

Mid Report

Promoting Kazakhstan's WTO Accession and
Analyzing Its Economic Impact

Development of the Automotive Industry and Related Machinery Industries in the Republic of Kazakhstan

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I. Overview of the Kazakhstan's automotive industry and related machinery industries (Automobile Parts Industry)

1.1 The objective of Study is to develop recommendations on development of the automotive and related machinery industries in the Republic of Kazakhstan with consideration of WTO accession.

1.2. Current status of Kazakhstan Auto Industry

In 2007, production of cars in Kazakhstan is less than **2%** of their total consumption in the country (production + imports - exports) and imports exceeded production by 62 times. For trucks the situation is not better as the production is not much more than **5%** of consumption. Regarding buses it should be noted that their production is not much more than 2% of consumption. The import of cars from foreign countries is mainly dominated by cars aged over 7 years (80%).

400,000 vehicles, 80% of which was used imported, were sold in 2007 Kazakhstan. And the Kazakhstani demand for car and vehicle is forecasted potential as of its economic development in the future. The most important government policy of automobile industry might be how to induce these demand to buy local made vehicles (car and commercial

vehicle). In order to increase local production based on local industrial base, it is critical that local automobile should be competitive with imported new car as well as used ones in price and in quality. It is the challenge to Kazakhstan in automobile industry sector.

1.3. General overview of Kazakhstan Auto Industry

- 1) Kazakhstan has a strong interest in auto industry as it is potentially important as a strategic and potential exporting industry in the future
- 2) Kazakhstan has strong interest in government policies of Korea in relation to auto industry as of its rapid development to be world 5th auto making country in 1995 within so drastic short time..
- 3) The market demand for automobile in Kazakhstan is potential but how to meet these demands might be important at government as well as industry level
- 4) The basic direction and national development strategy is required to meet these demand for automobile besides, WTO, free trade environment. Korea's experience in automobile industry might give some meaningful policy implications to formulate development plan of auto industry in Kazakhstan.
- 5) The importance of knowledge base for industries including auto industry should be recognized fully, as Kazakhstan is at the beginning point of national industrialization.

1.4 .Weak Points

1. ERI(Economic Research Institute) of Kazakhstan evaluates the current status of Kazakhstan automobile industry as following
 - (1) Absence of full cycle car production
 - (2) The local content Ratio of Azia Avto to assemble foreign model is 1% low
 - (3) Insufficient technological basis
 - (4) Low workforce potential
 - (5) Low investment
 - (6) Absence of conceptual development base
 - (7) Constraints due to the lack of favorable terms of trade
 - (8) Low technical features of cars produced in Kazakhstan
 - (9) Low Supportive industries

II. Experience and implication from Korea's automotive industry and related machinery industries development

2.1. Current status of Korean Auto Industry

Korea has become 5th auto-making country in 1995 to produce 1.5 million vehicles from 29 thousands output in 1975. In 2008, Korea's automobile production output was 3.83 million and export stood at 2.68 million units. At company level, Hyundai and Kia has joined the 6th. auto maker in the world to sell 4.1 million vehicles in 2008. The following Table shows detail output of Korean auto industry

< Table > World Auto Production (1000 units)

	1991		1995		2000		2005		2008	
1	Japan	13,245	USA	11,904	USA	12,820	USA	11,977	Japan	11,563
2	USA	8,883	Japan	10,196	Japan	10,114	Japan	10,799	China	9,345
3	Ger	5,034	Ger	4,667	Ger	5,197	Ger	5,757	USA	8,696
4	Fran	3,610	Fran	3,482	Fran	3,351	China	5,707	Ger	6,045
5	Spain	2,078	Kor	2,526	Korea	3,114	Korea	3,699	Korea	3,826
6	Cana	1,911	Cana	2,391	Spain	3,032	France	3,549	Brazil	3,220
7	Ital	1,877	Spa	2,333	Canada	2,345	Spain	2,752	France	2,568
8	Korea	1,497	U.K	1,769	China	2,008	Canada	2,687	Spain	2,541
9	U.K	1,454	Italy	1,667	Mexico	1,918	Brazil	2,493	India	2,310
10	Mexico	989	Brazil	1,630	U.K	1,817	UK	1,803	Mexico	2,169
W-Total		47,441		52,160		57,539		65,945		71,368

Data : Automotive News, Market Data Book,

<Table > Korean Car Makers

	Hyundai	Kia	GM Daewoo	Renault	Ssangyong
Established	1967	1944	1972	2000	1954
Local	Hyundai Motor	Hyundai Motor	GM Holden (44.6%) Suzuki (14.9%) Shanghai Motor(10.6%)	Renault (80.1%) Samsung(19.9%)	Shanghai Motor (50.91%)
Major holder	Korea	Korea	U.S	France	China

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Auto parts Industry

At the end of 2007, there were more than 4,180 suppliers. There were 901, 1st tier suppliers in Korea. 89.5% of them were small and medium-sized companies. Revenue of auto part suppliers has been increased along side with assemblers. In 2007, they produced 77% of their revenue in OEM and 18.4% in export.

<Table > Korean Auto Parts Industry (unit : Mil. US \$)

Categories	1997	1998	1999	2000	2001	2007	2008
Exports	2,091	1,754	2,024	2,115	2,210	11,658	13,096
Imports	1,267	767	1,141	1,414	1,420	3,074	3,408
Trade Balance	824	967	883	741	790	8,584	9,688

2.2. Underlying Factors :

The engines for rapid growth of Korea' Automobile industry can be summarized as following at government, industry, firm and individual level.

1. Government Level

1) Government Policy : Supply Side

(1) Integration of Auto Makers

Korea government implemented strong policy to permit for car plant with high standard to integrate small auto plants in 1962. The integration Government policy enacted in 1964 reduced auto small assembly plants to one. The number of auto maker increased to 4 and it has been maintained until Samsung joined auto industry in 1994. At the initial stage of development of auto industry, Government initiated to integrate existing auto plants as in experienced in Korea as well as China.

(2) Local model development :Long-Term Automobile Industry Promotion Plan (1974)

In 1974, the active government policy for the automobile industry was suggested under the title "Long-Term Automobile Promotion Plan", with following detailed requirements. 1) indigenous model(model, not produced in other country), 2) 95% localization ratio by the end of 1975, 3)export 75 thousands cars in 1981, 4) mass production system (50 thousands

annual production capacity per maker in body and engine plant, 5) size of car: sub-compact be below 1500cc of engine displacement, 6) domestic retail target price : 2,000 US dollar.

(3) Rationalization of Automobile Industry in 1980s

Facing with low utilization ratio as a result from the world economic recession after second oil crisis in 1979, Korean government again drove the integration of auto makers in 1981. The initial government plan to integrate three car makers to only one, to take advantage of scale economies was not realized to face the severe rejection from Hyundai Motor as well as from G.M.

(4) Technology

The mode of technology transfer in Korea's auto industry is quite different from that of other countries. Korea promoted transfer of technology through the procurement of capital goods as its amount is 16 times of FDI and licensing. Korean auto makers preferred technology licensing to FDI. And Korea's Government has begun to initiate R&D activities in government research institute (GRI) and at university in 1980s. Government tried to supply basic science and technology in addition to well trained research personnel by establishing KIST (Korea Institute of Science and Technology and KAIST (Korea Advanced Institute of Science and Technology in the 1960s.

2) Government Policy : Demand Side

(1) Domestic Market Protection

Korean government has protected domestic market to prohibit import of the completed vehicles for 1962-1986. Passenger car with engine size over 2000cc was permitted to import from July 1987 and the car with engine below 2000c could be imported from April 1988. For these long time, the local market has been protected for local makers to accumulate capabilities to be competitive with established auto makers.

< Table > Comparison of Vehicle Tariff Rate

	Korea	Japan	EU	U.S.A	Canada	Australia	Mexico	Taiwan
car	8	0	10	2.5	9.2	27.5	20	30

c.v	8,10	0	11,22	25	9.2	8	20	30,40
parts	8	0	6.5	3-4	9.2	8-27.5	02-20	avr. 20

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C.V : Commercial Vehicle (Truck, Bus)

< Table > Tariff for passenger car in Korea (%)

Year	83	87	87.1	88.1	88.4	89.1	90.1	91.1	92.1	93.1	94.1	95.1
Tariff %	150	60	50	40	30	25	20	20	17	15	10	8
Import Liberation			Car with engine Over 2000cc (July 1987), Car with engine below 2000cc April1988)									

Data: Ministry of Knowledge and Economics, Korea

(2) Export Promotion Strategy

The Korean auto industry has consistently pursued export oriented strategy from the beginning as of the following two reasons. One is to get minimum economic scale under limited size of local demand, and the other is to get foreign currency since mid 1970s. Export oriented strategy led Korea's auto makers to start export in 1976 and it also led to enter into U.S market in 1986. The export to U.S market led Korea to increase export rapidly since mid 1980s and 70 % of local production targeted to export markets in 180 countries over the world .

(3) Localization Policy

Korea government enacted localization policy consistently since 1960s. In the early stage in 1960s, the policy of import prohibit of auto parts was implemented but it met with failures as the makers preferred to maintain the SKD assembly of foreign models to get more profit with less risk taking. As a consequence, the local content ratio in Korean auto industry could not be increased so easily by mid 1970s. The real policy effect to increase local content could be realized by development of local model in mid 1970s. This is very important fact to learn from Korean experience. Without concrete plan to develop local model, the localization could hard to be achieved. Korea Government has maintained the permit system to import auto parts until mid 1970s. The localized parts could not be imported to support local auto parts maker. This is very strong policy by the special order of president to accelerate the localization in Korean auto industry.

2. Industry Level : Corporate Governance Structure

Korean major auto maker, Hyundai and Kia have been controlled by local capital, instead of multinational corporations from the outset in 1960s. This local control CGS(Corporate Governance Structure) enabled to appear the risk taking top managers at Hyundai Motor. And the risk-taking entrepreneurship led aggressive R&D, which enabled Korea auto makers to maintain strategies to the technological self-reliance. The joint ventures in developing countries usually seek the import substitution in local market with outdated products, technologies. The multinational auto companies tend to less interested in adapting to local conditions and innovation.

3. Firm Level : Self-reliance Strategy

1) Indigenous model development in 1975

Korea's auto maker, Hyundai was late entrant to auto industry founded in 1967 has finally succeeded to develop first Korean local model "Pony" in 1974 in compliance with Government policy as aforementioned. It tried to acquire necessary technologies by licensing rather than joint venture. Hyundai, however, has led Korean auto industry to the road to the self-reliance.

2) Independent Marketing Strategy

Hyundai started export in 1976 by its own independent marketing channels. Hyundai enter to European market in 1980 aggressively by its independent marketing channels. This aggressive export oriented strategy led Hyundai and Kia motor to establish of their own exclusive independent dealers in North America in mid 1980s. Hyundai and Kia used huge capital to establish the independent marketing channels in 1980, 1990 but it enabled these companies to compete effectively with the established auto makers in 2000s

3) Indigenous R&D efforts

Korean leading auto maker, Hyundai established the R&D institute in 1974 and the R&D efforts in investment and manpower continuously has been increased. The total R&D investment of sales reached 5% in 2000s.

4. Individual Level: Hard Working Koreans

Korean workers, manager and engineers worked so hard to get over the crisis constructed by government and by auto maker to develop local model in mid 1970s. Koreans has

worked “from nothing to something” at that time. There are at least five situational factors why Korean work so hard as following. (1) the national trait of tenacity that comes from Korea’s geographical location, mid of China and Japan but to survive (2) *Han* psyche that comes form to get over poverty and frustration (3) hard working conditioning during school days (4) physical environment: small sized of territory with 45 million people (5) “beat Japan: spirit to get over past colonized period (1910-1945) (6) experience of deprivation as of absolute poverty in early 20 century.

5. Supporting Industry level: Infrastructure and Base of Parts Industry

The rapid growth of automobile was closely related with supporting from the other industries as steel, machinery and electronic industry. The development of Korean steel industry led by Pohang Steel and Iron Company(POSCO) is well known. The Korean electronic industry, and electronics maker like, Samsung, LG electronics had progressed more rapidly than auto industry in last two decades

III. Recommendations on development of the automotive and related machinery industries in the Republic of Kazakhstan with consideration of WTO accession:

3.1 Proposed governmental measures to support the automotive and automotive parts industry

There has appeared some countries to try 'Korean path' in auto industry. Malaysia was another trial to produce local model, Proton, with technical assistance from Mitsubishi Motor in 1990s. Indonesia also tried to develop its own local model “Timor” in 1909s but not met success. Korean’s case shows that strong commitment and support of Government is the critical condition to the development of auto industry.

1) Supply side

(1) Assemblers

Kazakhstan automobile (car as well as truck) and agricultural machinery maker could join to increase local production with current existing industrial base. Current local firm could invite joint venture partners from foreign country to get more technologies more efficiently.

(2) Product

The development of SUV(Sports Utility Vehicle) model can be considered as tentative idea, SUV model can meet demand for passenger car and also demand for multi purpose vehicle. The current industrial base for agricultural machinery industry can be shared with industrial base for SUV production. The part industry for SUV vehicle might also be common industrial base for agricultural machinery industry to produce Tractor, Reaper, We can consider the feasibility of SUV local model development. SUV model, modified suitable for Kazakstani conditions as well as for other central Asian countries initially as a stepping stone for the development of Kazakhstani auto industry. If Kazakhstan could make success in SUV model development, the import substitute as well as export to regional area including Central Asian countries and Russia can be expected. Market share of SUV in new car in Kazakhstani reached 43 % in 2008

(3) Automotive Parts industry

The technological level of parts industry usually determines the level of auto industry. The current local content ratio is 1% level as shown in Azia Avto. Kazakstan has the long way to go in auto industry. The qualitative as well as quantitative level of parts industry should be rapidly increased to accelerate local assembly and local production. But developing parts industrial base is more critical issues. The following measures could be considered to meet challenges.

- The supply of raw material with preferential low price to parts makers could be considered
- The Infrastructure for parts industry including land, communication, and electricity should be solved at national level
- To break down the current bureaucracy is also critical to the start of parts industry.

(4) Source of technology

Technology supply might be most important factor in supply side at the initial stage and it is inevitable to import necessary technologies from advanced makers. Korean experience shows if a company could select the source of technology from the multiple choices without the hindrance of foreign partner, it could contribute positively to effective technology accumulation in the long run.

In addition, the facilities of existing plants can be moved to Kazakhstan to get process technology more effectively with lower price as the world financial crisis has led so many bankrupts of auto plants.

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(4) Human Resource Development

Kazakhstan is requested to educate student for automobile industry at university as well as in high school. In addition, the “Volashak Program” of Kazakhstan should be closely linked with national demand for human resource to accelerate getting the necessary technologies effectively within possible short time. By way of such intentional educational program, Kazakhstan will get necessary human resource within short time to accelerate industrial development.

2. Demand side

Annual new car demand is forecasted 200,000 -250,000 if the import of used cars will be prohibited. The demand creation could be realized by way of high tariff for used cars as shown 45% tariff rate for over 5 year used car in Russia. In addition to Government preferential purchase and internal tax support for new car, made in local plants.

(2) Economies of scale

The local demand is critical for the makers to take advantage of scale merit in the long run. But at the initial stage, the government's support might be necessary one of the most important conditions for the local maker to accumulate the capability. We can find a good example in Malaysia that only local model car 'Proton' could get the taxi license.

(3) Competition

The free competition might be one of the most important factors in the development of auto industry. Korean experience shows Government only suggested rigorous requirements and standards of local citizen's car and it supported the competition among the auto makers. But it is dilemma how to induce competition among makers with limited local demands. As a consequence, the limit of competition is inevitable to get the scale merit in the market with limited demands.

3-2. Recommendations on Kazakhstan's WTO Accession in the area of automotive industry and related machinery industry

In the Final Report, Part III, Recommendations on development of the automotive and related machinery industries in the Republic of Kazakhstan with consideration of WTO accession: will be included in detail.

1) Industrial Policy under world financial crisis and the basic direction of Kazakhstani Industrial Policy for Auto Industry

2) Policy of Auto and Parts Industry [Industrial Policy + Trade Policy]

(1) Industrial Policy

Supply

Maker, CGS

Product : SUV, C class

Parts/localization

Technology

Human Resource

Demand

Domestic

Tariff : Custom Rate

Non tariff : used car

Export

Technology

Reference Case: Korea, China, Russia

(2) **Regional Trade Policy : Customs Union (CU) Kazakhstan, Russia, Belarus**

Reference : Mercosur Union: Brazil, Argentine, Paraguay, Uruguay

(3) **Multilateral Trade Policy :WTO Accession**

Tariff and Non Tariff

Local content

Foreign Direct Investment

Distribution

Under WTO system, Government can only support following 4 areas

- (1) R&D
- (2) Infrastructure
- (3) Human Resource
- (4) Business Service

Reference Case: Korea WTO 1995, Indonesia, Timor 1996 End of file