

Korea's Big Push:

**Export Promotion and Industrial Policy
in the Development Era**

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Wonhyuk Lim (KDI)

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Alternative Views on Economic Development

■ Endowment View

- Economies with appropriate endowments (cultural values and institutions: “investment climate”) grow. Those lacking such endowments do not.
- Examples: Protestant Ethic, Common Law, and Colonial Legacies
- Caveats: How narrowly can “the essential endowments” be defined? How easily can these endowments be developed or imported? (cf. Functional Equivalent to the Protestant Ethic: Form vs. Function)

■ Bootstrapping View

- Initiating growth does not require high-quality institutions. The challenge is not so much getting growth to start by implementing big-bang reforms, as to sustain growth by devising search networks to detect and mitigate constraints as they emerge (cf. information and coordination problems).
- Even in the absence of market distortions, growth requires investment in public goods related to learning and innovation as well as conflict management.

Three Challenges for Economic Development

- **Collective Action (Uncertainty / Transaction Costs)**
 - Problem: Identification of demand and coordination of supply
 - Solution: “Big Push” or “Unbalanced Growth” (usually within national borders)
- **Protection of Property Rights (Expropriation)**
 - Problem: State-Investor and Investor-Investor Expropriation
 - Solution: Rule of Law and Minimization of Undue Government Intervention in Resource Allocation
- **Learning and Innovation (Appropriability / Upgrading)**
 - Problem: Provision of Knowledge-Related Public Goods
 - Solution: Public Support for Education and R&D, Public-Private Collaboration and Search Networks

Korea's Response

- Collective Action
 - Outward-Oriented Big-Push Partnership
 - International Trade as Investment Coordinating Mechanism
 - Reduction of Domestic Investment Risks through Public-Private Consultation (e.g., Latecomer Advantage, Indicative Planning, Monthly Export Promotion Meetings)
 - Reduction of Foreign Credit Risks (e.g., Government Guarantees on Repayment)
 - Downstream-to-Upstream Approach
 - Timing: Projected Domestic and International Demand and Capability
 - Scale: Minimum Efficiency Scale and Exportability
 - Industrial Organization: From Monopoly Regulation to Competition
- Protection of Property Rights
 - Not State-of-the-Art, But Serviceable Institutions (e.g., Controlling Corruption)
 - Later strengthened to deal with state-investor and investor-investor problems
- Learning and Innovation
 - Learning by Exporting
 - Conscious Efforts to Develop Human Capital in Connection with Industrial Policy
 - Tuition-Free Mechanical Schools and Technical Training Centers
 - Government-Funded Research Institutes
 - National Licensing System for Engineers and Skilled Workers

Distinguishing Features of Korea's Big Push

- Two-Tier Approach to Coordination
 - Government: national-level coordination (planning and monitoring)
 - Business Groups: group-level coordination (entrepreneurship)
 - Big-Push Partnership: information and risk sharing
- International Trade as an Essential Component
 - Coordination
 - Economies of scale (MES)
 - “Market test” for government policy and corporate strategy
 - Learning and Upgrading
- Containment of Corruption and Rent-Seeking
 - Changes in political economy (1960-61)
 - Meritocracy, monitoring, and incentives

Typical Audience Response: Korea as an Exceptional Case

- Heroic and Incorruptible Political Leaders?
 - corrupt government overthrown by students
 - popular pressure for growth and democratization
- Super-Competent Technocrats?
 - feedback mechanism and search networks much more important than innate ability
- Talented Workforce?
 - initial skepticism about exports in Korea: “Who’ll buy our goods?”
- Favorable International Environment?
 - better access to foreign capital and markets now than in the past

Comparative Growth Experience, 1960-2004

Country	Per Capita GDP in 1960 (2000 Dollars)	Per Capita GDP in 2004 (2000 Dollars)	Average Annual Growth Rate (%)
Ghana	412	1,440	2.84
Mozambique	838	1,452	1.25
Senegal	1,776	1,407	-0.53
Korea	1,458	18,424	5.76
Malaysia	1,801	12,133	4.34
Philippines	2,039	3,939	1.50
Sri Lanka	866	4,272	3.63
Taiwan	1,444	20,868	6.07
Thailand	1,059	7,274	4.38
Argentina	7,838	10,939	0.76
Brazil	2,644	7,205	2.28
Mexico	3,719	8,165	1.79
U.S.A.	12,892	36,098	2.34

Note: Brazil, Malaysia, Mozambique, Senegal and Thailand's latter per capita GDP figure is for 2003.

Source: Penn World Table 6.2 (Variable: Real GDP Per Capita (Chain))

Economic Growth by Region, 1961-2004

Regions and Countries	Growth Rate of GDP(%)	Growth Rate of GDP per Worker(%)		
			Capital Stock per Worker(%)	Total Factor Productivity(%)
World(83)	4.0	2.4	1.2	1.3
Advanced Countries(22)	3.3	2.1	1.1	1.1
China	7.2	5.4	2.1	3.4
Korea	7.1	4.7	2.9	1.8
East Asia(5) Except Korea and China	5.7	2.8	1.8	1.0
Latin America(22)	3.7	1.0	0.6	0.4
South Asia(4)	4.9	3.0	1.1	1.8
Sub-Saharan Africa(19)	3.4	1.0	0.6	0.3
Middle East and North Africa(9)	4.4	2.0	1.2	0.9

Source: Hahn and Shin (2007: 48-49)

Initial Conditions: Aid-Dependent Near-Autarky

■ Post-Liberation Challenges

- Korea as a “Transition Economy” in 1945
- National Division and War

■ Policy Responses

- Rent-Seeking and Crony Capitalism
- Half-Hearted Import-Substituting Industrialization
- Overvaluation of the Korean Currency: Aid Maximization
 - Foreign aid financed approximately 70 percent of total imports between 1954 and 1961.
 - It was equivalent to nearly 80 percent of total fixed capital formation and 8 percent of GNP.

Korea's Merchandise Trade, 1960

(unit: million dollars)

	Total	Food and Live Animals	Raw Materials	Petroleum and Minerals	Chemical Products	Manufactured Products	Machinery and Motor Vehicles
Exports	32.8	9.7	15.8	1.2	0.4	3.9	0.1
Imports	334.4	31.6	68.5	23.0	76.1	47.0	40.1

Korea's Foreign Currency Earnings by Source, 1960

(unit: million dollars)

Merchandise Exports	Transportation and Insurance	Investment Earnings	Government	Services	Total
32.8	4.7	4.5	70.3	4.6	116.9

Note: The government's foreign currency earnings include revenue from UN Forces stationed in Korea in return for the provision of goods and services. In 1960, it amounted to 62.6 million dollars

Resource Endowment and Institutional Infrastructure

■ Lack of Capital

- Low Domestic Savings
- Limited Access to FDI and Foreign Loans

■ Abundance of Labor

- High Level of Education Relative to Income
 - Primary Enrollment Rate: Under 30% (pre-1945) ♦ 95 % (1959)
 - High-School Enrollment Rate: 3% (1951) ♦ 20 % (1959)

■ Market Economy with Structural Distortions

Transition to State-Led Outward-Oriented Economic Development

- Changed Political Economy
 - 1960 Student Revolution: Blow to Crony Capitalism
 - 1961 Military Coup: Focus on Economic Modernization (Response to the Threatening Presence of North Korea)
 - Controlling Corruption
 - Meritocracy, Monitoring, and Structural Reform (e.g., Taxes)
- U.S. Demands for Economic Stabilization and Political Liberalization
- Nationalistic Response to Secure Economic and Political Independence

Birth of Korea's Big-Push Partnership

- Centralization of Economic Policymaking
 - Establishment of EPB and Drafting of Five-Year Plans
 - Nationalization of Banks
 - Indicative Planning and Industrial Policy (MES)
- Adjustment of Macroeconomic Variables
 - Devaluation of the Korean Currency
 - Adjustment of the Interest Rates
- “Distortion” of Microeconomic Incentives
 - Export Promotion: Support Contingent on Performance
 - State Guarantee on Private Sector Foreign Borrowing
 - No Guarantee on Governance Rights of Incumbent Managers

Information Sharing and Investment Coordination

Monthly Economic Trends Meetings/Export Promotion Meetings

Year		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1965	A	*	*	–	*	*	*	*	*	*	*	*	*	11
	B	–	*	–	–	–	*	–	–	*	–	*	*	5
1966	A	–	–	*	*	*	*	*	*	*	*	*	*	10
	B	*	–	*	*	*	*	*	*	*	*	*	*	11
1967	A	*	*	*	*	*	*	*	*	*	*	*	*	12
	B	*	*	*	*	*	*	*	*	*	*	*	*	12
1968	A	–	*	*	*	*	*	*	*	*	*	*	*	11
	B	*	*	*	*	*	*	*	*	*	*	*	*	12
1969	A	–	*	*	*	*	*	*	*	*	*	*	*	11
	B	*	*	*	*	*	*	*	*	*	*	*	*	12
1970	A	–	*	*	*	*	*	*	*	*	*	*	*	11
	B	*	*	*	*	*	*	*	*	*	*	*	*	12
1971	A	–	*	*	*	*	*	*	*	*	*	*	*	11
	B	*	*	*	–	*	*	*	*	*	*	*	*	11
1972	A	–	*	*	*	*	*	*	*	*	*	*	*	11
	B	*	*	*	*	*	*	–	*	*	*	*	*	11
1973	A	–	*	*	*	*	*	*	*	*	*	*	*	11
	B	*	*	*	*	*	*	–	*	*	*	–	*	10
1974	A	–	*	*	*	*	*	*	*	*	*	*	*	11
	B	*	*	*	*	*	*	–	*	*	*	*	*	11
1975	A	–	–	*	*	*	*	*	–	*	*	*	*	9
	B	–	*	*	*	*	*	–	*	*	*	*	*	10
1976	A	–	–	*	–	*	*	*	–	*	*	*	*	8
	B	*	*	*	*	*	*	–	*	*	*	–	*	10
1977	A	–	–	*	–	*	*	*	–	*	*	*	*	8
	B	*	*	*	*	*	*	–	*	*	*	*	–	10
1978	A	–	–	*	*	–	*	–	–	*	*	*	*	7
	B	*	*	*	*	*	*	–	*	*	*	–	–	9
1979	A	–	–	–	*	*	*	–	–	*	–	–	–	4
	B	*	*	–	*	*	–	*	–	*	–	–	–	6

Note: 1) – denotes that no meeting was held

Source: YH Rhee (2006): "Economic Policy Coordination and Assessment: Monthly Economic Trends Meeting and Monthly Export Promotion Meeting."

Monthly Export Promotion Meetings

- Period: 1963-1979 (Total of 177 Meetings)
- Membership
 - President (since Jan. 1966)
 - Prime Minister, Deputy Prime Minister, Key Ministers
 - Bank of Korea, Kotra, KorCham, Korea Int'l Trade Association
 - Federation of Korean Industrialists, Co-Ops
- Agenda
 - Comprehensive Plan for Export Promotion (Annual)
 - Progress Report by the Minister of Commerce and Industry
 - Briefing on Overseas Markets by the Minister of Foreign Affairs
 - Identification of Bottlenecks and Constraints
 - Policy Recommendations and Responses
- Institutional Innovations
 - Export Insurance
 - General Trading Companies
 - Regulatory Reform

Monthly Export Promotion Meetings



“Exportization of All Industries”



▶ 박정의 대통령이 직접 쓴 글씨들 .

공 업 입 국 장 기 계 획

연차별 구분	제 1 차 5 개년					제 2 차 5 개년					제 3 차 5 개년					제 4 차 5 개년					제 5 차 5 개년				
	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86
(섬유)	건립규모 (면방30 T/D, 화섬 2 - 10 T/D)					적정규격화 (면방50, 화섬30)					국제규격화 (면방100, 화섬30)										국제일류화				
경공업	수입대체, 수출개시					수출기반					수출극대화														
(화학)	합판 수출개시 고무화 수출 타이어 수입대체					국제규격화 수출주력(1억불) 타이어 수출 합성수지 및 기타					상위수출국 세계최대급공장 세계최대급공장 수출산업화 수출										국제일류화 150만톤				
화학공업	시멘트, 판유리 비료공장 (1,2 비) 정유공장 (1,2,3 정유) 수출 제일주의					국제규격화 3,4,5 비 (수입대체) 석유화학(올산제 1)					석유화학 6비 → 7비 대단위 메탄올 여천기지제2										정밀화학 여천기지제3 제2공장 국제일류화 2,060만톤				
금속공업	공업입국					종합제철(103만톤) 중화학공업화선언					비철금속 특수강 경제강국건설										정밀금속가공 국제일류화				
조선공업	목선, 어선, 소형강선, 화물선					현대조선					조선 대우조선 삼성조선										국제일류화				
기계공업	시발, 새나라, 코로나, (1,400대 조립)					자동차, 조선, 화학공장, 발전소 영세 기존공장					부품개발 중합자동차공장 기계류 창원기계기지 대단위중합기계공장 업체별 전문공장 중소기업형 기계공장										정밀기계 대형기계 국제일류화				
전자공업	라디오, 전화기 수동교환기, 전축 저항기, 콘덴사					흑백 TV 수상기, 자동교환기 녹음기, 탁상용전자계산기 흑백 TV 브라운관, TV 튜나 인출력변성기, 반도체, 집적회로					수출전략산업 부품국산화 구미기지확장					컴퓨터 VTR 반도체					정밀전자 (반도체+컴퓨터 포함)				
기술 및 엔지니어링	토목 및 건축 시행 연구 공업연구소					기계설치 (하청) 건설설치 (감독) 종합연구 (KIST) 과학화 선언 기능공 기술자 특성화 공고 특성화 공대 직업훈련					공동 전문연구소 플랜트 건설 (국산화) 민간연구소 과학자 대학원					플랜트 수출 시스템엔지니어링 공정									
기본정책	1)공업화 착수 → 공업입국 2)수출 제일주의 3)수입대체산업 우선					1)경공업 국제경쟁력 강화 2)공업용 원료 국산화 3)기술도입, 수산 (MOST, KIST)					1)유신1기 중간목표설정 (100억 불수출, 1,000불 소득) 2)유신2기 중간목표 조기달성 유신2기 목표설정 3)여건개선확충					1)국제일류화 (고급화, 양적확대) 2)정밀화 3)플랜트 수출									

산업합리화 운영 / 省 에너지 · 省 자원

“Flag-Bearer for the Nation’s Modernization”



“Export Day” Award Ceremony



Lessons from Korea's Big Push

■ Motivation and Compelling Vision

- Developmental State: *Autonomy and Responsiveness* to Popular Pressure
- Appeal to Nationalism, Legitimation of Political Power Through Economic Modernization (Changed Political Economy after 1960 and 1961), Inter-Korean Competition
- Beyond Enclaves: Broad-Based Growth
- Vision that Imparts a Shared Sense of Purpose (NOT “completing the transition to a market economy”)

■ Bootstrapping and Feedback: Pragmatism

- No Ready-Made Model to be Taken off the Textbook: “Big Push” / Import-Substituting Industrialization, Taiwan’s Export-Led Industrialization, Japan’s Spillover Industry Promotion
- “We can make mistakes as long as we can correct mistakes. We can get feedback from the global market.”

Lessons from Korea's Big Push

- Indicative Planning
 - No Use for Sophisticated, Rigid Plans Without Correct Information and Incentives
 - Information, Incentive, and Decision-Making Shared by the Government and the Private Sector
 - Government-Business Partnership
 - “Profit-Sharing Corruption”?
- Export Orientation: Market Test for Government Policy and Corporate Performance
 - Less Prone to Political Influence and Manipulation
 - Exploiting Scale Economies
 - Learning by Exporting

Lessons from Korea's Big Push

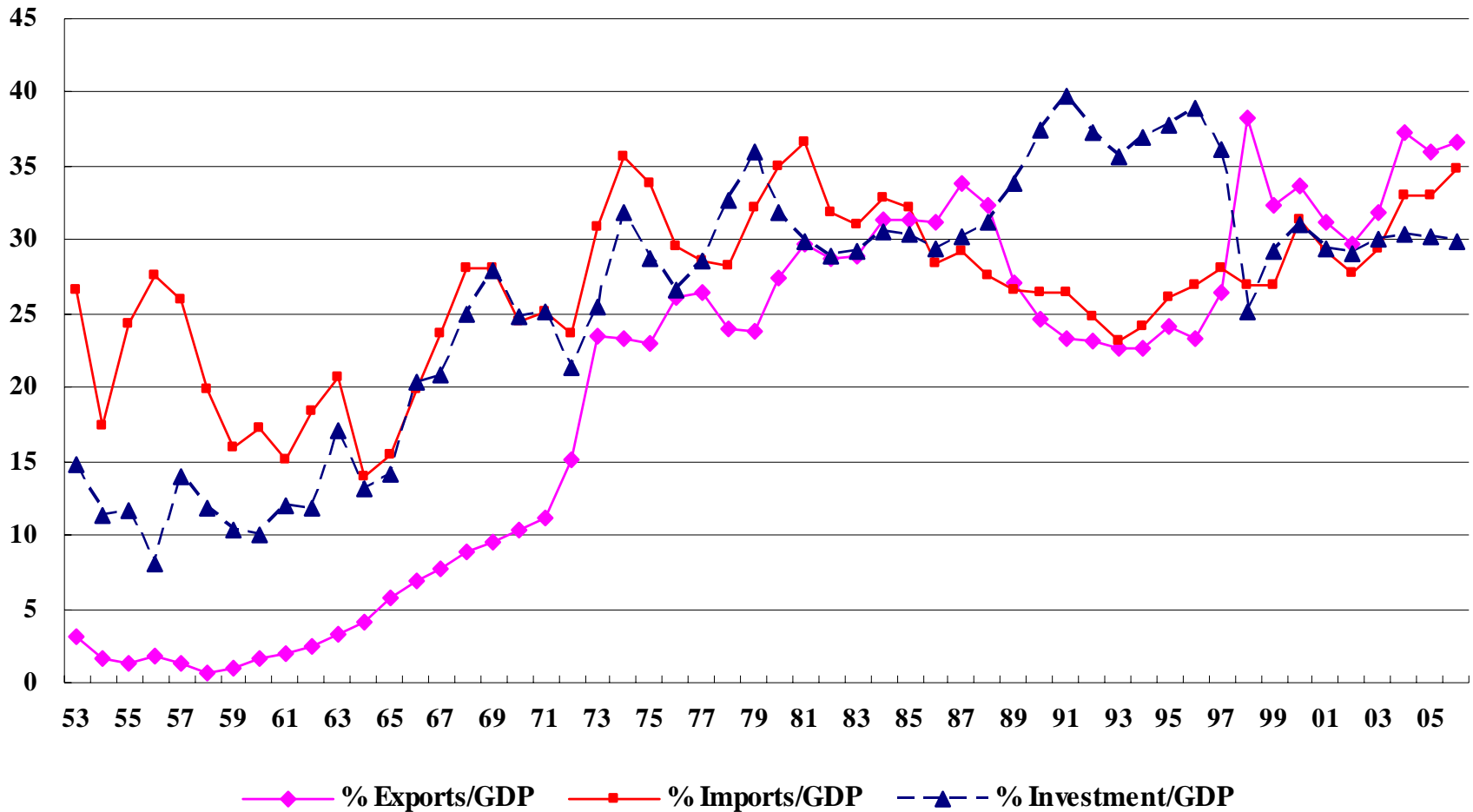
■ Conventional Industrial Policy

- Promote upstream industries with large spillovers (“Big Push” through coordinated domestic industrialization).
- Go top-down. Disregard feedback.
- Problem: Insufficient Demand, Suboptimal-Scale Plants, Higher Costs, Monumental Projects

■ Korean Approach: Integrated Engineering Approach

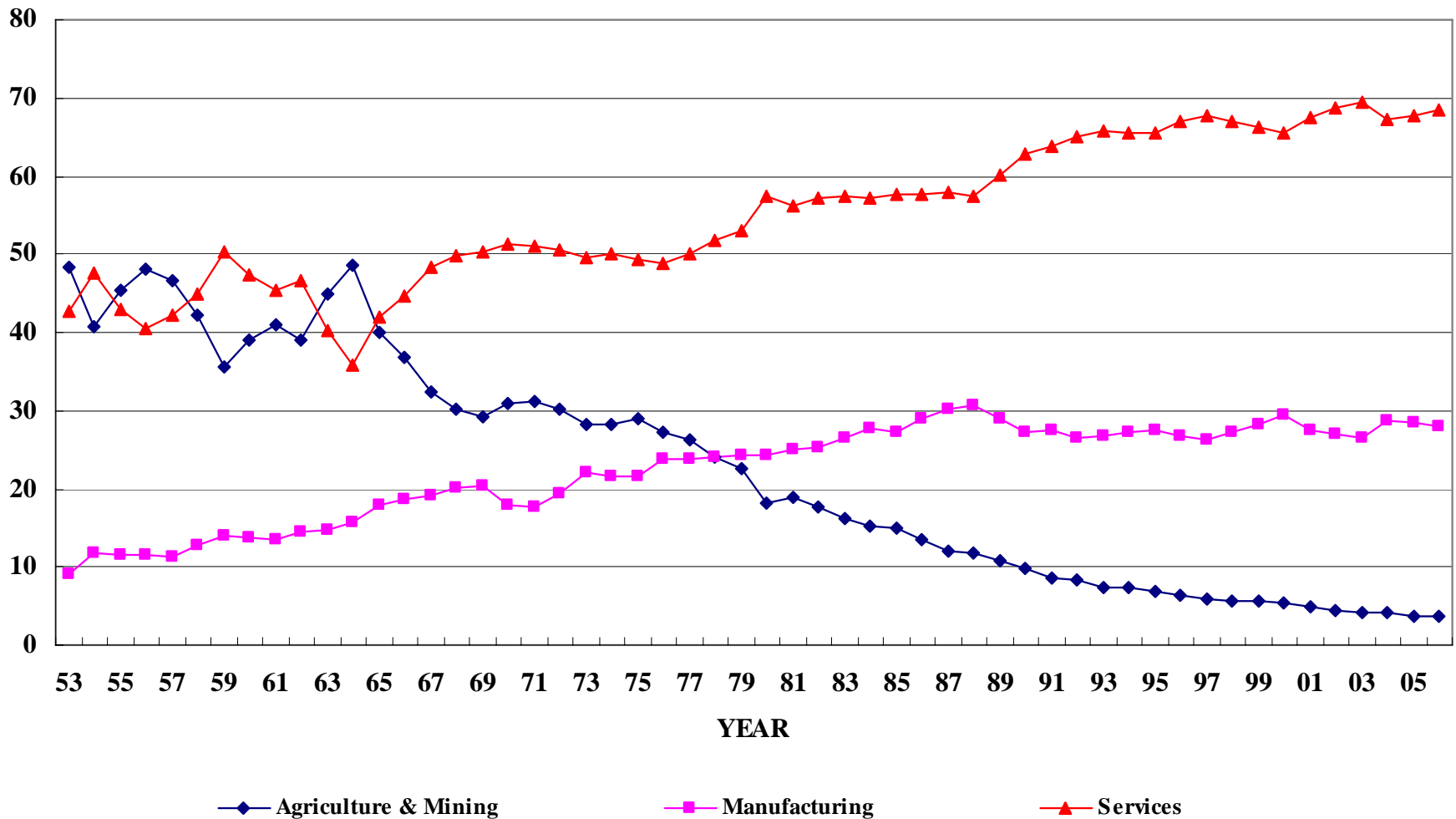
- Go from downstream to upstream. Start with what you have. Exploit comparative advantage (“Big Push” through trade). Wait until domestic and export demand becomes large enough to justify the construction of optimal-scale plants. Insist on international competitiveness from the outset.
- Accumulate skills. Make a transition from imitation to innovation.
- Set up public-private search networks to address emerging problems.

Korea's Exports, Imports and Investment as a Share of GDP



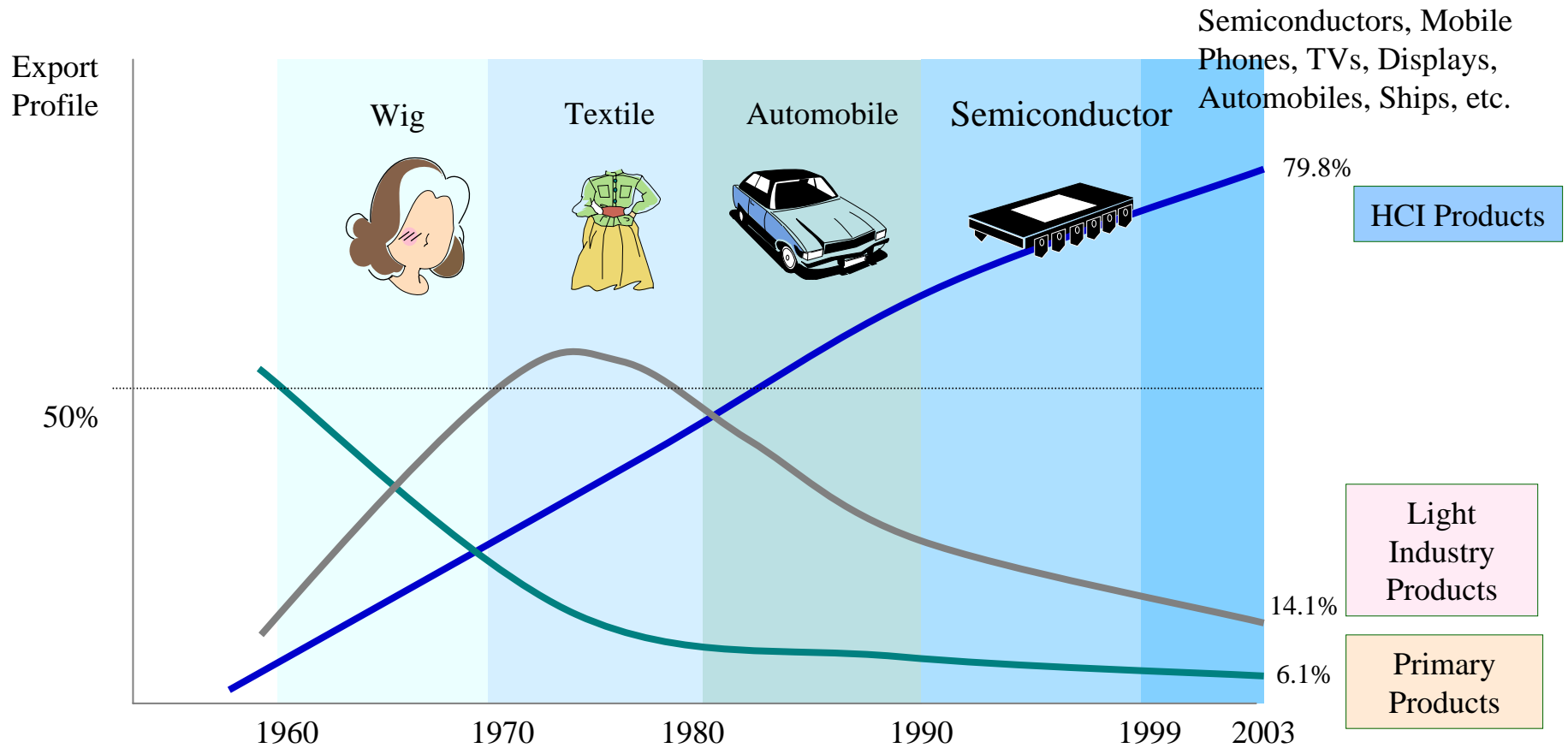
Source: IMF, *International Financial Statistics*.
Bank of Korea, *National Account*.

Sectoral Composition of Korea's GDP



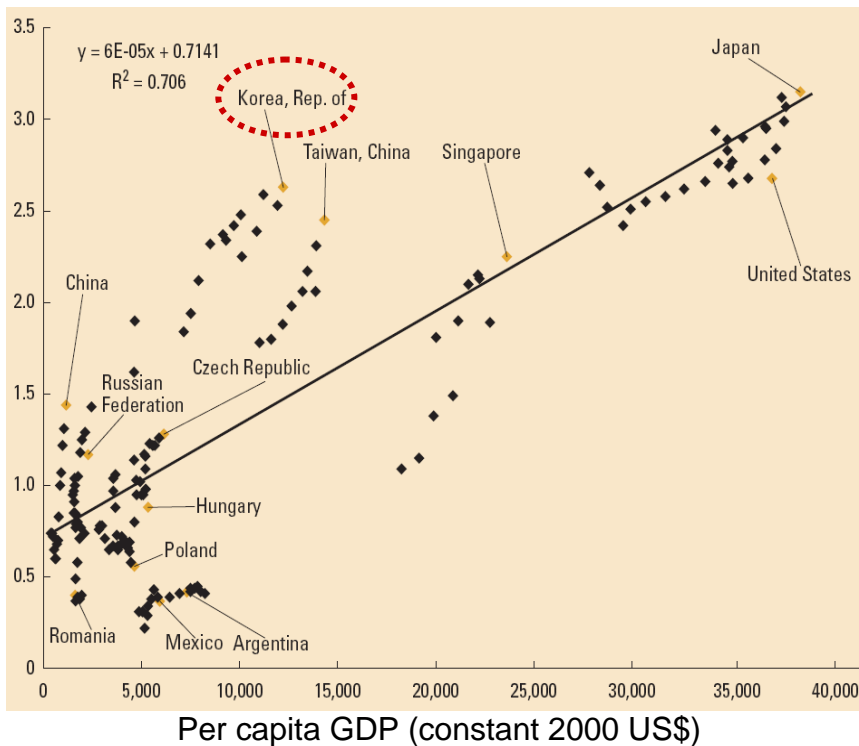
Source: Bank of Korea, *National Account*.

Korea's Export Profile by Product



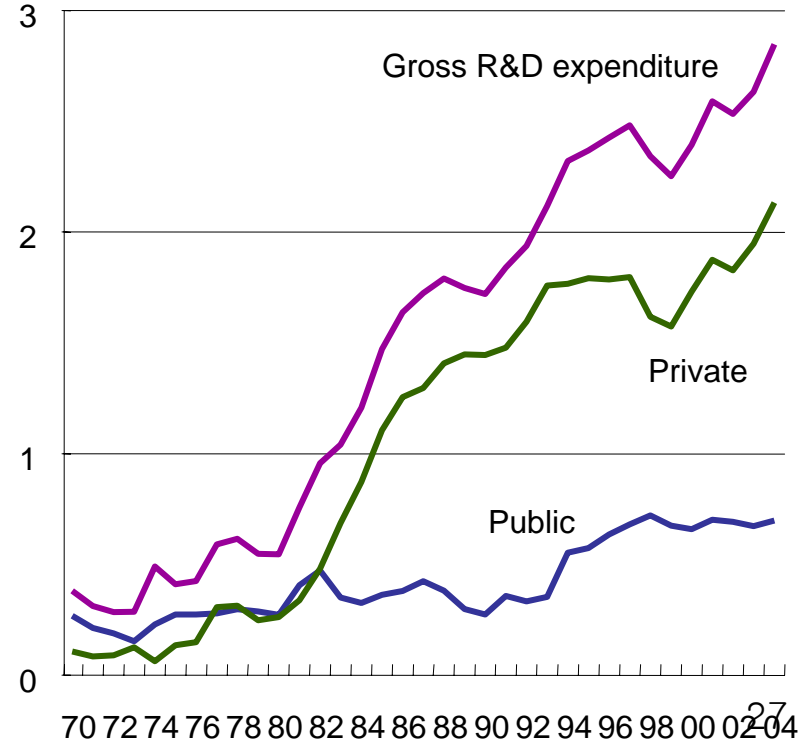
Korea's R&D Expenditure: From Imitation to Innovation

Gross R&D expenditure (% of GDP)



Source: World Bank (2007).

(% of GDP)



Source: Ministry of Science and Technology, Bank of Korea