

Lecture V

South Korea's Major Industries

Automobile Industry





The first Korean produced automobile in 1960s





Ulsan Hyundai Motor Plant



Automobile Industry

- Huge inter-industry relation:
steel, machinery, material, IT, BT, ET, ET, and so on.
- Representative capital intensive industry
- A new model's R&D cost amounts to 300 Billion won
- The **crucial industry** that leads S. Korea's economic growth in 21st century



The first independently designed automobile: PONY





Forward and Backward Effects of Auto Industry

Material Industry

Machinery Industry

Rear Industry



Front Industry

Transport Industry

Distribution &
Maintenance Industry

Construction, Oil, and
Finance Industry



Global Automobile Industry

Thousand, %

	2002	2003	2004	2005	2006	2007	growth	
							'07	'02~'07
Toyota	6,535	7,053	7,811	8,502	9,289	9,716	4.6	48.7
GM	9,063	9,288	9,428	9,475	9,601	9,615	0.1	6.1
Ford	7,941	7,822	7,878	7,812	7,728	7,823	1.2	-1.5
VW	5,063	5,113	5,131	5,250	5,926	6,540	10.4	29.2
Renault/ Nissan	5,060	5,381	5,728	6,020	5,611	5,914	5.4	16.9
Hyundai	2,757	2,868	3,311	3,716	3,982	4,269	7.2	54.8
Honda	2,916	2,971	3,179	3,409	3,631	3,914	7.8	34.2
PSA	3,101	3,090	3,081	3,084	3,103	3,232	4.2	4.2
Chrysler	2,792	2,603	2,708	2,797	2,577	2,569	-0.3	-8.0

자료: Fourin

Automobile Industry

- 11.8% of Manufacturing, 13.4% of EX
- Huge job creation industry: 9.1% of manufacturing employment
- The largest single EX item: \$ 49.7 Billion EX



Contribution of Auto Industry (2006)

	Production (Billion Won)	Value Added (Billion Won)	Employment (thousand)	EX (Million Dollar)	Trade Balance (Million Dollar)	Investment (100 Million Won)
Auto Industry	107712.0	35842.0	264.0	49720.0	42553.0	58581.0
Share in Manufacturing	11.8	11.0	9.1	13.4		12.3

Source: Major Industry Data

Automobile Industry

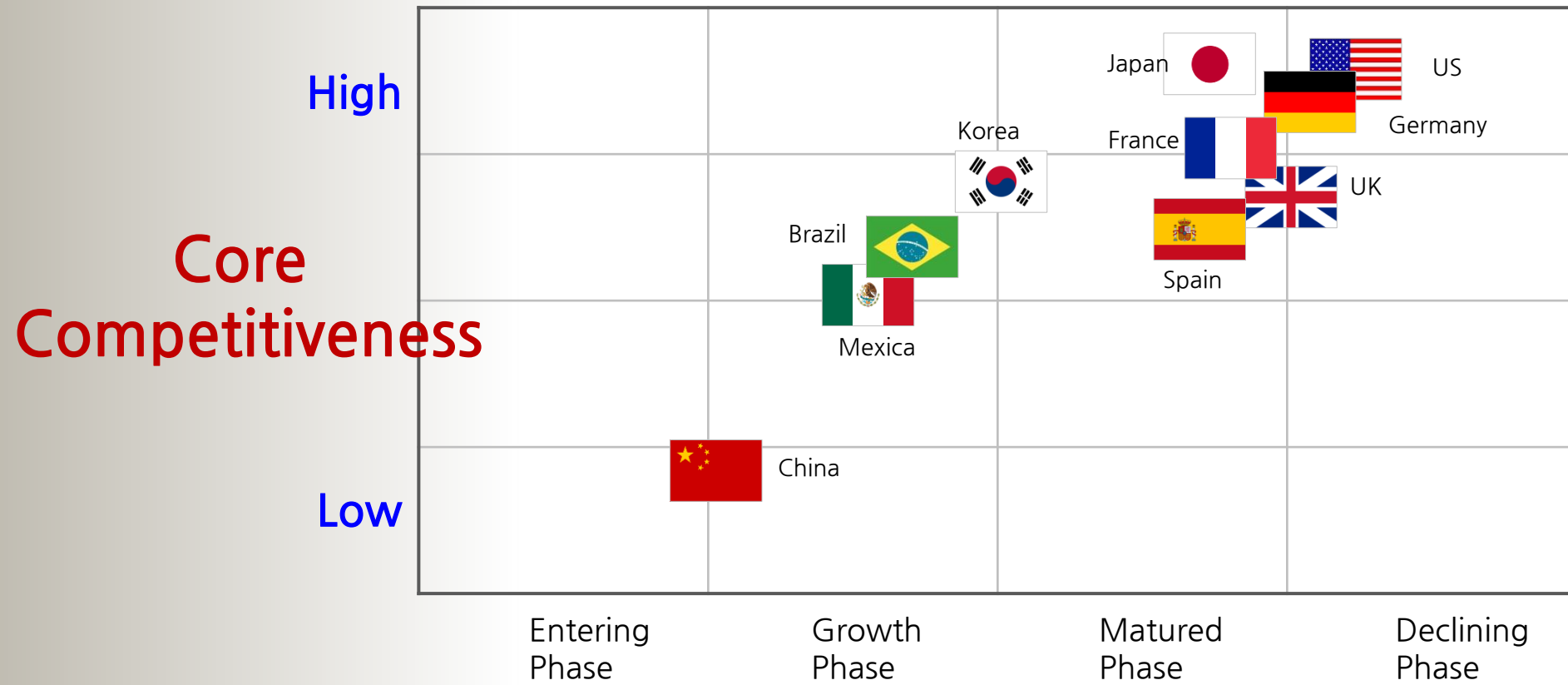
- **Large effect on production inducement industry:**
auto (2.5), elec (1.7), shipbuilding (2.0)
- **Employees** in auto related region:
154 million → 10.4% of total employment
- **Rear Industry:**
Materials and component, steel, plastic industries are highly related
- **Front Industry:**
Auto, service, machinery industries are highly related

Automobile Industry

- **Position in global mkt as of 2007:**
production 5.6% 5th largest producer, EX 284 million cars.
- More than 1 million cars are produced in foreign located plants from 2007
- The quality of product is greatly improved recently.
- **Export region:**
North America (29.3%), Western Europe (19.3%),
Eastern Europe (15.7%), Middle East (11.6%),
South America (10.6%)

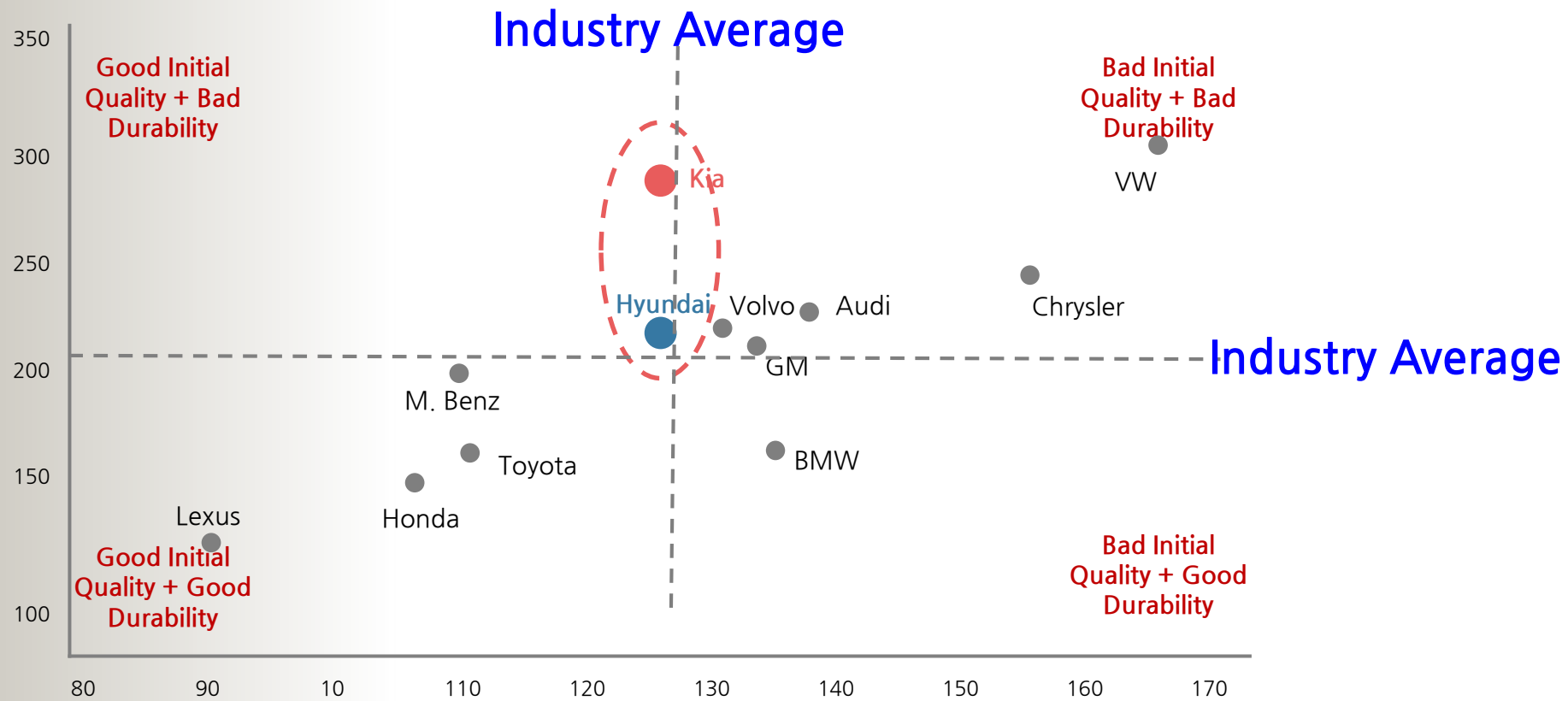


Location of Korean Auto Industry





Location of Korean Auto Manufacturers



Source: J. D. Power

Automobile Industry

- **Strong Points**
 - P competitiveness against developed countries
 - Top notch level IT infra → Intelligent auto competitiveness
 - Diversified mkt experiences
- **Weak Points**
 - Not competitive component manufacturers
 - Not strong brand power
 - Opposing labor-mgmt

Automobile Industry

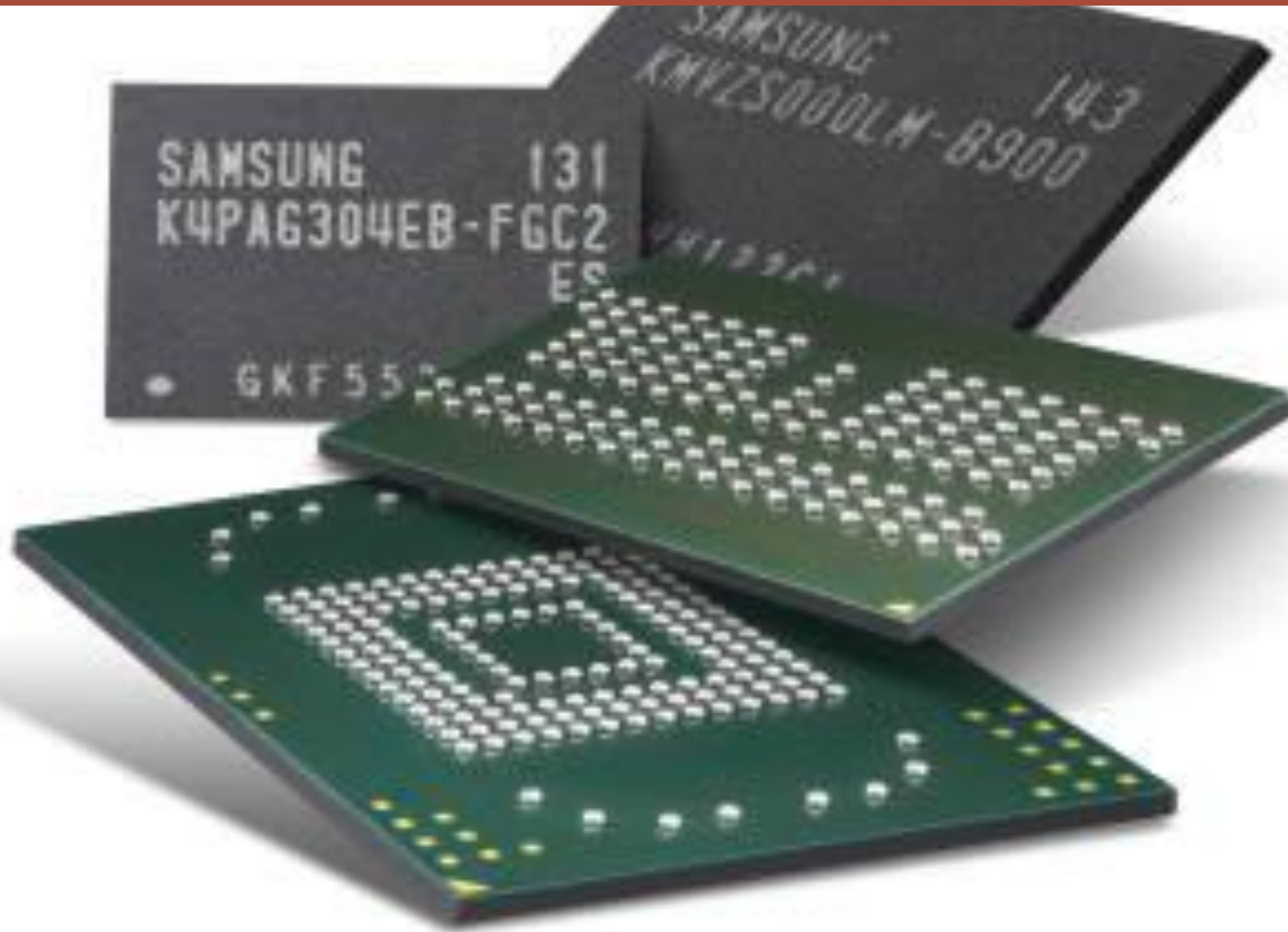
- Visions
 - 2015's domestic prod: 5.2 million and foreign prod: 2.4 million
 - Global mkt share: 11% ← 6.7% (2005)
 - 2015's EX: \$ 58 Billion



2015's Expected Contribution of Auto Industry

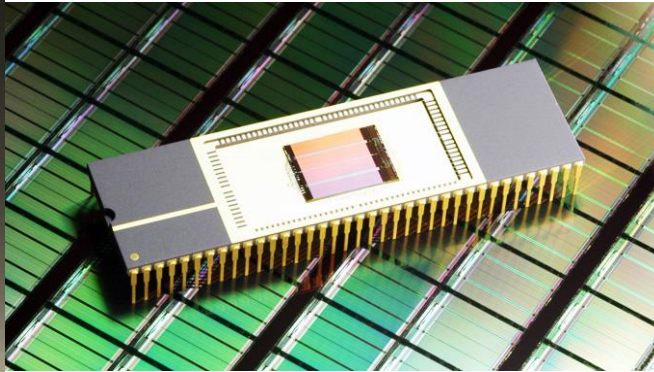
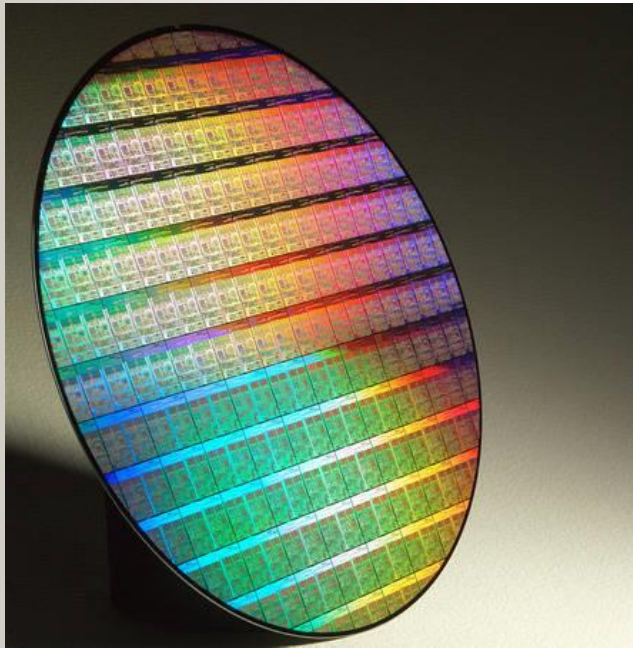
	2005	2015
Automobile Production (Domestic)	370 ten-thousand	520 ten-thousand
Automobile Production (Foreign)	66 ten-thousand	240 ten-thousand
Global Market Share	6.70%	11%
100 th largest part company	4	14
Automobile EX (including parts)	37.9 Billion dollar	58.0 Billion dollar
Parts EX	8.4 Billion dollar	16.0 Billion dollar
Employment	24 ten-thousand	28 ten-thousand

Semi-Conductor Industry





Semiconductor Industry

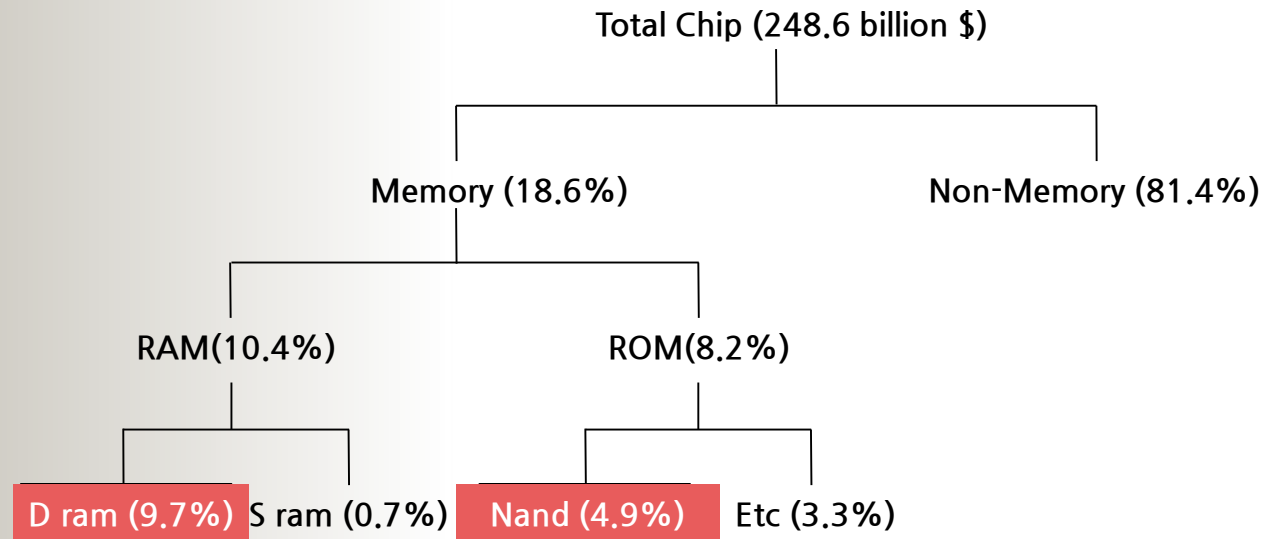


Semiconductor Industry

- Key industry of all electronic related industries
- Structure of global SC mkt btwn memory and non-memory
- Global SC mkt's demand is volatile. The demand highly deps on global business cycle: 2009's over 20% demand decrease
- Global event like World Cup, Olympic, and etc also affect demand of SC



Different Chip Products Mkt Share (2008)



source: WSTS (2009.6)



Global Chip Mkt Growth

Growth against previous year, %

	2007	2008	2009	2010	2011
Total Chip	3.2	-2.8	-21.7	7.5	8.8
System Chip	4.5	2.3	-22.0	7.0	8.9
Memory	-1.1	-19.9	-20.3	9.8	8.6
D ram	-7.4	-23.2	-26.9	11.9	12.0
Nand Flash	26	-15.4	-2.1	13.7	9.5

source: WSTS (2009.5)

Semiconductor Industry

- Global SC mkt has been undergoing serious competition:
chicken game
- Frequent bankruptcies and large M&As are common phenomenon
- Why?: 30% price decrease every year on average
- German and Taiwan manufacturers are suffering from production cost and distribution structure problems: Kimonda (Germany), Nanya, Powerchip (Taiwan) bankrupted in 2009.

Semiconductor Industry

- Global D-ram mkt in 2000s: Samsung, Hynix, Elphida (Hitachi and NEC), and Micron-Nanya-Inotera survived the chicken game.
- From the middle of 1990s, Korean corps began to dominate global market by Samsung and Hynix.
- Japanese Govnt strongly supports Elphida and Taiwanese Govnt also strongly supports TMC: not successful yet
- But TI (US) and Elphida disappeared bankrupted and then Kimonda (Germany) also bankrupted.

Semiconductor Industry

- In Korea, SI was started by US coms in 1965 for cheap labor cost.
- In 1983, Samsung, LG, and Hyundai elec started semiconductor prod in earnest.
- Caught up developed Cs in 1992 after developing 64M dram. After that, led the global mkt until now.
- **4 reasons of SI success**
 - 1) Started with memory chips
 - 2) The 3 manufacturers' co-work through Govnt's support
 - 3) Timely investment and develop distribution network
 - 4) Decisive and quick decision by owners of companies



Korean Chip Export Growth

Million \$, %								
	2001	2002	2003	2004	2005	2006	2007	2008
Export	14,259	16,631	19,550	26,516	29,986	37,360	39,045	32,793
	(-45.2)	(-16.6)	(17.6)	(35.7)	(13.1)	(24.6)	(4.5)	(-16.0)
Import	15,547	17,476	21,840	23,618	25,133	28,043	30,817	32,018
	(-22.0)	(12.4)	(25.0)	(10.7)	(6.4)	(11.6)	(9.9)	(3.9)

source: KOTIS
() indicates growth against previous year

Semiconductor Industry

- In 2009, Korea supply 53% of global memory chips.
- However, non-memory mkt is dominated by U.S.
- In the future, China will be rising as a major provider thanks to rich semiconductor design experts and related software development.



Global Chip Mkt Share by Country

		Q2-2008	Q3-2008	Q4-2008	Q1-2008	Q2-2008
Chip Total(%)	US	47.4	47.6	48.8	51.2	49.2
	Japan	23.0	23.5	24.4	21.2	21.6
	Korea	10.0	9.0	7.9	8.8	10.1
	China	0.4	0.4	0.4	0.4	0.3
	Taiwan	4.5	4.6	3.6	4.2	4.8
DRAM (%)	US	11.4	10.6	14.2	13.3	14.4
	Japan	15.6	16.0	15.7	14.9	16.6
	Korea	50.0	49.5	50.9	55.2	56.0
	China	14.1	14.2	9.8	10.0	11.9
Nand Flash (%)	US	14.1	11.7	15.9	15.5	15.4
	Japan	28.0	30.8	34.5	32.3	29.5
	Korea	55.7	55.0	47.3	49.9	52.6

자료 : iSuppli.



Global Chip Mkt Manufacturers' Sales Ranking

Million \$,%

Q2.08 rank	Q2.09 rank	company	Q2-08 (sales)	Q1-09 (sales)	Q2-09 (sales)	growth	share
1	1	Intel	8,469	6,680	7,494	-11.5	14.2
2	2	Samsung	4,756	2,920	3,876	-18.5	7.3
4	3	Toshiba	2,790	2,009	2,310	-17.2	4.4
3	4	TI	2,895	1,975	2,251	-22.2	4.3
5	5	ST Micro	2,721	1,660	1,993	-26.8	3.8
8	6	Qualcomm	1,762	1,316	1,786	1.4	3.4
6	7	Renaissance	1,986	1,207	1,351	-32.0	2.6
7	8	Hynix	1,774	898	1,295	-27.0	2.5
9	9	Infineon	1,600	975	1,150	-28.1	2.2
12	10	AMD	1,336	1,135	1,133	-15.2	2.1

source : iSuppli, 2009 . 8



Samsung Elec Suwon Plant and SK Hynix Icheon Plant

