be further developed. This can be done through financing at more attractive rates, and through schemes that allow trading-in the residual value of older cars.

viii. Lowering tax rates would also help in the expansion of demand, and consequently car volumes.

ix. R&D must be promoted through Technology Acquisitions, JVs and PPPs

x. Sales tax on Royalty and Technical Assistance fees by provincial governments and FED by federal governments inhibit technology transfer, and should be removed

xi. Facilitate efficiency of imports e.g. ease out customs clearances and procedures, give tax -rebates

xii. Facilitate efficiency of exports e.g. reduce red tape, expedite export refunds, duty drawbacks

8.2 Motorcycles

i. Smuggling is damaging the local motorcycle vending industry, and better border control is required to ensure that trade is brought within the formal, regulated market

ii. Import valuation of motorcycle parts must be in line with market values, both to reduce incentives for smuggling and to ensure that the prices for inputs to the motorcycle industry are not excessive

iii. Lowering tariffs and ensuring that the process of legal imports is smooth and efficient would also reduce the incentive to smuggle

iv. Facilitate exports by streamlining procedures and reducing red-tape, for example by addressing the Gurmik requirement for exports to Afghanistan

v. Regularize financing through banks to augment dealership finance

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vi. Ensure refunds on customs duty paid by local vendors on imported raw materials—could reduce price of a motorcycle by $85[244]

vii. Allow refund of freight charges to be facilitated through the Export Development Fund, as is already being done for non-traditional export items and perishable goods—could reduce prices of one unit by $30[245]

viii. Pakistani motorcycle producers can increase their exports by forming raw material cooperatives of vendors to lower production costs (and hence make prices more competitive and attractive for exporting) through bulk purchases of inputs

ix. Create a Motorcycle Auto Tax Collection Unit within FBR with one-window operations to ensure speedy export rebates.

x. Equip PSQCA to provide internationally accredited quality certifications to local (Chinese-based) manufacturers so that they may export.

xi. Taxes on components and sub-assemblies of motorcycles should be reduced immediately, with further announcements to cut to a maximum of 5 per cent in three to five years

xii. Taxes must be lowered on non-localized CKD kits from 47.5 per cent, as most kits are already being smuggled into Pakistan. The rate on both localized and non-localized kits should be uniform, as the industry is already dealing with cheap Chinese imports that are grossly under-invoiced. This high differential and the low transaction costs of smuggling incentivizes tariff evasion and mis-declaration of imported kits

xiii. Negotiate (on competitive terms) the import of raw material from India, including tools, dyes, jigs, and machinery

xiv. Increase business-to-business contact with regional players, especially Thailand

xv. Establish Motorcycle Parks that offer cheap land and self-generated power, an overarching testing and training facility, with parallel support for vendors through the TASF

8.3 Tractors

i. Production in Pakistan is mainly dominated by 50HP tractors, which fall in low-medium powered agricultural machinery whereas the more profitable market is of high-powered tractors. Pakistan must have JVs with their principals to enter this segment

[244] (Competitive Support Fund, 2006)
[245] ibid

ii. All tractor subsidiaries must negotiate a technical licensing agreement with their principals in order to directly export to CARs, Afghanistan and Africa, where there is significant demand

iii. Negotiate with India to remove tractors from its sensitive list and also remove the 10 per cent additional duty it levies, so that tractors can become competitive in Indian Punjab

iv. Ensure that Pakistani tractors become Euro II compliant, including meeting requisite fuel (diesel) standards

v. Pakistan has no national standards in the tractors sector, and even though it is an off-road vehicle, the government must provide technological support so that 7th generation technical standards can be met in the next five years (currently Pakistan is at the 2nd generation). Tractors must meet international safety and emissions standards

vi. Since domestic tractor manufacturers must meet indigenous emission standard requirements, they should be provided with equal rebate in domestic production, given that Euro II compliant engines are allowed to be imported under subsidized rates. This must only be done if they can demonstrate that they have met standards

vii. Import tariffs in the tractor sector are generally the lowest and do not need any reform

8.4 Auto parts

Smuggling

The issue of smuggling is the most crucial impediment to the development of the auto parts sector. Reforms in this sector must be implemented on an emergency footing due to the widespread implications they have on the rest of the automotive sector. The following suggestions could help reduce this phenomenon.

Registered owners of international brands must be asked to record the prices of their goods at customs. This could resolve two major problems of over- and under-invoiced imports. Under-invoiced imports of international brands is a persistent issue in the sector. This prevents the actual brands from entering the market. Pakistan could follow the example of other countries, and require registration of brands at customs to determine their true value. At the same time, some dishonest commercial importers often over-invoice their consignments by as much as 400 per cent, as was discussed above. Customs officials use these over-stated values to calculate transaction values for all importers of these products, causing problems for genuine importers. This creates a demand for such items that cannot be met through imports (as they are prohibitively expensive) and makes smuggling more attractive. Once the actual price is known through brand price registration, it will be harder to get away with such practices.

Decreasing trader margins for dealers that smuggle auto products (especially parts) may be done by making imports more traceable, i.e. by ensuring that the details of the importer are printed on the final packaging of the product. This will also help consumers distinguish

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between genuine versus fake products. In addition, this could counter mis-declaration on import documents. The name of the product and its description, along with the address of the importer must be mentioned on the import bill before goods can be cleared. The sales and withholding tax treatment of trader and OEM importers should be the same, so that the incentive to smuggle may be reduced.

Recommendations to help improve competitiveness in this sector include

i. Develop Export Processing Zones (EPZs) with physical infrastructure and bonded warehouses where inputs for products produced to export can be obtained at lower tariff rates. There should be favorable tax conditions, and one-window facilitation for licenses and permits for exporting firms. This will improve competitiveness and reliability, both of which are pre-requisites for entry into GVCs

ii. Government policies should encourage risky R&D by giving sales tax exemptions on new products, or cost-sharing with local firms in such initiatives through technology development funds

iii. Duty-free imports of intermediate goods can also afford auto-part manufacturers a protective margin for the initial years. This set of policies was already a part of the AIDP, but was not implemented. Part of the problem in implementation was the lack of coordination between government ministries/departments. So coordination should be increased in order for policies to work out smoothly

iv. In countries such as Pakistan, where SMEs are predominant, it is useful to have well-functioning industrial clusters. It is much more difficult to enter GVCs as a small independent unit. Achievement of minimum scale is necessary. Investments in infrastructure become more profitable when shared

v. In order to counter under-invoicing, the National Tariff Commission must review its Safeguard and Anti-dumping laws, so that WTO-consistent countervailing duties and anti-dumping action may be imposed for auto parts, where this practice is almost universal in the world

vi. GVC participation is not possible without achieving global standards. Currently the rejection rate of Pakistani auto parts suppliers is several times higher than that of global suppliers, so R&D should be encouraged through private-public collaborations. This will help share the risk and increase the return on technology acquisition

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9 Conclusion

Countries with automotive manufacturing sectors enjoy many economic benefits such as contribution to GDP, employment, and tax revenue. But perhaps the more crucial advantages are those offered through the creation of a supply chain that consists of upstream industries that add value to basic industries like rubber, plastics, glass, steel and mining and help establish downstream industries not just of auto parts and vehicle manufacturing, but more importantly of marketing and rentals, finance and insurance, as well as service and repairs. In addition, technology upgradation in the automotive sector has positive spillover effects on other industries— and through increased export incomes and greater potential foreign investment— the economy as a whole.

However, realizing these gains requires long-term and consistent auto policies that are implemented in a stable business environment, in light of a realistic assessment of domestic constraints. The impetus for growth in the automotive sector will not come from tariffs, but rather sound economic principles. A tariff regime that is not prone to escalation or discretion must be created through reforms in the tax rate, base and structure. Investment, production and consumption decisions must be based on market signals where present, or on next best alternatives where absent. Weak policies must be quickly identified and removed to minimize losses. Good policies that only lack implementation must be continued.

In the meantime, Pakistan should skillfully explore its regional options. China represents a key opportunity and Pakistan must act quickly to try to deepen its existing trade ties with China and ensure that the opportunities are utilized fully. The Chinese auto market is expected to grow at seven per cent annually for the next five years, and China is poised to produce more than 32 million vehicles by 2019. Pakistan should take advantage of the current investment policies that China is following in its auto sector. For example, it requires all of the 20 global OEMs currently manufacturing in the country to partner with a Chinese firm. If Pakistan properly manages its own investment and custom duty policies, it can access these JVs by fitting into a regional value chain. Undertaking economy-wide economic reforms is a daunting and long-term challenge—instead, Pakistan should create islands of "excellence" that can take advantage of the CPEC. The requisite infrastructure that caters to supply chain needs must be built now. Small and medium sized vendors may be assisted through customs bonded warehouses that allow import duty payments to be made later. Special Economic Zones can be used to produce export quality competitive goods.

Many countries simply do not have the scales required for local production of automotive goods. While Pakistan currently faces a small domestic market in light of limited incomes, demand need only increase marginally in order to make this sector more viable. Simultaneous investment in border infrastructure and logistics along with improvements in connectivity will facilitate trade. Moreover, capacity-building of national bodies that serve to promote exports and of those that set and implement national safety and quality standards will determine if Pakistan can take advantage of its existing position.

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10 Appendix

10.1 Comparative Advantage Indices

Revealed Comparative Advantage is a concept grounded in economic theory, which has determined the economic conditions to identify the pattern of international trade. Classical and neo-classical trade models suggest that a country which can produce a commodity at a lower relative cost, has a comparative advantage in that commodity and therefore exports while a country with a higher relative cost, imports. Despite the theoretical underpinnings of the concept of comparative advantage it is difficult to quantify it. This is because theory takes into account autarkic variables such as relative prices and production costs which are not observable in the real world. Balassa (1965) suggested that it may not be necessary to include such factors that affect a country's comparative advantage.[246] Therefore the comparative advantage could at best be "revealed" by use of post trade variables. Using actual trade patterns the idea being that if a country has a relative advantage in a product, it should export a greater than the proportionate amount of the product. Several attempts have been made.

To quantify this for this report we use Balassa (1965) RCA method, thereafter referred to as RCA. It is defined as:

$$RCAij = (Xij/Xj)/(Xiw/Xw)$$

Where Xij are the exports of product *i* of country *j,* Xj are the total exports of country *j*, Xiw are the exports of product *i* by the world and Xw are total exports of the world. Theoretically the "world" can be replaced by any reference set of countries. A country has a comparative advantage if RCAij is greater than unity and a disadvantage if RCAij is less than unity.

There are a number of limitations of Balassa's RCA index. Firstly, the index is not comparable across time and space which is because of its asymmetry (0< RCA< ∞), unstable mean across time and aggregation effect.[247,248] In other words it gives us a snapshot of a country's comparative advantage and guides us little in making fair cross country or across time comparisons. It is also not a very informative measure for ordinal and cardinal comparisons within a country, unless it has a symmetric distribution. At best, it is a dichotomous measure which can inform about whether a comparative advantage exists or not.

Several attempts have been made to overcome the shortcomings of Balassa RCA. For the purposes of the report, we have calculated Vollrath Indices which are considered to be more sophisticated measures of determining comparative advantage of a country. Vollrath (1991) suggested mainly three alternative measures for calculating comparative advantage. These are relative trade advantage (RTA), the logarithm of the relative export advantage (ln RXA), and the revealed competitiveness (RC).

[246] (Simsek, Seymen & Utkulu, 2007)
[247] (Sandias & Shin, 2010)
[248] Ballasa Index is affected by the level of aggregation of a commodity

These are calculated as follows:

$$RCA1 = \ RTA\ ia = RXAia - RMAia$$

Where $RXAia = (Xia/Xin)/(Xra/Xrn)$ and $RMAia = (Mia/Min)/(Mra/Mrn)$

$$RCA2 = Ln(RXAia)$$

$$RCA3 = Ln(RXAia) - \ Ln(RMAia)$$

Whereby RXA and RMA are relative export advantage and relative import advantage, respectively; and superscript *r* refers to the world minus country *i* while subscript *n* refers to all traded commodities minus commodity *a*.

A clear advantage of employing Vollrath indices over Balassa index is that these make use of both the export and the import data and therefore takes into account the relative supply and relative demand. This can be illustrated by an example. Assuming that $RXAij$ has a value of +3 indicating a comparative advantage, but for the same product i the $RTAij$ index has a value of -1, indicating a comparative disadvantage for the same product. This can be explained by intra-industry trade. Although exports of this commodity constitute a sizeable share, the imports in the same product category are so much as to counter this export advantage. Therefore an index which embodies both the exports and the imports data can be considered a more comprehensive measure of comparative advantage.[249]

Another advantage is that it avoids double counting of the product and the country in its calculations. Moreover, by taking logs in case of the latter two Vollrath indices, the distribution becomes symmetric through the origin and hence this counters the asymmetry of the Balassa's RCA Index. It is important to note here that Vollrath indices and Balassa's RCA measure might not be directly comparable as these are based on different concepts.

Vollrath Indices also have their limitations. It is often argued that these may be distorted by government interventions such as import quotas, and export subsidies and therefore might be generating a false comparative advantage where none exists. [250] According to Vollrath, RXA index which does not suffer from the policy distortions to the same extent is used more often in practice.

Also, country size affects the index value. Assuming that country *i* and country *j* each export 50 per cent of a commodity however country i being much larger would have a much higher share in total world trade of all other commodities (Pitts et al 1995). Hence for a product *k*, RXAj>>RXAi .According to Pitts et al. this cannot be interpreted as a comparative advantage for country *j* in product *k*. Structural changes of an economy might also result in large annual fluctuations in these measures hence it becomes difficult to conclude anything regarding competitiveness in such a case.

[249] (Frohberg & Hartmann, 1997)

[250]Greenaway and Milner (1993) suggest a price-based measure of RCA called "implicit revealed comparative advantage" to account for distortions caused by the post-policy interventions.

Specifically RC is very sensitive to small values of exports or imports. In case of perfect specializations, RC takes extreme values (undefined in case of no imports or 0 in case of no exports). According to Vollrath (1991) at high levels of commodity aggregation RC is preferred to RTA and vice versa at low levels of aggregation. As opposed to RC, RTA "weighs revealed comparative advantage by the relative importance of RXA and RMA. Consequently, its behavioral patterns are not dominated by extremely small export or import values of the specified commodity."[251]

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[251] (Vollrath, 1991)

10.2 Effective Rates of Protection

Protection to the import-competing auto sector was given to domestic producers to help establish domestic processing, especially the local vending industry. However, nominal import tariffs on finished goods present an incomplete picture of protection. As the auto sector uses imported intermediate inputs, the actual protection given to the sector is measured in terms of domestic processing. The effective rate of protection (ERP) quantifies the extent of protection given to producers, in the form of duty protection (tariffs) available on intermediate inputs and finished outputs. The comparison is made relative to how much of domestic value addition has only taken place due to protection. It is the percentage increase in domestic value added over the free-trade level and is calculated by computing the difference between the total value of goods produced and the value of imported inputs, at respective tariffs. Effective protection is measured in the form of nominal (not real) protection rates, although some studies have attempted to calculate real or actual ERPs.[252]

The ERP of product *i* is defined as the difference between its value added (per unit of output) at domestic price, (i.e., inclusive of tariffs on the finished product and the intermediate inputs) and its corresponding value added at world price (i.e., price prevailing under free trade).

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$$g_j = \tau_j - a_{ij}\tau_i / 1 - a_{ij}$$

where *gj* = effective protective rate for activity *j*;

aij = share of *i* is cost of *j* at free trade prices;

τ_j = nominal tariff rate on *j*;

τ_i= nominal tariff rate on *i*. [253]

This means that for every $1 of value added at international prices, domestic manufacturers receive the equivalent of $(1+$g_j$ %) in the domestic market. This means that domestic auto producers can charge $(1+$g_j$ %) and still compete with imported goods, due to protection.

Nominal tariffs on finished outputs are subsidies, while those on imported inputs are taxes.

Total protection to domestic value addition depends on:

i. Output tariffs

[252] (Pursell, Khan, & Gulzar, 2011)
[253] (Greenaway & Milner, 2003)

ii. Input tariffs

iii. Share of imported inputs in production costs

The value for ERPs can be positive or negative, where a positive ERP indicates that the industry is benefitting from protection, i.e., it has altered domestic input and output prices so as to expand the sector. A positive ERP signifies returns to capital and labor that are higher than free trade level, while a negative ERP reveals that the sector would be better off under free trade and intervention is harmful and that the sector is over-protected and would be worse off under free trade.

In percent terms, ERPs range from

- 100 and above = extremely strongly protected
- 50 to 99 = highly protected
- 0 to 49 = protected
- ≤ 0 = negative ERP

Depending upon the difference in tariffs on inputs and outputs, countries will have varying levels of effective protection. The cost of protection rises if the ERP varies significantly across sub-sectors within the protected industry.

The Input-Output matrix observed at a certain time is a reflection of the resources and technology embodied in the production structure at that time. It contains the input substitutions that took place due to the nominal tariff structure at that time. If however, the base year chosen for establishing the national accounts is not close to a "steady-state", the ERPs calculated with the observed input-output coefficients will be inaccurate. Since for Pakistan, the base year was 1965, it is safe to assume that the same production and technology relationships do not hold and updating the I-O matrix without changing the underlying assumptions will not be very helpful. Furthermore, there are issues with interpretation of ERPs, such as [254]

i. Imperfect substitutability between imported and local products
ii. Using tariffs in the presence of multiple border taxes and exemptions (SROs)
iii. Valuation of the tariff-equivalence of non-tariff barriers
iv. Treatment of non-tradable inputs
v. Allocation of intermediate inputs to multiple outputs
vi. Adjustment for exchange rate misalignment

[254] (Trinh, 2012)

10.3 Regional Price Comparisons

This section compares the prices of cars produced in Pakistan with those in a selection of comparison countries. Specifications and ex-salesroom prices were taken from the local OEM websites in each country as of December 1, 2015. Cars were matched on 60+ specifications and the closest match to the Pakistani model was selected in each country. A selection of the specifications considered is provided from Table 10-2 to Table 10-7

From the ex-salesroom price, all taxes that are paid up to that point were removed to arrive at the ex-factory price. In addition, we added all taxes that are paid after purchasing the car, to arrive at final price to the consumer. Details of the taxes considered are mentioned below in Table 10-1

Table 10-1 Taxes relevant to car prices in the region

	Pakistan	**India**	**Thailand**	**China**
Taxes removed from ex=salesroom price to arrive at ex-factory price	Sales tax excise duty export development surcharge	Excise Duty NCCD CST VAT/Sales Tax Additional surcharge – previously wealth tax	Sales Tax/Vat Excise Duty Interior Tax	Sales Tax/Vat Consumption Tax City and Construction Tax
Taxes added to ex-salesroom price to arrive at final price to consumer	Withholding tax motor vehicle registration fee Number plate, registration book and windscreen charges Motor vehicle token tax	Service tax Education Cess Secondary and Higher Education Cess Road tax Registration fees Fitness Certificate Fees	Annual Tax Registration Renewal Compulsory Motor Vehicle Insurance	Vehicle / Vessel Usage Tax Vehicle Acquisition Tax

Corporate tax and customs duties are not included:

- Corporate taxes are based on profits, not on costs or units of cars, and therefore we do not expect them to affect unit prices
- The amount of customs duty paid depends on the customs duty rates and on the level of localisation in each country. Since deletion is no longer officially followed, localisation rates are not available from a central government source and therefore it is not possible to calculate the duties paid on imported parts accurately across countries and models. It should be noted that the lower the level of localization for a particular car, the larger the amount of customs duty actually paid. The customs duties paid in each country are documented separately in Section 6 and Appendix 10.4.

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Table 10-2 Regional comparison of specifications for Honda Civic

	PAKISTAN	INDIA	THAILAND	CHINA
Model	Civic i-VTEC	Honda CR-V 2.0L 2WD	Civic 1.8 ES AT	Civic 1.8 AT VTI
Price in local currency	2,142,000	2,289,300	953,000	157,800
Engine				
Maximum Horsepower	141 ps @ 6300 rpm	**156ps/6500rpm**	104kw/6500rpm	104kw/6500rm
Maximum Torque	174 nm	**190 nm/4300rpm**	174nm/4300rpm	174nm/4300rpm
Engine Type	Water-cooled, in-Line, 4-cylinder	in-Line 4-cylinder	in-Line 4-cylinder	in-Line 4-cylinder
Valve Train	16 valve SOHC i-VTEC	SOHC i-VTEC	16 valve SOHC i-VTEC	16 valve SOHC i-VTEC
Fuel Supply System	Multi-Point Fuel Injection	PGM-FI	PGM-FI	
Displacement	1799 cc	**1997 cc**	1798 cc	1798 cc
Transmission				
Transmission Type	Prosmatec	Automatic	Automatic	Automatic
Steering Wheel				
Steering Wheel Type	Electronic Power System	Electronic Power System	Electronic Power System	Electronic Power System
Suspension				
Front	Control-Link Macpherson Strut	Macpherson Strut	Macpherson Strut	Macpherson Strut
Rear	Reactive-Link Double Wishbone	Double Wishbone	Multi-link	Double Wishbone
Braking System				
Type	4-wheel Disc ABS	Disc ABS	Ventilated Disc/Disc ABS	Vented Disc ABS
EBD	Yes	Yes	Yes	Yes
Tyres/Wheels				
Tyre Size	195/65 R 15	225/65 R 17	205/55 R 16	205/55 R 16
Wheel Type	Steel Wheel with Full Cover	Alloy	Alloy	Alloy
Fuel Tank				
Size	50 L	58 L	57 L	50 L

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Table 10-3 Regional comparison of specifications for Honda City

	PAKISTAN	INDIA	THAILAND	CHINA
Model	City Aspire AT	City VX CVT	City SV CVT	City 1.5 AT Elite
Price in local currency	1,815,000	1,156,300	736,000	116,800
Engine				
Maximum Horsepower	120ps/6600rpm	119ps@6600rpm	117ps@6600rpm	119ps@6600rpm
Maximum Torque	145Nm/4800rpm	145nm@4600rpm	146nm@4700rpm	145nm@4800rpm
Engine Type	4-cylinder	4-cylinder	4-cylinder	4-cylinder
Valve Train	SOHC, 16 valve, i-VTEC	SOHC, 16 valve, i-VTEC	SOHC, 16 valve, i-VTEC	SOHC, 16 valve, i-VTEC
Fuel Supply System	Electronic Fuel Injection			
Displacement	1500cc	1497cc	1497cc	1498cc
Transmission				
Transmission Type	Prosmatec	Automatic	Automatic	Automatic
Steering Wheel				
Steering Wheel Type	Rack and Pinion with EPS	Collapsible with EPS	EPS	EPS
Suspension				
Front	Macpherson Strut	Macpherson Strut	Macpherson Strut	Macpherson Strut
Rear	Torsion Beam Axle	Torsion Beam Axle	H-Shaped Torsion Beam	Trailing Arm
Braking System				
Type	Disc/Drum ABS with BA	Disc/Drum with ABS	ABS Ventilated Disc/Drum	Vented Disc/Disc ABS
EBD		yes	yes	yes
Tyres/Wheels				
Tyre Size	175/65 R 16	175/65 R 15	185/55 R 16	175/65 R 15
Wheel Type	Aluminium Alloy	Alloy	Alloy	

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Table 10-4 Regional comparison of specifications for Toyota Corolla

	Pakistani Toyota Corolla Altis CVTI		**Thai Toyota Corolla Altis**		**Indian Toyota Corolla Altis**	**Chinese Toyota Corolla**
Model	Altis	Altis Grande	1.8E A/T	1.8G A/T	1.8G CVT	GLX-S (AT)
Price (in local currency)	2,149,000	2,299,000	839,000	979,000	1,608,831	165,800
Engine						
Engine Type	2 ZR-FE	2 ZR-FE	2 ZR-FE	2 ZR-FE	2 ZR-FE, 4 cylinder	2ZR-FE
Engine displacement (cc)	1798	1798	1798		1798	
Fuel system	SFI with dual VVTI	SFI with dual VVTI	EFI with dual VVTI		EFI with dual VVTI	DOHC VVT-i
Max. output (km/rpm)	103 / 6400	103 / 6400	103/6400		103/6400	103/6400
Max torque (nm/rpm)	173/ 4000	173/ 4000	173/4000		173/4000	173/4000
Performance						
Transmission	CVT-I (7 Speed sport sequential shiftmatic)	CVT-I (7 Speed sport sequential shiftmatic)	Gate-type Automatic Super CVT-i 7-Speed with Sequential Shift	Gate-type Automatic Super CVT-i 7-Speed with Sequential Shift	Super CVTI with 7-speed sequential shiftmatic	6 MT/CVT
Brakes	Ventilated disc (front), solid disc (rear)	Ventilated disc (front), solid disc (rear)	Four wheel disc brakes		Ventilated disc (front), solid disc (rear)	Ventilated disc (front), solid disc (rear)
ABS + BA + EBD	Antilock braking system with electronic brake force distribution and brake assist	Antilock braking system with electronic brake force distribution and brake assist	Electronic brake force distribution and brake force reinforcement, BA	ABS, EBD, BA	ABS, EBD, BA	ABS, EBD, BA

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Table 10-5 Regional comparison of specifications for Suzuki Alto

	PAKISTAN	INDIA	THAILAND	CHINA
Model	Mehran VXR	Maruti Alto 800 STD non metallic	(No Alto in Thailand, the closest cc value is 998 which is a WagonR)	Alto's Engine Size is 1500 cc.
Price in local currency	678,000	252,583		
Engine				
Maximum Horsepower	29.4kw/5500rpm	48 PS @ 6000 RPM		
Maximum Torque	59nm/3000rpm	69 Nm @ 3500 RPM		
Engine Type	In-line 3	F8D 3 cylinders		
Valve Train	OHC	12 valves		
Fuel Supply System	EFI			
Displacement	796cc	796cc		
Transmission				
Transmission Type	4-forward, 1-reverse	5 speed MT		
Steering Wheel				
Steering Wheel Type	Rack and pinion	collapsible column (not EPS)		
Suspension				
Front	Strut, Coil spring	McPherson Strut		
Rear	Leaf Spring	Trailing Arm		
Braking System				
Type	without ABS Disc/Drum	without ABS Solid disc/drums		
Tyres/Wheels				
Tyre Size	145/70S R 12	145/80 R 12 (Tubeless)		
Wheel Type				
Fuel Tank				
Size	30 L	35 L		

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Table 10-6 Regional comparison of specifications for Suzuki WagonR

	PAKISTAN	INDIA	THAILAND	CHINA
Model	Wagon-R VXR	Wagon-R LXI (non-metallic)	Wagon-R 5MT GA	Beidouxing 1.0L
Price in local currency	959,000	402,814	359,000	34,900
Engine				
Maximum Horsepower	50 KW/6200 RPM	68PS @ 6200 RPM	50kW/6000 RPM	33.5kW/5000rpm
Maximum Torque	90 Nm/3500 RPM	90 Nm/3500 RPM	91 Nm/3500 RPM	72 Nm/3,000-3,500 rpm
Engine Type	K10B In-line 3-cylinder	K10B, In-line 3 cylinder	K10B In-line 3-cylinder	In-line 4-cylinder
Valve Train	DOHC 12-valve	12-valve	12 valves	16-valve SOHC
Fuel Supply System	Fuel injection		Multipoint Injection	
Displacement	998 cc	998 cc	998 cc	970cc
Transmission				
Transmission Type	Manual 5MT	5 MT AGS	5 MT	5 MT
Steering Wheel				
Steering Wheel Type	Electronic Power Steering	Collapsible Steering Column with Electronic Power Steering	Rack and Pinion without EPS	Energy Absorbing Steering Column without EPS
Suspension				
Front	MacPherson Strut	MacPherson Strut	MacPherson Strut	MacPherson Strut
Rear	Isolated Trailing Link	Isolated Trailing Link	Torsion Beam	Trailing Arm
Braking System				
Type	Ventilated Disc/Drum No ABS	Ventilated Disc/Drum ABS (Optional)	Ventilated Disc/Drum No ABS	Disc/Drum Disc/disc
Tyres/Wheels				
Tyre Size	145/80 R13	145/80R 13		165/65 R13
Wheel Type	Steel rims w/wheel caps	wheel caps	Steel wheels with center silver caps	Alloy Wheels
Fuel Tank				
Size	35 L	35 L	35 L	42 L

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Table 10-7 Regional comparison of specifications for Suzuki Swift

	PAKISTAN	INDIA	THAILAND	CHINA
Model	Swift DX	Swift LXI	Swift GA MT	Swift 1.3 MT
Price in local currency	1,282,000	464,733	442,000	59,800
Engine				
Maximum Horsepower	67 kw / 6000 rpm	84.3ps/6000 rpm	91ps/6000rpm	67 kw / 6000 rpm
Maximum Torque	114 Nm @ 4000 RPM	115 Nm/4000 rpm	118Nm/4800rpm	115 Nm/2500-3500 RPM
Engine Type	In-line 4-cylinder	In-line 4-cylinder	K12B/4-cylinder	In-line 4-cylinder
Valve Train	16 valves	16 valves	16 valves	16 valves SOHC
Fuel Supply System	Multipoint Injection	Multipoint Injection	Multipoint Injection	
Displacement	1328 cc	1197 cc (The other option is 1248 cc but it's for Diesel cars)	1242cc	1298 cc
Transmission				
Transmission Type	5 MT	5 MT	5 MT	5 MT
Steering Wheel				
Steering Wheel Type	Rack and Pinion with EPS	Rack and Pinion with EPS	Rack and Pinion with EPS	Energy Absorbing Steering Column with EPS
Suspension				
Front	MacPherson Strut	MacPherson Strut	MacPherson Strut	MacPherson Strut
Rear	Torsion beam	Torsion beam	Torsion beam	Torsion beam
Braking System				
Type	Ventilated Disc/Drum	Ventilated Disc/Drum	Ventilated Disc/Drum with ABS	Vented Disc/Drum with ABS
EBD	no	no	yes	yes
Tyres/Wheels				
Tyre Size	185/60 R 15	165/80 R 14	175/65 R 15	165/70 R 14
Wheel Type	Steel wheels with caps	steel wheels		
Fuel Tank				
Size	42 L	42 L	42L	45 L

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10.4 Regional Tariff Profiles

Applied MFN tariff rates by country, 2014

TRACTORS							
		Applied MFN Rates Average (Min-Max)					
HS Code	**Description**	**Thailand**	**China**	**India**	**Indonesia**	**South Korea**	**Pakistan**
8701	Tractors (other than tractors of heading 87.09).	16.3 (5-20)	7.0 (5-9)	10.0 (10-10)	9.4 (5-15)	5.2 (0-8)	23.3 (10-30)
870110	Pedestrian-controlled agricultural tractors and similar tractors for industry (excl. tractor units for articulated lorries)	20.0 (20-20)	9.0 (9-9)	10.0 (10-10)	12.5 (10-15)	8.0 (8-8)	30.0 (30-30)
870120	Road tractors for semi-trailers	20.0 (20-20)	6.0 (6=6)	10.0 (10-10)	5.0 (5-5)	8.0 (8-8)	20.0 (10-30)
870130	Track-laying tractors (excl. pedestrian-controlled)	5.0 (5-5)	6.0 (6-6)	10.0 (10-10)	5.0 (5-5)	0.0 (0-0)	30.0 (30-30)
870190	Tractors (excl. those of heading 8709, pedestrian-controlled tractors, road tractors for semi-trailers and track-laying tractors)	20.0 (20-20	6.8 (5-8)	10.0 (10-10)	15.0 (15-15)	4.8 (0-8)	13.3 (10-15)

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Applied MFN tariff rates by country, 2014

CARS							
		Applied MFN Rates Average (Min-Max)					
HS Code	**Description**	**Thailand**	**China**	**India**	**Indonesia**	**South Korea**	**Pakistan**
8703	Motor cars and other motor vehicles principally designed for the transport of persons (other than those of heading 87.02), including station wagons and racing cars.	70.1 (10-80)	25.0 (25-25)	100.0 (100-100)	29.0 (10-40)	8.0 (8-8)	70.5 (20-100)
870310	Vehicles for the transport of persons on snow; golf cars and similar vehicles	40.0 (40-40)	25.0 (25-25)	100.0 (100-100)	40.0 (40-40)	8.0 (8-8)	30.0 (30-30)
870321	Motor cars and other motor vehicles principally designed for the transport of persons, incl. station wagons and racing cars, with spark-ignition internal combustion reciprocating piston engine of a cylinder capacity <= 1.000 cm³ (excl. vehicles for the transport of persons on snow and other specially designed vehicles of subheading 8703.10)	73.0 (10-80)	25.0 (25-25)	100.0 (100-100)	29.1 (10-40)	8.0 (8-8)	52.5 (50-55)
870322	Motor cars and other motor vehicles principally designed for the transport of persons, incl. station wagons and racing cars, with spark-ignition internal combustion reciprocating piston engine of a cylinder capacity > 1.000 cm³ but <= 1.500 cm³ (excl. vehicles for the transport of persons on snow and other specially designed vehicles of subheading 8703.10)	70.0 (10-80)	25.0 (25-25)	100.0 (100-100)	26.7 (10-40)	8.0 (8-8)	60.0 (60-60)
870323	Motor cars and other motor vehicles principally designed for the transport of persons, incl. station wagons and racing cars, with spark-ignition internal combustion reciprocating piston engine of a cylinder capacity > 1.500 cm³ but <= 3.000 cm³ (excl. vehicles for the transport of persons on snow and other specially designed vehicles of subheading 8703.10)	76.8 (10-80)	25.0 (25-25)	100.0 (100-100)	30.3 (10-40)	8.0 (8-8)	91.7 (75-100)
870324	Motor cars and other motor vehicles principally designed for the transport of persons, incl. station wagons and racing cars, with spark-ignition internal combustion reciprocating piston engine of a cylinder capacity > 3.000 cm³ (excl. vehicles for the transport of persons on snow and other specially designed	75.0 (10-80)	25.0 (25-25)	100.0 (100-100)	30.0 (10-40)	8.0 (8-8)	100.0 (100-100)

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CARS							
		Applied MFN Rates Average (Min-Max)					
	vehicles of subheading 8703.10)						
870331	Motor cars and other motor vehicles principally designed for the transport of persons, incl. station wagons and racing cars, with compression-ignition internal combustion piston engine "diesel or semi-diesel" of a cylinder capacity <= 1.500 cm³ (excl. vehicles for the transport of persons on snow and other specially designed vehicles of subheading 8703.10)	72.2 (10-80)	25.0 (25-25)	100.0 (100-100)	23.6 (10-40)	8.0 (8-8)	55.0 (50-60)
870332	Motor cars and other motor vehicles principally designed for the transport of persons, incl. station wagons and racing cars, with compression-ignition internal combustion piston engine "diesel or semi-diesel" of a cylinder capacity > 1.500 cm³ but <= 2.500 cm³ (excl. vehicles for the transport of persons on snow and other specially designed vehicles of subheading 8703.10)	76.8 (10-80)	25.0 (25-25)	100.0 (100-100)	26.2 (10-40)	8.0 (8-8)	79.0 (20-100)
870333	Motor cars and other motor vehicles principally designed for the transport of persons, incl. station wagons and racing cars, with compression-ignition internal combustion piston engine "diesel or semi-diesel" of a cylinder capacity > 2.500 cm³ (excl. vehicles for the transport of persons on snow and other specially designed vehicles of subheading 8703.10)	76.1 (10-80)	25.0 (25-25)	100.0 (100-100)	26.4 (10-40)	8.0 (8-8)	100.0 (100-100)
870390	Motor cars and other vehicles principally designed for the transport of persons, incl. station wagons and racing cars, with engines other than spark-ignition internal combustion reciprocating piston engine "diesel or semi-diesel" (excl. vehicles for the transport of persons on snow and other specially designed vehicles of subheading 8703.10)	71.3 (10-80)	25.0 (25-25)	100.0 (100-100)	28.8 (10-40)	8.0 (8-8)	66.7 (50-100)

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Applied MFN tariff rates by country, 2014

AUTO PARTS							
		Applied MFN Rates Average (Min-Max)					
HS Code	**Description**	**Thailand**	**China**	**India**	**Indonesia**	**South Korea**	**Pakistan**
8708	Parts and accessories of the motor vehicles of headings 87.01 to 87.05.	25.0 (10-30)	9.7 (3-25)	10.0 (10-10)	9.8 (0-10)	8.0 (8-8)	35.0 (35-35)
870810	Bumpers and parts thereof for tractors, motor vehicles for the transport of ten or more persons, motor cars and other motor vehicles principally designed for the transport of persons, motor vehicles for the transport of goods and special purpose motor vehicles, n.e.s.	30.0 (30-30)	10.0 (10-10)	10.0 (10-10)	10.0 (10-10)	8.0 (8-8)	35.0 (35-35)
870821	Safety seat belts for motor vehicles	10.0 (10-10)	10.0 (10-10)	10.0 (10-10)	10.0 (10-10)	8.0 (8-8)	35.0 (35-35)
870829	Parts and accessories of bodies for tractors, motor vehicles for the transport of ten or more persons, motor cars and other motor vehicles principally designed for the transport of persons, motor vehicles for the transport of goods and special purpose motor vehicles (excl. bumpers and parts thereof and safety seat belts)	28.5 (10-30)	10.0 (10-10)	10.0 (10-10)	10.0 (10-10)	8.0 (8-8)	35.0 (35-35)
870830	Brakes and servo-brakes and their parts, for tractors, motor vehicles for the transport of ten or more persons, motor cars and other motor vehicles principally designed for the transport of persons, motor vehicles for the transport of goods and special purpose motor vehicles, n.e.s.	22.0 (10-30)	8.9 (6-10)	10.0 (10-10)	10.0 (10-10)	8.0 (8-8)	35.0 (35-35)
870840	Gear boxes and parts thereof, for tractors, motor vehicles for the transport of ten or more persons, motor cars and other motor vehicles principally designed for the transport of persons, motor vehicles for the transport of goods and special purpose motor vehicles, n.e.s.	10.0 (10-10)	8.3 (3-10)	10.0 (10-10)	9.2 (0-10)	8.0 (8-8)	35.0 (35-35)
870850	Drive-axles with differential, whether or not provided with other transmission components, and non-driving axles, and parts thereof, for tractors, motor vehicles for the transport of ten or more persons, motor cars and other motor vehicles principally designed for the transport of persons, motor vehicles for the transport of goods and special purpose motor vehicles, n.e.s.	30.0 (30-30)	9.4 (6-15)	10.0 (10-10)	9.2 (0-10)	8.0 (8-8)	35.0 (35-35)

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AUTO PARTS							
		Applied MFN Rates Average (Min-Max)					
870870	Road wheels and parts and accessories thereof, for tractors, motor vehicles for the transport of ten or more persons, motor cars and other motor vehicles principally designed for the transport of persons, motor vehicles for the transport of goods and special purpose motor vehicles, n.e.s.	30.0 (30-30)	9.0 (6-10)	10.0 (10-10)	9.3 (0-10)	8.0 (8-8)	35.0 (35-35)
870880	Suspension systems and parts thereof, incl. shock-absorbers, for tractors, motor vehicles for the transport of ten or more persons, motor cars and other motor vehicles principally designed for the transport of persons, motor vehicles for the transport of goods and special purpose motor vehicles, n.e.s.	30.0 (30-30)	10.0 (10-10)	10.0 (10-10)	10.0 (10-10)	8.0 (8-8)	35.0 (35-35)
870891	Radiators and parts thereof, for tractors, motor vehicles for the transport of ten or more persons, motor cars and other motor vehicles principally designed for the transport of persons, motor vehicles for the transport of goods and special purpose motor vehicles, n.e.s.	30.0 (30-30)	10.0 (10-10)	10.0 (10-10)	10.0 (10-10)	8.0 (8-8)	35.0 (35-35)
870892	Silencers "mufflers" and exhaust pipes, and parts thereof, for tractors, motor vehicles for the transport of ten or more persons, motor cars and other motor vehicles principally designed for the transport of persons, motor vehicles for the transport of goods and special purpose motor vehicles, n.e.s.	30.0 (30-30)	10.0 (10-10)	10.0 (10-10)	10.0 (10-10)	8.0 (8-8)	35.0 (35-35)
870893	Clutches and parts thereof, for tractors, motor vehicles for the transport of ten or more persons, motor cars and other motor vehicles principally designed for the transport of persons, motor vehicles for the transport of goods and special purpose motor vehicles, n.e.s.	30.0 (30-30)	8.9 (6-10)	10.0 (10-10)	10.0 (10-10)	8.0 (8-8)	35.0 (35-35)
870894	Steering wheels, steering columns and steering boxes, and parts thereof, for tractors, motor vehicles for the transport of ten or more persons, motor cars and other motor vehicles principally designed for the transport of persons, motor vehicles for the transport of goods and special purpose motor vehicles, n.e.s.	30.0 (30-30)	8.6 (6-10)	10.0 (10-10)	10.0 (10-10)	8.0 (8-8)	35.0 (35-35)
870895	Safety airbags with inflator system and parts thereof, for tractors, motor vehicles for the transport of ten or more persons, motor cars	10.0 (10-10)	10.0 (10-10)	10.0 (10-10)	10.0 (10-10)	8.0 (8-8)	35.0 (35-35)

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AUTO PARTS							
		Applied MFN Rates Average (Min-Max)					
	and other motor vehicles principally designed for the transport of persons, motor vehicles for the transport of goods and special purpose motor vehicles, n.e.s.						
870899	Parts and accessories, for tractors, motor vehicles for the transport of ten or more persons, motor cars and other motor vehicles principally designed for the transport of persons, motor vehicles for the transport of goods and special purpose motor vehicles, n.e.s.	30.0 (30-30)	13.3 (3-25)	10.0 (10-10)	10.0 (10-10)	8.0 (8-8)	35.0 (35-35)

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Applied MFN tariff rates by country, 2014

MOTORCYCLES							
		Applied MFN Rates Average (Min-Max)					
HS Code	**Description**	**Thailand**	**China**	**India**	**Indonesia**	**South Korea**	**Pakistan**
8711	Motorcycles (including mopeds) and cycles fitted with an auxiliary motor, with or without side-cars; side-cars.	60.0 (60-60)	41.7 (30-45)	100.0 (100-100)	18.1 (10-30)	8.0 (8-8)	65.0 (65-65)
871110	Motorcycles, incl. mopeds, and cycles fitted with an auxiliary motor, with reciprocating internal combustion piston engine of a cylinder capacity <= 50 cm³	60.0 (60-60)	45.0 (45-45)	100.0 (100-100)	15.0 (10-20)	8.0 (8-8)	65.0 (65-65)
871120	Motorcycles, incl. mopeds, with reciprocating internal combustion piston engine of a cylinder capacity > 50 cm³ but <= 250 cm³	60.0 (60-60)	45.0 (45-45)	100.0 (100-100)	15.0 (10-20)	8.0 (8-8)	65.0 (65-65)
871130	Motorcycles, incl. mopeds, with reciprocating internal combustion piston engine of a cylinder capacity > 250 cm³ but <= 500 cm³	60.0 (60-60)	45.0 (45-45)	100.0 (100-100)	20.0 (10-30)	8.0 (8-8)	65.0 (65-65)
871140	Motorcycles, incl. mopeds, with reciprocating internal combustion piston engine of a cylinder capacity > 500 cm³ but <= 800 cm³	60.0 (60-60)	40.0 (40-40)	100.0 (100-100)	20.0 (10-30)	8.0 (8-8)	65.0 (65-65)
871150	Motorcycles, incl. mopeds, with reciprocating internal combustion piston engine of a cylinder capacity > 800 cm³	60.0 (60-60)	30.0 (30-30)	100.0 (100-100)	20.0 (10-30)	8.0 (8-8)	65.0 (65-65)
871190	Motorcycles, incl. mopeds, and cycles fitted with an auxiliary motor and side cars for motorcycles (excl. with reciprocating internal combustion piston engine)	60.0 (60-60)	45.0 (45-45)	100.0 (100-100)	18.6 (10-30)	8.0 (8-8)	65.0 (65-65)

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10.5 Meetings

Cars

Abuzar Bokari, CEO, Porsche (Pakistan)

Iqbal Ahmad, General Manager Import, Purchase and Logistics Division, Honda Atlas Cars (Pakistan) Limited

Maqsood Ur Rahman, Vice President Admin. HR and Corporate Affairs, Honda Atlas Cars (Pakistan) Limited

Muazzam Parvaiz Khan, Senior Executive Director Marketing and Sales, Ghandhara Nissan Limited

Parvez Ghias, CEO, Toyota Indus Motor Company Limited

Shafiq Ahmed Shaikh, Head of Public Relations Pak Suzuki Motor Company Limited

Wajid Bux Siddiqui, Manager, Control and Logistics, Indus Motor Company Limited

Motorcycles

Fahad Iqbal, CEO, Ravi Automobile (Pvt.) Ltd.

Razi Ur Rahman, Director Corporate Affairs, Atlas Honda Limited

SanaUllah Chaudhary, MD, United Auto Industries Private Limited

Tractors

Farogh Iqbal, General Manager Engineering and Supply Chain, Millat Tractors Limited

Mashood Mirza, GM Marketing, Al-Ghazi Tractors Limited

Sikander Khan, CEO, Millat Tractors Limited

Auto parts

Aamir Allawala, CEO, Tecno Pack Telecom (Pvt) Ltd. *(former Chairman, PAAPAM)*

Ahsan Imran Sheikh, CEO, Millat Equipment Ltd.

Akbar Baig, Director Sales and Marketing, Tariq Float Glass

Ali Khan, Assistant Manager, Mannan Shahid Forgings

Almas Haider, CEO, Synthetic Products Enterprises Limited (SPEL)

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Asif Rizvi, CEO, Thal Engineering

Haroon Arshad, CEO, Ravi Autos (Pvt) Limited

Mohammad Adil Naseem, Deputy Manager Commercial, Tariq Float Glass

Muhamad Ashraf Shaikh, Director, Yusuf Auto Industries

Munir Bana, CEO, Loads Limited *(former Chairman, PAAPAM)*

Sohail P. Ahmed, Vice Chairman, Automotive, House of Habib

Syed Nabeel Hashmi, CEO, Thermosole Industries (Pvt) Limited *(former Chairman, PAAPAM)*

Usman Aslam Malik, CEO, KorTech Auto Industries (Pvt) Ltd. *(former Chairman, PAAPAM)*

Others

Asim Ayaz, Manager Policy Auto, EDB

Ijaz Ahmad, DGM Business Development/Coordinator to CEO, EDB

M Ajmal Sharif, General Manager Policy/Business Development, EDB

Salman Aslam, CEO, Tokyo Automobiles

Sher Afghan, Director General, Trade Development Authority of Pakistan

Sunil Sarfraz Munj, Chairman, PakWheels.com

Tariq Ejaz Chaudhry, CEO, EDB

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