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Export Competitiveness of the Indian Automobile Industry: With Special Reference to the South African Market

Misu Kim[1*] and Hyungmoon Chai[2]

[1,2]Hankuk University of Foreign Studies*
[1]mskim9@gmail.com*

Abstract

This study examines export competitiveness of the Indian automobile industry in the South African market based on Comparative Advantage by Countries (CAC), and Market comparative advantage (MCA) methodologies in addition to analysis of historical development and automobile export policies. Trade data between India and South Africa including competitors, such as Korea, Germany, the USA and Japan are employed in data analysis covering the study period of 2009 to 2014.

Keywords: *India, Exports, Automobile, Competitiveness, South Africa*

1. Introduction

India has long considered the automobile industry integral for economic growth in their developing country (Government of India 2006). Due to its forward and backward linkage effects, the development of the automobile industry can foster the manufacturing sector, which is an efficient means of employment generation. Hence, the Government of India has implemented several policies to promote the automobile industry. Furthermore, India has tried to attract Foreign Direct Investment (FDI) to establish itself as a global manufacturing hub.

According to the International Organization of Motor Vehicles Manufacturers (OICA), India's automobile production was the sixth largest in the world in 2014. India's automobile production recorded 3.844 million in 2014, increasing from 2.253 million automobiles in 2007. However, automobile sales capacity in the domestic market is limited and stagnant as the domestic market is dominated by two-wheeler vehicles due to the lack of road infrastructure and heavy traffic. Indian automobile companies are working to increase exports as a way to tackle the problem of over-production capacity (Narayanan 2008). Furthermore, exports can be a catalyst for further development of the industry by increasing productivity and efficiency to meet tough competition in global markets (Government of India 2006).

In this context, analysis of the Indian automobile exports is of significance; hence we examine the export competitiveness of Indian automobiles in this study. In particular, we focus on the competitiveness of Indian automobiles in the South African market. To analyze India's competitiveness in automobile exports, we employed Market Comparative Analysis (MCA), in a modified version of Balassa's Revealed Comparative Advantage (RCA). The study period covers 2009 to 2014 when India's automobile export to South Africa increased substantially. Country and commodity-specific data is sourced from UN Comtrade data from

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2009 to 2014. Product classifications follow the four and six-digit Harmonized Commodity Description and Coding System (HS)[2].

Consequently, this study contributes to the foundation for further research and scholarly development of this topic. This paper has consisted as follows: Chapter II elaborates on the development of India's automobile industry and export policies; India's automobile export to South Africa is described in Chapter III. Chapter IV delves into India's competitiveness in automobile exports based on CAC. The last chapter concludes the study with policy suggestions.

2. India's automobile industry policy

2.1. India's automobile industry development policies

The Government of India announced the Industrial Policy Resolution (IPR) in 1948 for industrial development, emphasizing the government's role and intervention. It has been argued that those policies led to inefficiency and low productivity in industries (Government of India 1991). Due to the 1973 oil shock, the volume of petroleum imports from the Middle Eastern Countries sharply increased. The Government of India categorized passenger cars as a luxury good, which was tightly regulated by the Monopolies and Restrictive Trade Practices Act and Foreign Exchange Regulation Act[3]. Therefore, the market and development of passenger cars remained stagnant, and the two-wheeler vehicle segment dominated India's automobile market (Ranawat and Tiwari 2009). In the early 1980s, Maruti Udyog, the government-owned automobile manufacturer, identified the necessity of developing and exporting fuel-efficient, low-volume passenger cars (Venkataramani 1990; Agustin 2012). Maruti Udyog launched a joint venture with Maruti from Japan and started manufacturing small-sized cars (Agustin 2012). Due to the reforms in 1991, regulations on the two-wheeler, three-wheeler, and commercial vehicles were relaxed in July 1991, and passenger cars in 1993. Since then, the Indian automobile industry has achieved remarkable development and the entry of foreign automobile companies with advanced technology has also significantly increased. Furthermore, the performance of automobile exports by India also has substantially expanded (Narayanan 1998).

2.2. India's automobile exports policy

Auto Policy 2002 was introduced as the first separate automobile policy to establish a globally competitive automobile industry in India. In Auto 2002, R&D activities were highlighted to improve exports of Indian automobiles (Singh 2014). Moreover, Auto Policy 2002 stipulates the goal of developing small-car manufacturing capacity to establish an international hub for manufacturing small and affordable passenger cars (Government of India 2012). The automatic approval of 100 percent of foreign equity investment was authorized and procedures for exports were also simplified in Auto 2002, which as a result has improved India's automobile exports (Singh 2004). In Automotive Mission Plan 2006-16,

[2] Classification of automobiles by HS code and Society of Indian Automobile Manufacturers (SIAM) is different. According to SIAM, criteria for classification of Indian automobiles are engine displacement, number of seats, and body length.

[3] The MRTP Act was a regulative act limiting corporations' economic activities. MRTP companies with more than Indian Rupee (INR) 200 million in fixed assets were required to gain additional government clearance in order to enter, expand, acquire and merge their business. FERA was a stricter approach to acquisition of foreign technology and foreign equity participation. The maximum foreign equity participation was 40% (Ranawat and Tiwari 2009).

the Government of India recognized the importance of manufacturing competitiveness to increase exports. In this policy, investment incentives were suggested for automotive firms, especially those engaged in exports. Excise duties were also lowered by ten percent on small cars to encourage small car manufacturing (Government of India 2006). As the next phase of AMP 2006-16, AMP 2016-26 was published with an emphasis on improving environment and safety standards to meet international standards. It has been argued that the major obstacle to achieving consistency for Indian automobile exports was unsatisfactory pollution and safety standards related to advanced technology (Piplai 2001).

3. India's automobile exports to South Africa

India's automobile exports to South Africa have intensified and increased in importance. South Africa is the largest export market for Indian automobiles. At the same time, India is the third largest importing country for South Africa's automobiles after Germany and the USA. South Africa imports commercial and premium cars from Germany and the USA, while she imports passenger cars from India. The share of Indian passenger cars (HS 8703) in South Africa reached 28.8% in 2014, up from 7.3% in 2009 in terms of quantity. Particularly, South Africa imports small-sized cars (HS 870322) from India; small-sized cars make up 50 percent of the Indian passenger automobiles in the South African market since 2012. On the other hand, mid-sized and premium cars in both gasoline and diesel engine are trivial.

Table 1. Automobile imports of South Africa from India

(Unit: No. of Vehicles)

	2009	2010	2011	2012	2013	2014
HS 8703: Motor Vehicles for transport of persons (Except buses)	51616	103574	159000	228668	171022	91982
HS 870321: Automobiles, Spark ignition engine of 1000-1500cc	0	41	1	225	346	1390
HS 870322: Automobiles, Spark ignition engine of 1000-1500 cc	38088	65291	124094	199933	154134	71628
HS 870323: Automobiles, Spark ignition engine of 1500-3000 cc	12462	36218	26888	16984	7476	8023
HS 870324: Automobiles, Spark ignition engine of >3000 cc	0	0	2	0	0	0
HS 870331: Automobiles, Diesel engine of <1500cc	81	28	1527	3710	4518	4476
HS 870332: Automobiles, Diesel engine of 1500-2500 cc	913	1958	6242	7800	4548	6461
HS 870333: Automobiles, Diesel engine of >2500cc	72	38	245	16	0	0
HS 8704: Moto Vehicles for the transport of goods	3184	10476	11534	19547	10692	3974

Source: Department of Trade and Industry, South Africa

South Africa has fewer facilities to produce its cars; therefore, foreign firms entered the South Africa market. In the case of European companies, before establishing production plants in South Africa, they entered the South African market with premium cars, which could not meet the demand of local consumers. Therefore, Japanese used cars were imported to South Africa at a reasonable price to address this market need. New and low priced Indian automobiles entered the South African market, and India took over the place of Japan based on price competitiveness (Cheru and Obi 2010).

To develop the automobile industry, the South African government introduced the Automotive Production Development Program (APDP) including incentives for OEMs (Original Equipment Manufacturing) to manufacture for both the export and local markets. With the favorable policies for foreign automobile companies, MNCs entered South Africa to access the automobile cluster and local production for exports because the domestic market is not large enough to enjoy economies of scale. Thus, South Africa's automobile industry policy encourages exporting high-volume models (HS 870323) to obtain economies of scale and importing low-volume models to complement the domestic market mix (Damoense-Azevedo and Jordaan 2011; Automotive Industry Export Council 2015). As the Government of India implemented policies to produce fuel-efficient and low-price vehicles from 1000 to 1600 cc, South Africa imported small-sized cars from India, particularly the HS 870322 (Agustin 2012). In addition, insufficient production in the South African market and over-capacity in India's automobile industry aligned, facilitating India's exports of HS 870322 to South Africa (Amighini 2012).

4. Exports competitiveness analysis of Indian automobile in South Africa

To examine the recent performance of India's automobile exports in South Africa, India's export competitiveness in South Africa is analyzed with the Market Comparative Advantage (MCA), a modified version of Balassa's Revealed Comparative Analysis (RCA). RCA shows the export share of a country's specific commodity in the world market about the commodity composition in world exports (Balassa 1964).

MCA of country j in the k market with the product of i is as follows.

MCA shows the comparative advantage of a country in a specific market about the share of total imports of products in the market. It provides a comparative analysis of comparative advantages between competitors in the market (Kim 2005). MCA has a value between zero ∞ . If MCA is less than one, it indicates a comparative disadvantage compared to the average exports of a specific product to the market; and vice versa.

$$\mathrm{MCA}_{ij}^{k} = \frac{X_{ij}^{k}/X_{j}^{k}}{WX_{ik}/WX_{k}}$$

$X_{ij}^{k} =$ Country j's exports of product i to the k market

$X_{j}^{k} =$ Country j's total exports to the k market

$WX_{ik} =$ World exports of product i to the k market

$WX_{k} =$ Total world exports to the k market

(WX_{ik} *and* WX_{k} can be substituted by WI_{ik} *and* WI_{k}, since world exports to the *k* market would be the same amount as total imports of *k* market, in theory.)

Table 2. MCA of Indian automobiles in South Africa

	2009	2010	2011	2012	2013	2014
870321	13.81	11.95	3.64	2.35	4.90	4.55
870322	8.54	7.90	7.61	7.33	9.69	8.65
870323	0.37	0.84	1.06	1.70	0.54	0.54
870331	0.00	87.08	16.46	3.20	13.56	20.55
870332	0.10	0.14	0.40	0.16	0.17	0.11
870333	0.00	0.01	0.00	0.00	0.03	0.00
8703	1.59	1.88	2.17	2.28	2.84	2.70

As shown in [Table 2], India shows a high comparative advantage of MCA in mini (870321) and compact cars (870322, 870331) in the South African market. On the other hand, India's mid-sized (870323, 870332) and premium (870333) cars show relatively low comparative advantage compared to competitors[4]. Even though India has comparative advantages in mini (870321) and compact cars (870331), it shows a decrease in comparative advantage recently. On the other hand, compact (870322), mid-sized (870323), and premium cars (870333) show an increase in comparative advantage.

Korea shows the highest comparative advantage in passenger vehicles among competitors, especially in compact and mid-sized cars, except for compact and premium diesel cars (870331, 870333). In the case of Germany, all passenger vehicles show a comparative advantage except diesel compact cars (870331). Japanese premium cars (870323, 870333) show a high comparative advantage.

5. Conclusion

This study tries to analyze the competitiveness of the Indian automobile industry in the South African market. The prime question of this paper rose from the positive performance of Indian automobile exports to South Africa. Are exports of the Indian automobile industry competitive in the South African market, and if they are, what is the reason for the competitiveness? To answer these questions, the industrial and automobile policies of India were examined and comparative advantage analysis was conducted with various trade indicators.

India has specialized in the manufacturing of small-sized cars based on the governments' policies. Due to lack of production capabilities, the South African automobile industry encouraged exports of high volume models to obtain economies of scale and imports of low volume models to complement the domestic market mix. Since India achieved economies of scales in small-sized cars, exports of this segment can be matched with the need of the South African market.

To examine the competitiveness of the Indian automobile industry in South Africa, trade indicators such as MCA were introduced for analysis. According to the results compared with other competing countries in the South African market, comparative advantages in gasoline engines of 1000cc to 1500cc was recorded, highest among the competitors.

According to the analysis in this paper, Indian government policies encouraged exports in automobile industry trade and the development of the small car segment. On the other hand, policies of the South African automobile industry encouraged the middle-sized car segment to achieve economies of scale. Therefore, the small car segment had to turn to imports to satisfy the domestic market mix. Therefore, the competitiveness of the Indian automobile industry was well-matched with the needs of the South African automobile industry. South Africa's automobile industry still needs more imports for different types of segmentation. To increase exports of various types of automobiles, policies should be implemented based on segmentation of the automobile market.

Due to a lack of concrete, specific trade data, only border trade volume was considered. It has the limitation that only trade volume was used as an indicator for the analysis. Since the study considered only trade amount, analysis from different perspectives should be developed. If other types of indicators such as design or price of the car would be added, analysis of automobile competitiveness can be elaborated further. As the automobile components sector comprises a large part of the automobile industry, the absence of analysis

[4] The MCA analysis of Korea, Germany, Japan and the USA is available upon the request.

on the auto components sector is a limitation of this study. For future research, reasons exports gravitate towards the South African market can be studied from the perspective of the Indian automobile industry.

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