

Economic Development in Korea and Policy Implications

February 24, 2015

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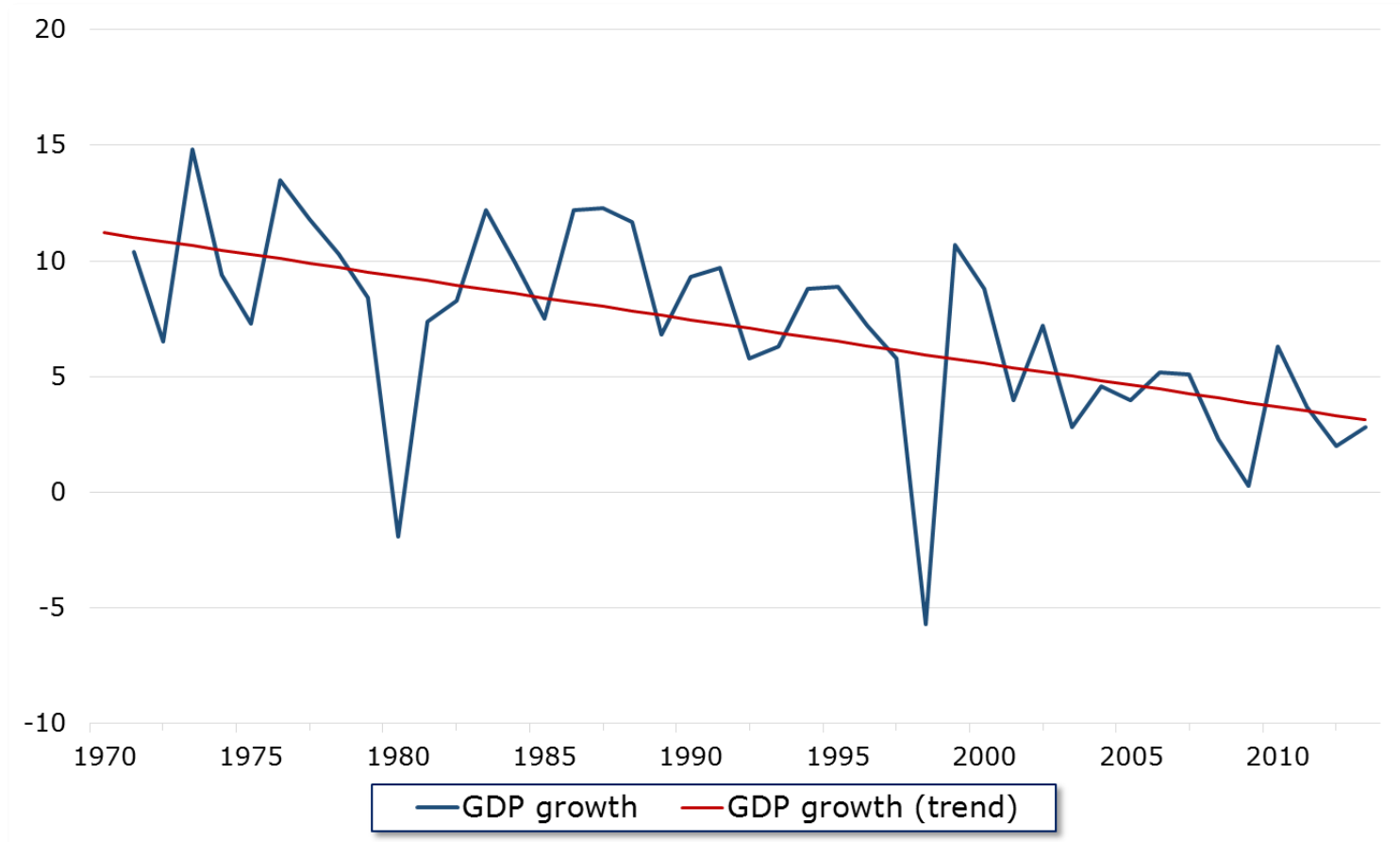
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I Economic Development in Korea

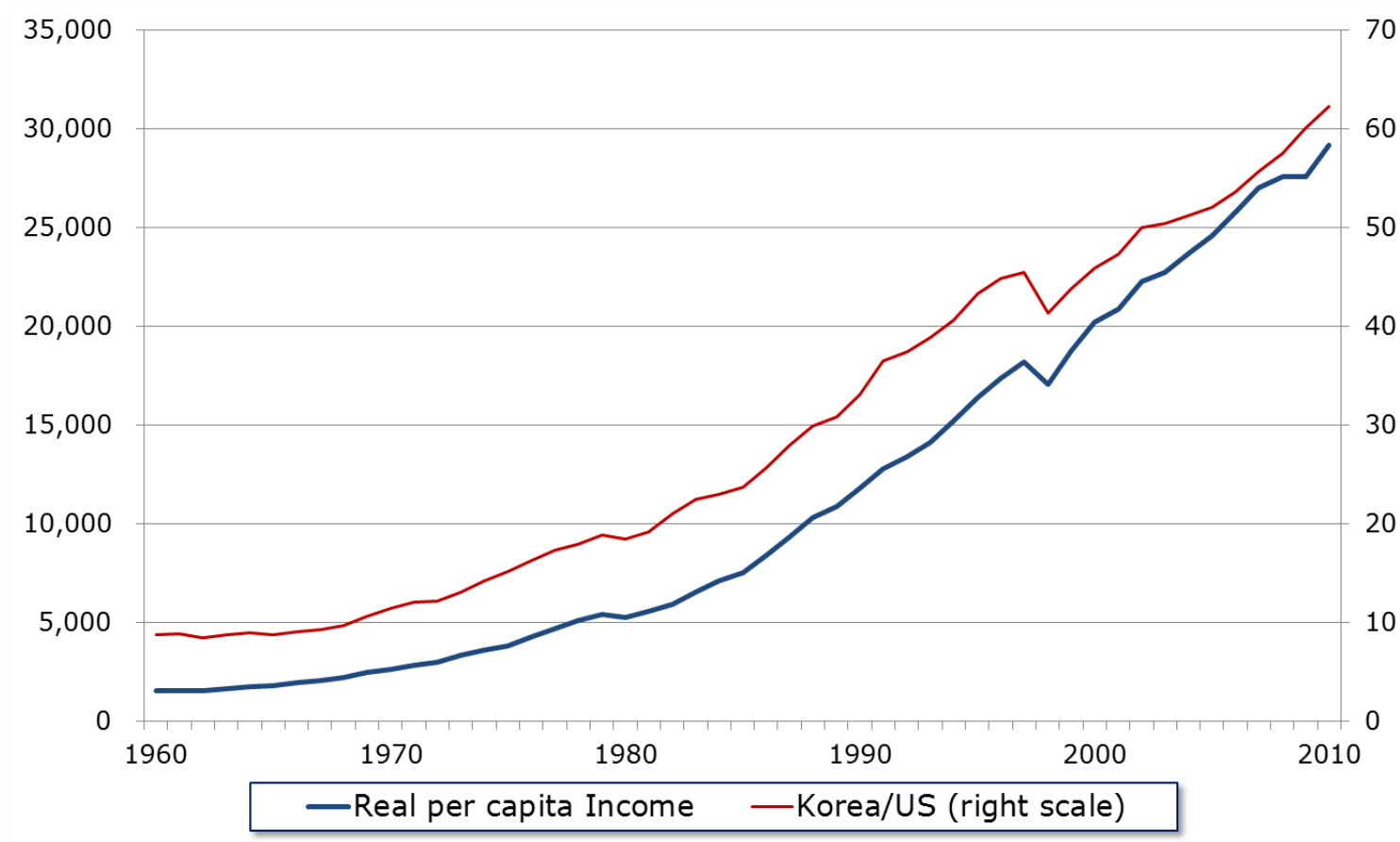
- Key Features:
 - Rapid growth in production and standard of living
 - Exports
 - Manufacturing and ICT sectors
 - Large enterprises
 - The role of government

■ GDP Growth Rate



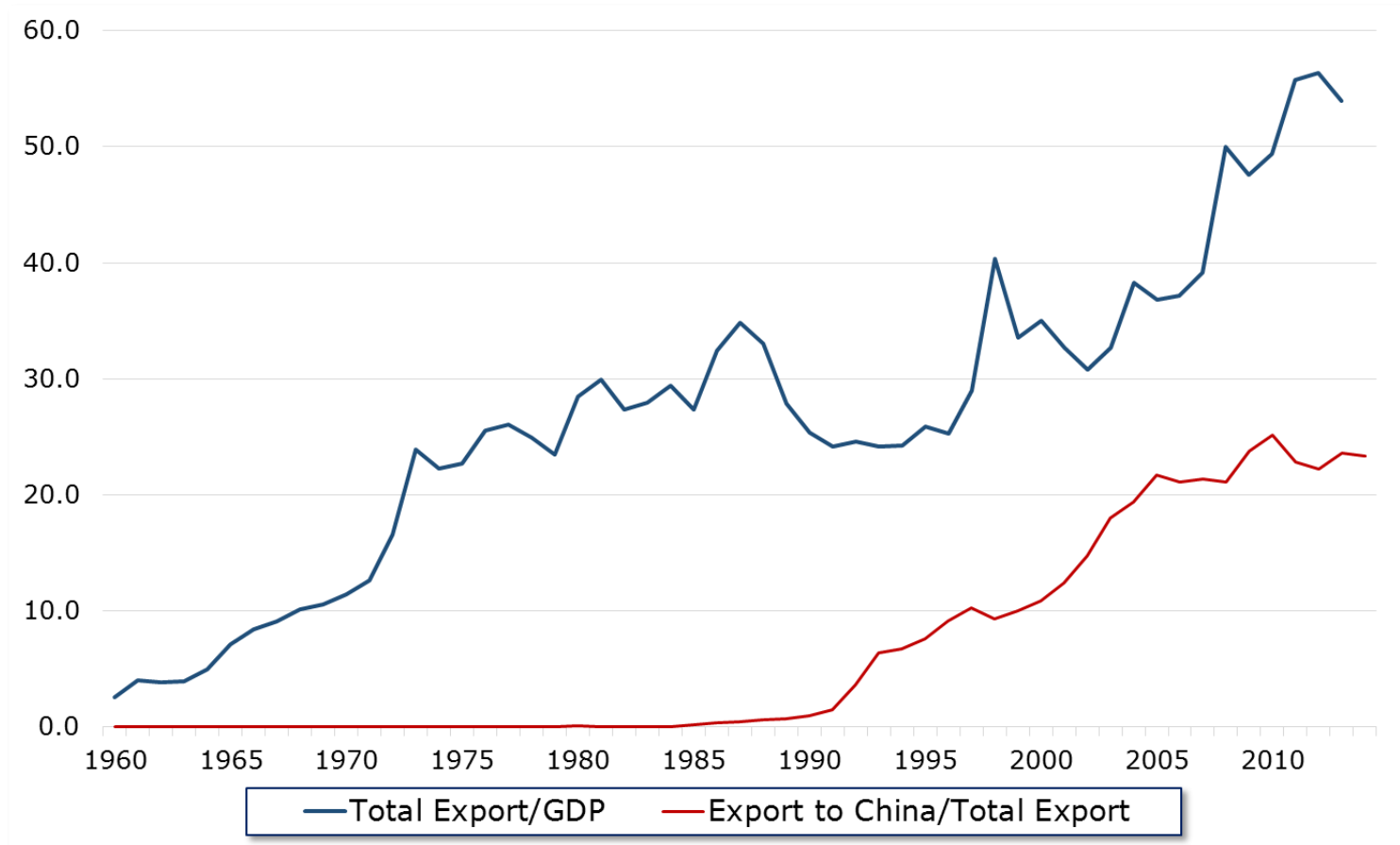
Source: Bank of Korea

- Catch-up Process in Standard of Living



Source: US Federal Reserve Bank of St. Louis

- Share of Exports to GDP



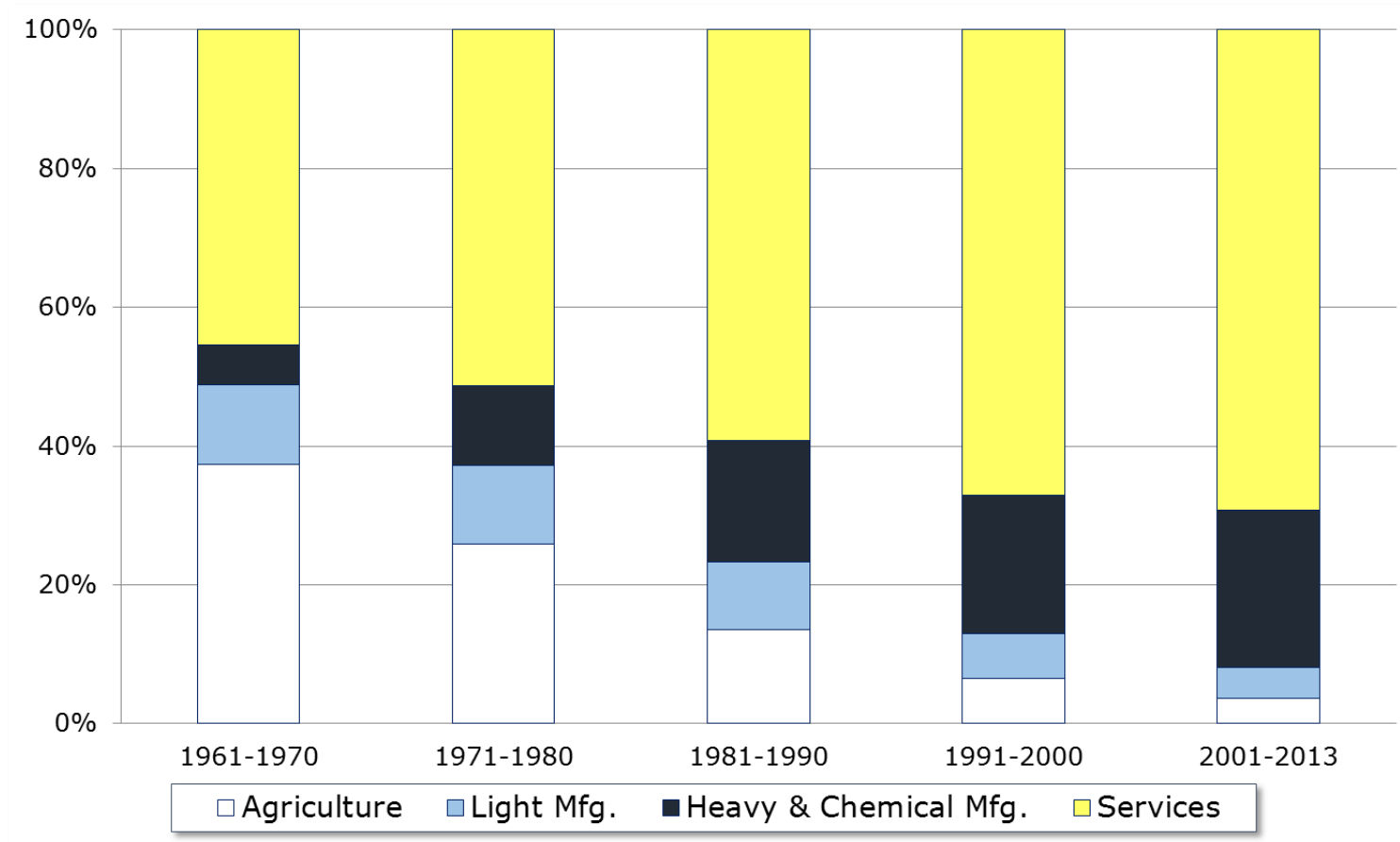
Source: Bank of Korea, Korea International Trade Association

- Top 10 Exports and Industrial Progress in Korea

Rank	1961		1970		1980	
1	Iron ore	13.0	Textile	40.8	Garments	16.0
2	Tungsten	2.6	Plywood	11.0	Steel plate	5.4
3	Raw yarn	6.7	Wigs	10.8	Footwear	5.2
4	Coal	5.8	Iron ore	5.9	Ships	3.6
5	Cuttlefish	5.6	Electronic goods	3.5	Audio equipment	3.4
6	Live fish	4.5	Confectionery	2.3	Filament fabrics	3.2
7	Graphite	4.2	Footwear	2.1	Rubber products	2.9
8	Plywood	3.3	Tabaccos	1.6	Woods and wood items	2.8
9	Rice	3.3	Iron products	1.5	Video equipment	2.6
10	Swine bristle	3.0	Metal products	1.5	Semiconductors	2.5
Sum		62.0		81.1		47.6
Rank	1990		2000		2013	
1	Garments	11.7	Semiconductors	15.1	Semiconductors	17.4
2	Semiconductors	7.0	Computers	8.5	Petroleum products	16.1
3	Footwear	6.6	Automobiles	7.7	Automobiles	14.8
4	Video equipment	5.6	Petroleum products	5.3	Shipbuilding	11.3
5	Ships	4.4	Ships	4.9	Flat display and censor	8.7
6	Computers	3.9	Mobile phone equipment	4.6	Wireless equipment	8.4
7	Audio equipment	3.8	Synthetic resin	2.9	Automobile parts	8.0
8	Steel plate	3.8	Steel plate	2.8	Synthetic resin	6.5
9	Filament fabrics	3.6	Garments	2.7	Steel plate	5.3
10	Automobiles	3.0	Video equipment	2.1	Electronic equipment	3.3
Sum		53.4		56.6		58.6

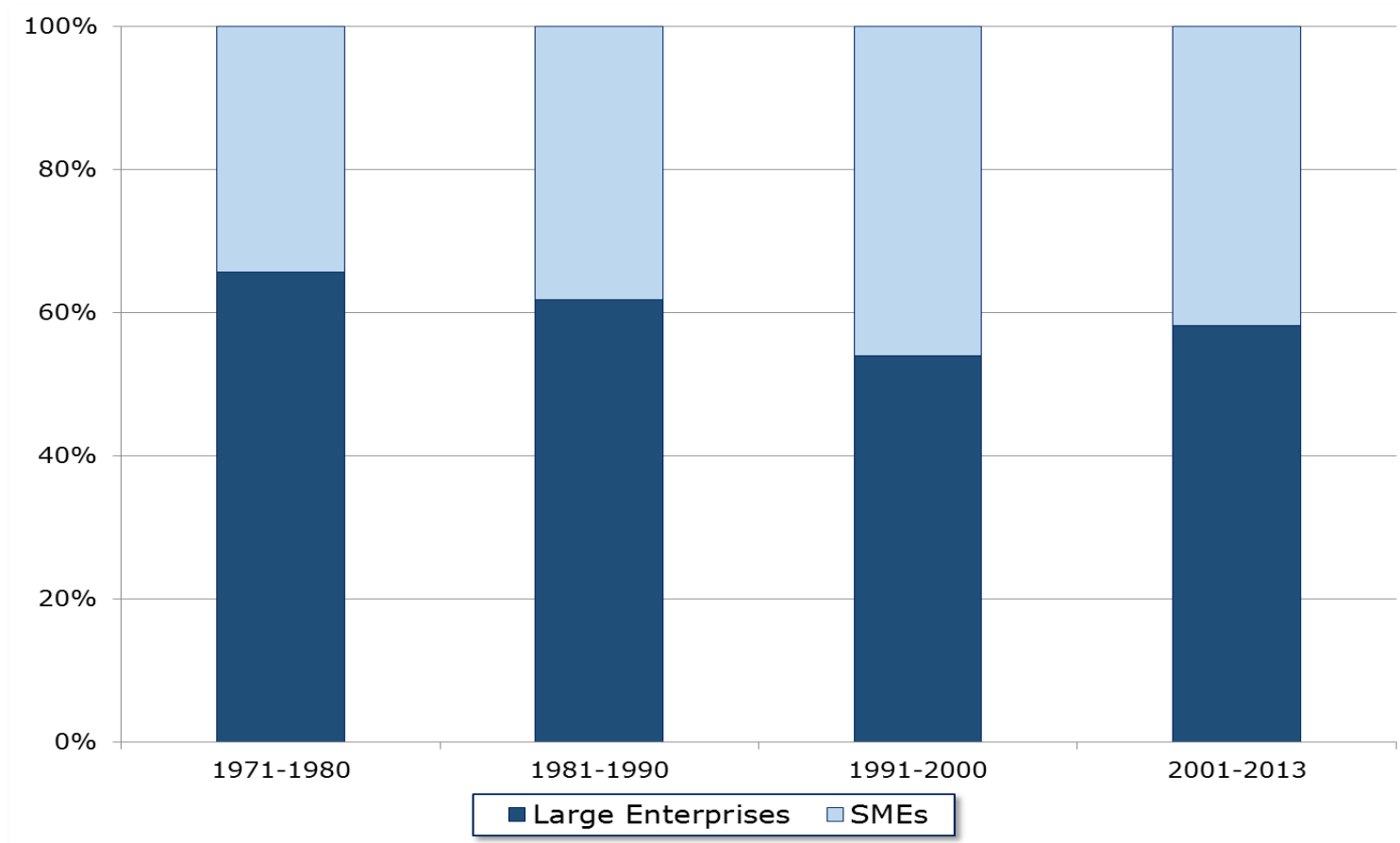
Source: Sakong and Koh (2010), Korea Statistical Information Service

- Structural Changes in Agriculture, Manufacturing, Services



Source: Sakong and Koh (2010)

- Contribution of Large Enterprises to Total Value Added



Source: Korea Statistical Information Service

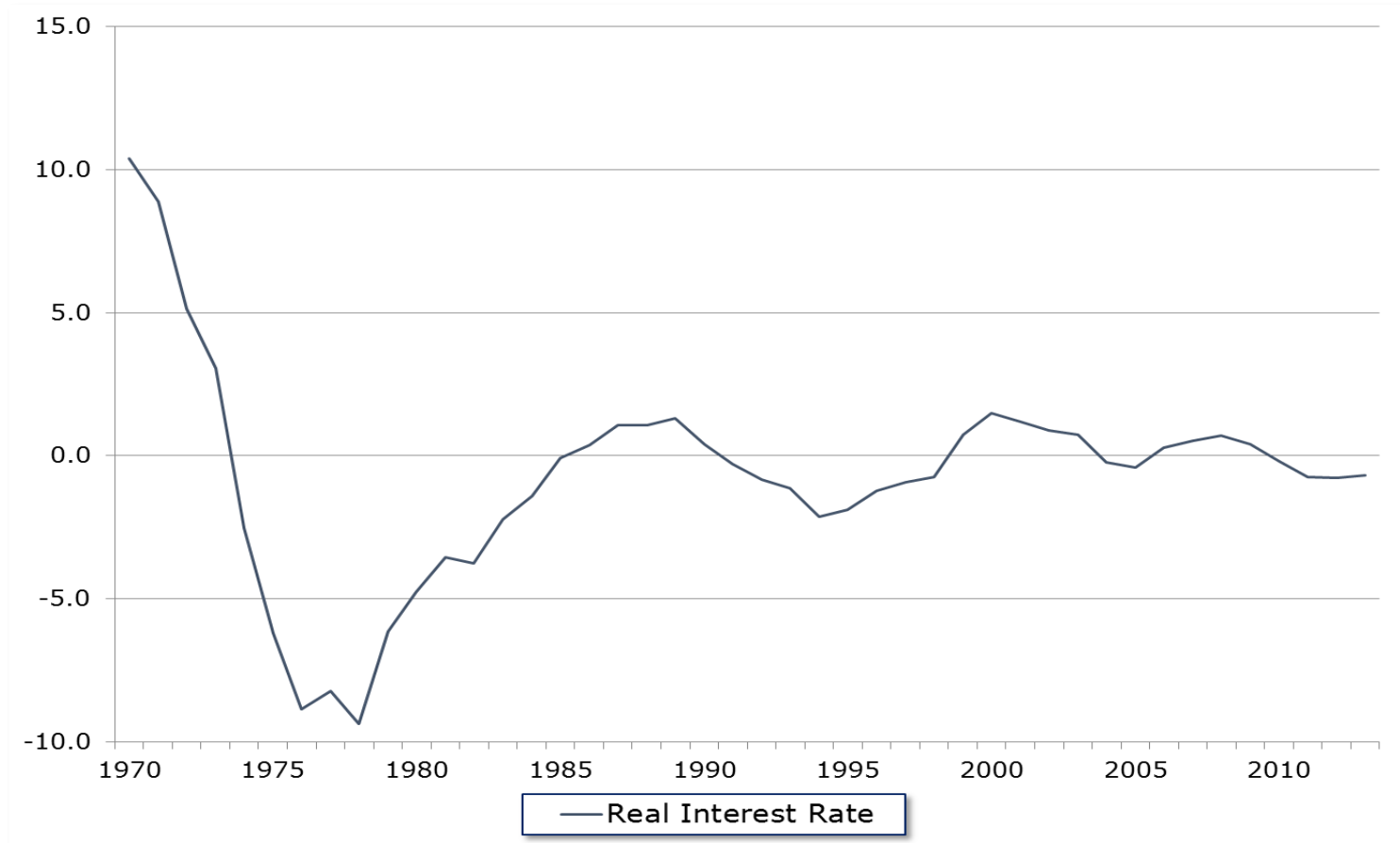
II The Role of Government

- Two Conflicting Roles at the Same Time

Development-State Roles	Market-Friendly Roles
<i>Preventing market failures by intervention and Boosting particular sectors by distorting relative prices</i>	<i>Helping the market mechanism to function properly</i>
Export promotion	Competition policy
Manufacturing-oriented industrialization	Property rights
LE-favored supporting measures	Infrastructure investment
Market protection	Market opening
Financial repression	Financial liberalization
Exchange rate policy (weak currency value)	Macroeconomic stability
Industrial policy	Laws, rules, institutions
Labor policy	
Public R&D investment in manufacturing, ICT	

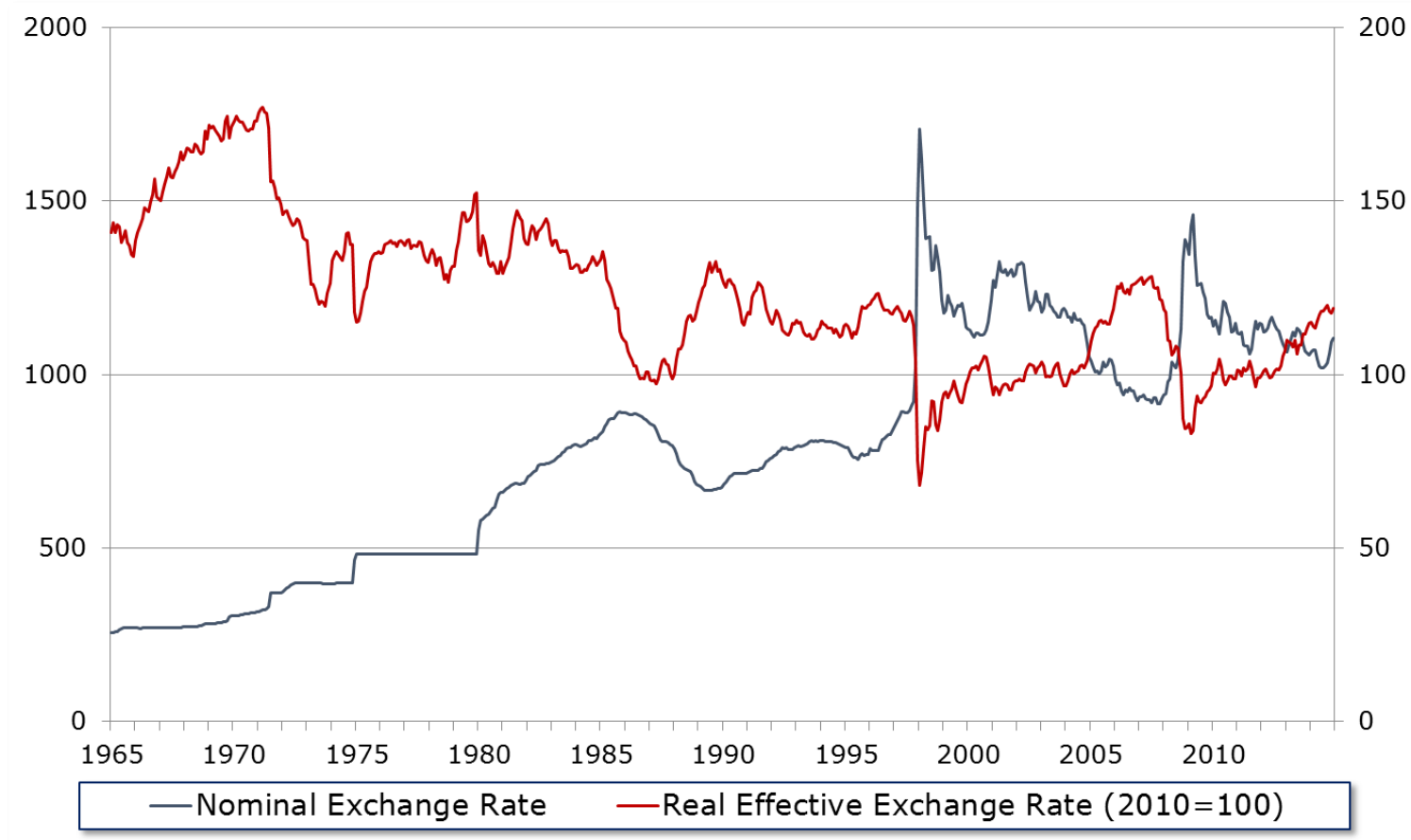
Source: Sakong and Koh (2010)

- Financial Repression: Real Interest Rate



Source: Bank of Korea, US Federal Reserve Bank of St. Louis

- Weak Currency: Nominal and Real Effective Exchange Rate



Source: Bank of Korea, Bank of International Settlement

- The Evolution of Industrial Policy in Korea: 1960-present

	1960s	1970s	1980s	1990s	2000s-present
Development stage [Sources of competition]	Factor-driven stage [Cheap labor]				
	Investment-driven stage [Manufacturing activity]				
				Innovation-driven stage [Innovative activity]	
Major direction of industrial policy	Expand export-oriented light industries	Expand heavy and chemical industries	Expand technology-intensive industries	Promote high-technology innovation	Promote innovation; Reduce industrial inequalities
Catch-up & Innovation Capabilities	Technologies and Institutions: Copy, Imitation, Adoption → Innovation/Invention, Creation				

Source: US Office of Technology Policy (1997), Sakong and Koh (2010), Kim (2011, 2012)

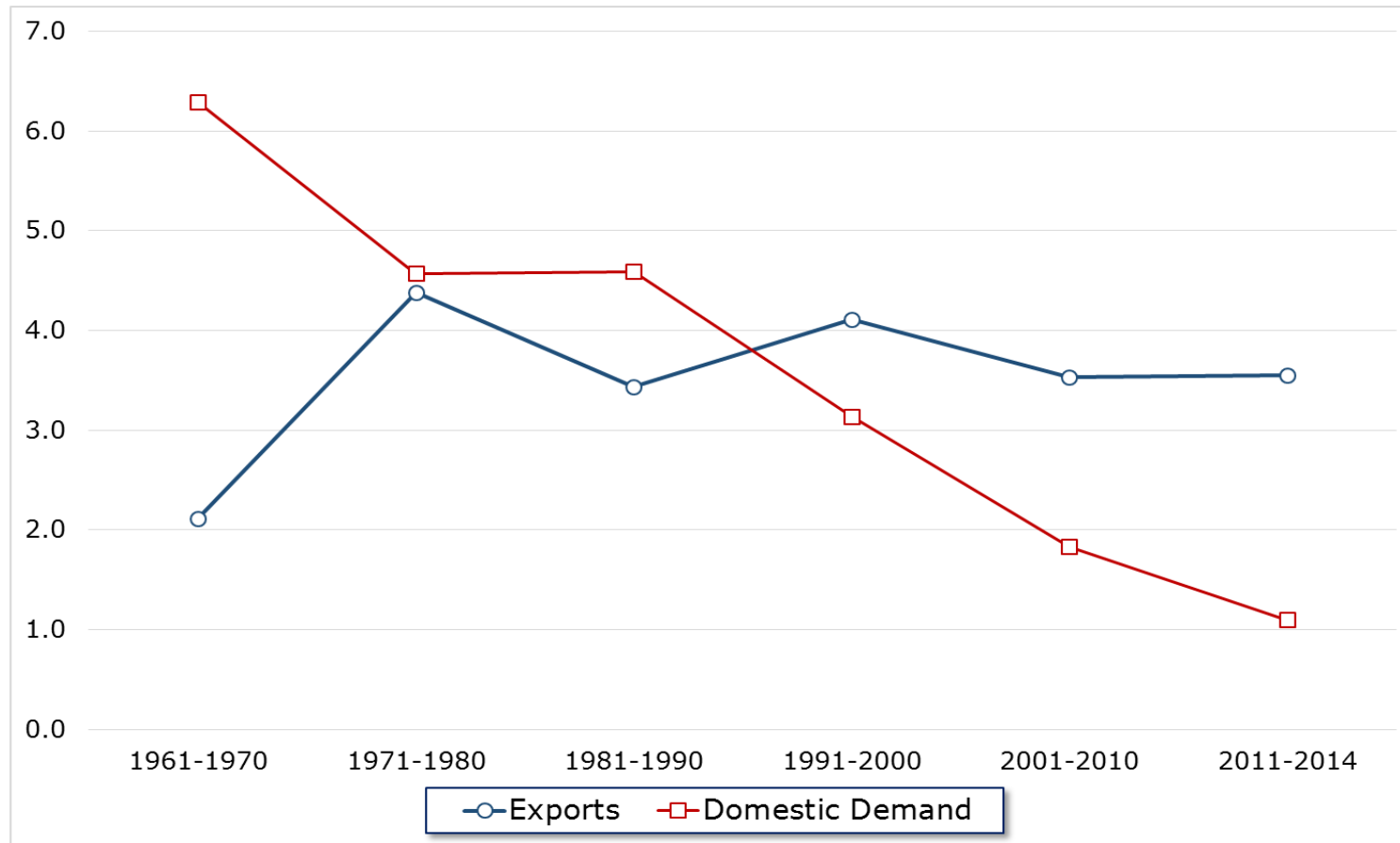
III New Challenges and Responses

(1) Imbalance originating from unbalanced growth (1997!)

- Exports vs Domestic demand
- Manufacturing vs Services
- Large firms vs Small and Medium firms
- Income/Wealth inequality

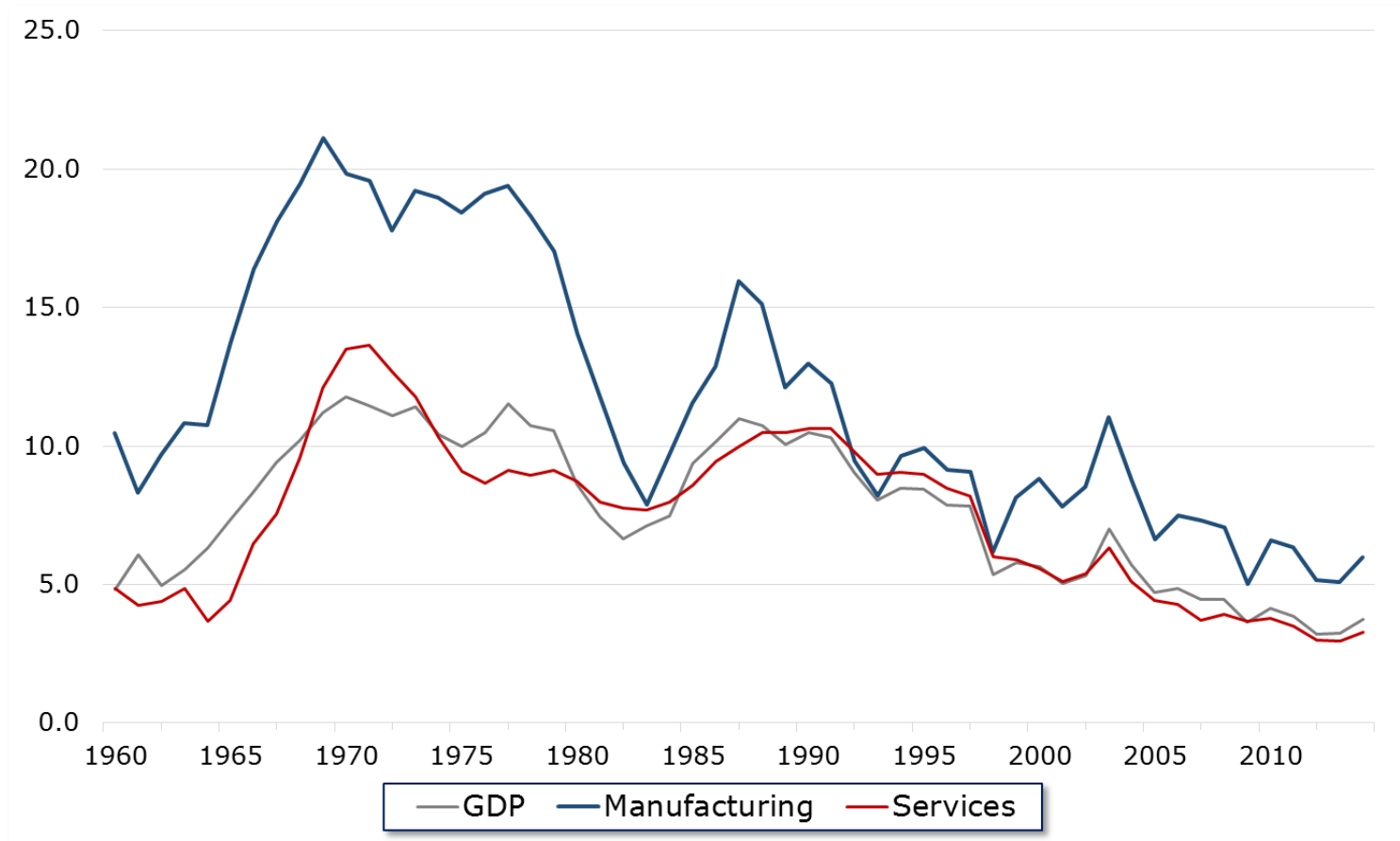
- Unbalanced development strategy was so effective that it rooted imbalance deep in the economy, which is hampering further economic growth.

- Exports vs Domestic Demand: Contributions to Real GDP



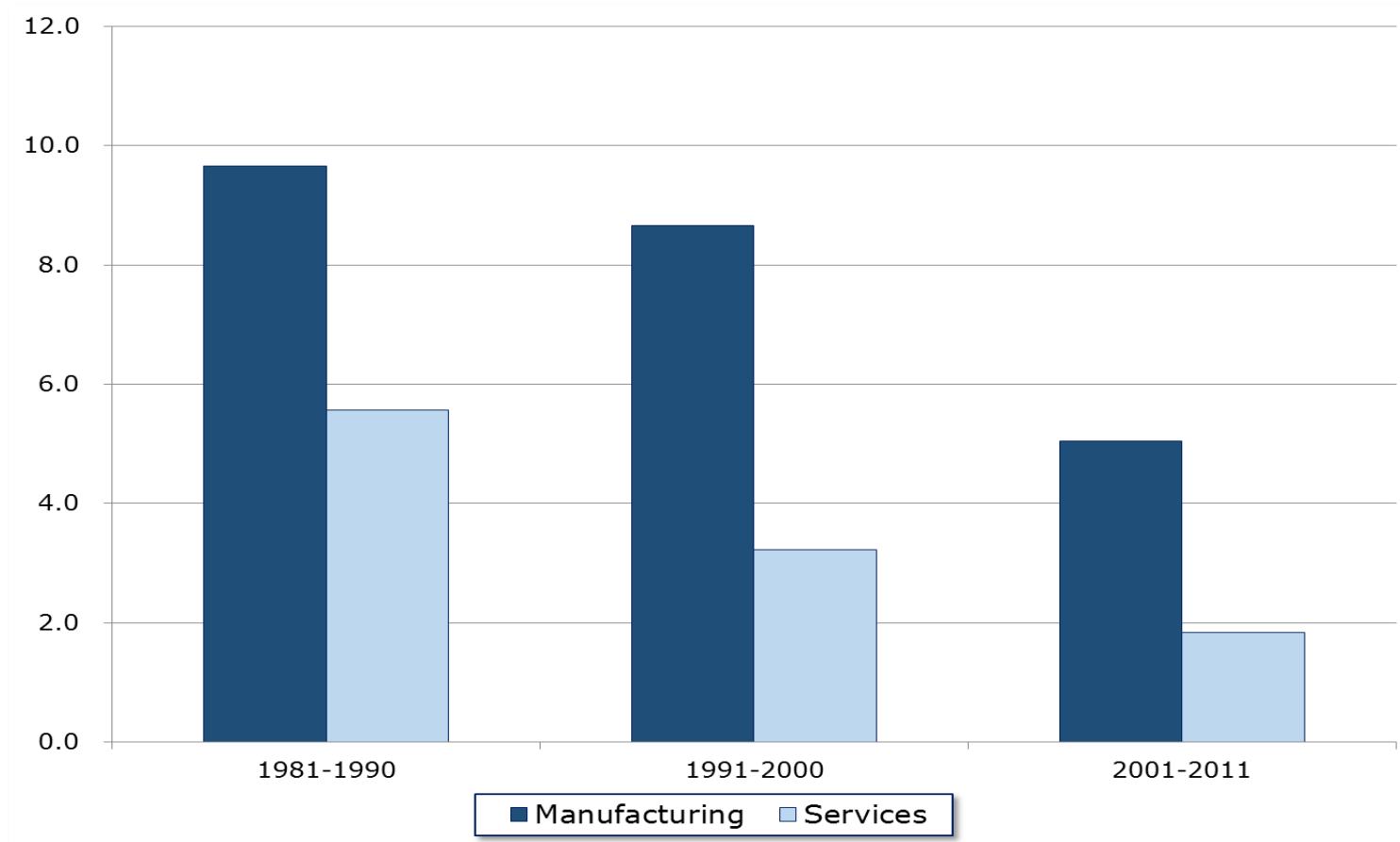
Source: Bank of Korea

- Manufacturing vs Services: Growth Rate of Value Added



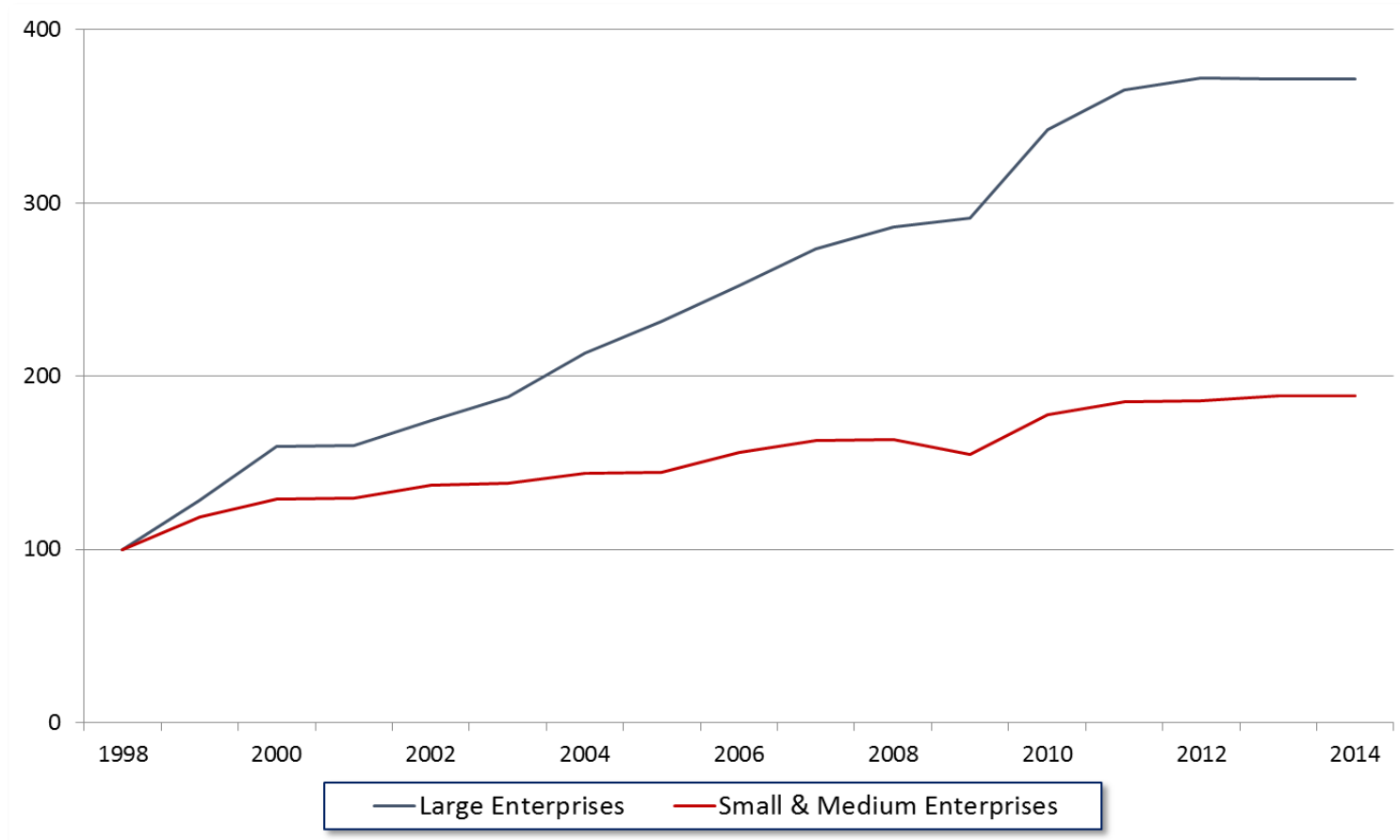
Source: Bank of Korea

- Manufacturing vs Services: Labor Productivity



Source: Pyo, Chun and Lee (2014)

- Large Enterprises vs SMEs: Production Indices (2010=100)

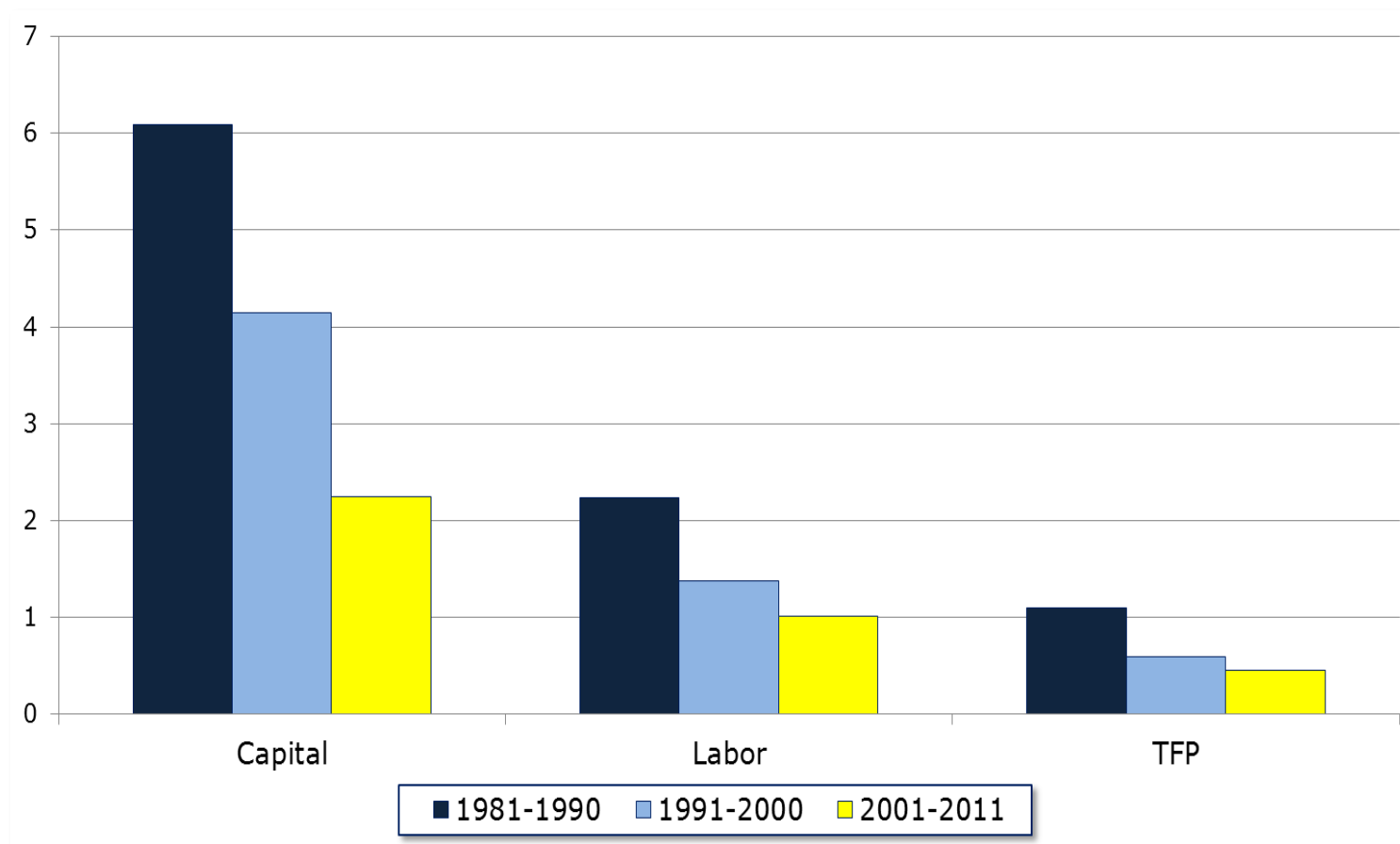


Source: Korea Statistical Information Service

(2) Slowdown in growth

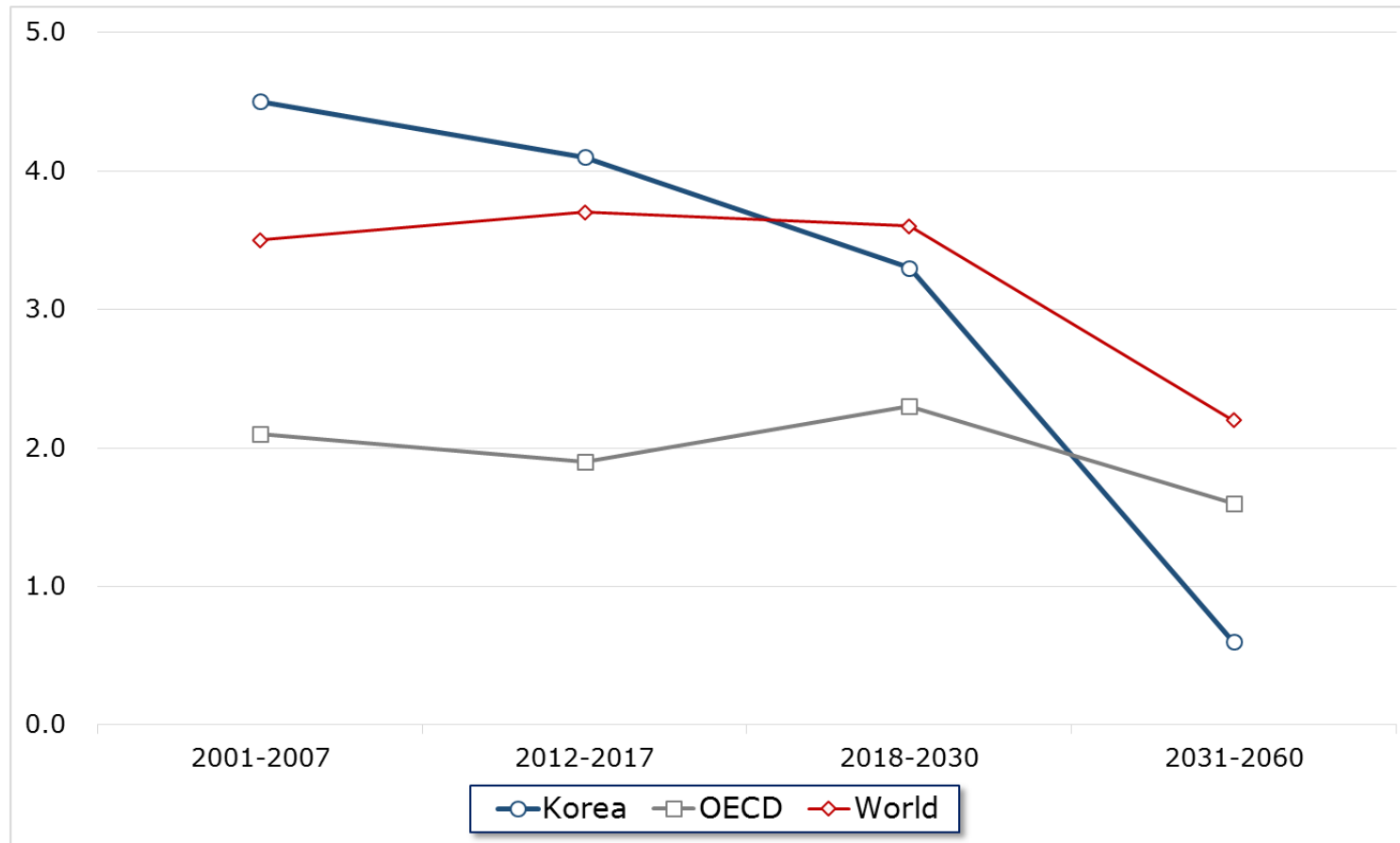
- Diminishing marginal product of capital
- Population/Workers ageing
- Stagnating TFP

- Growth Accounting: Decomposition of Production Factors



Source: Pyo, Chun and Lee (2014)

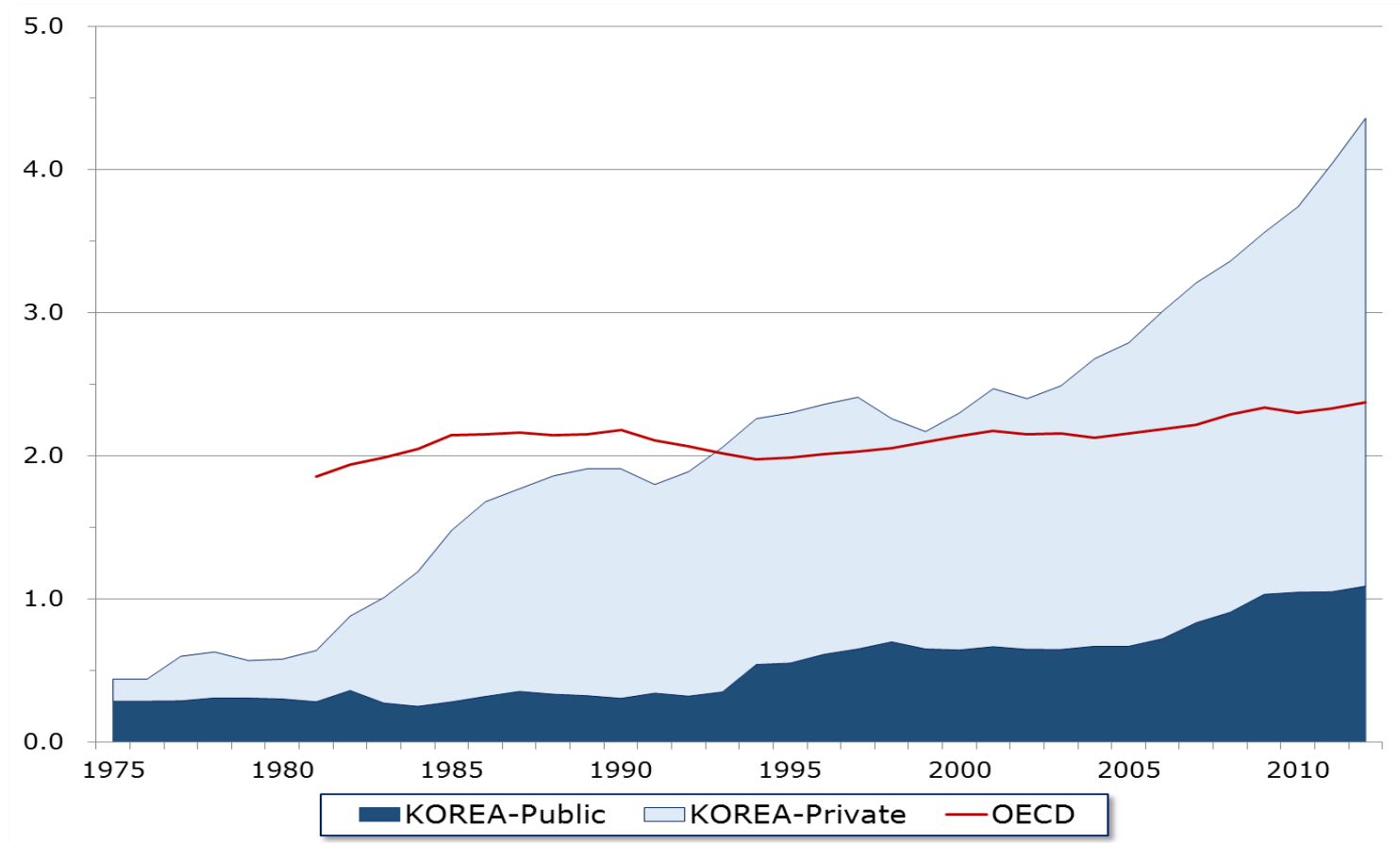
■ Potential Real GDP Forecast



Source: OECD

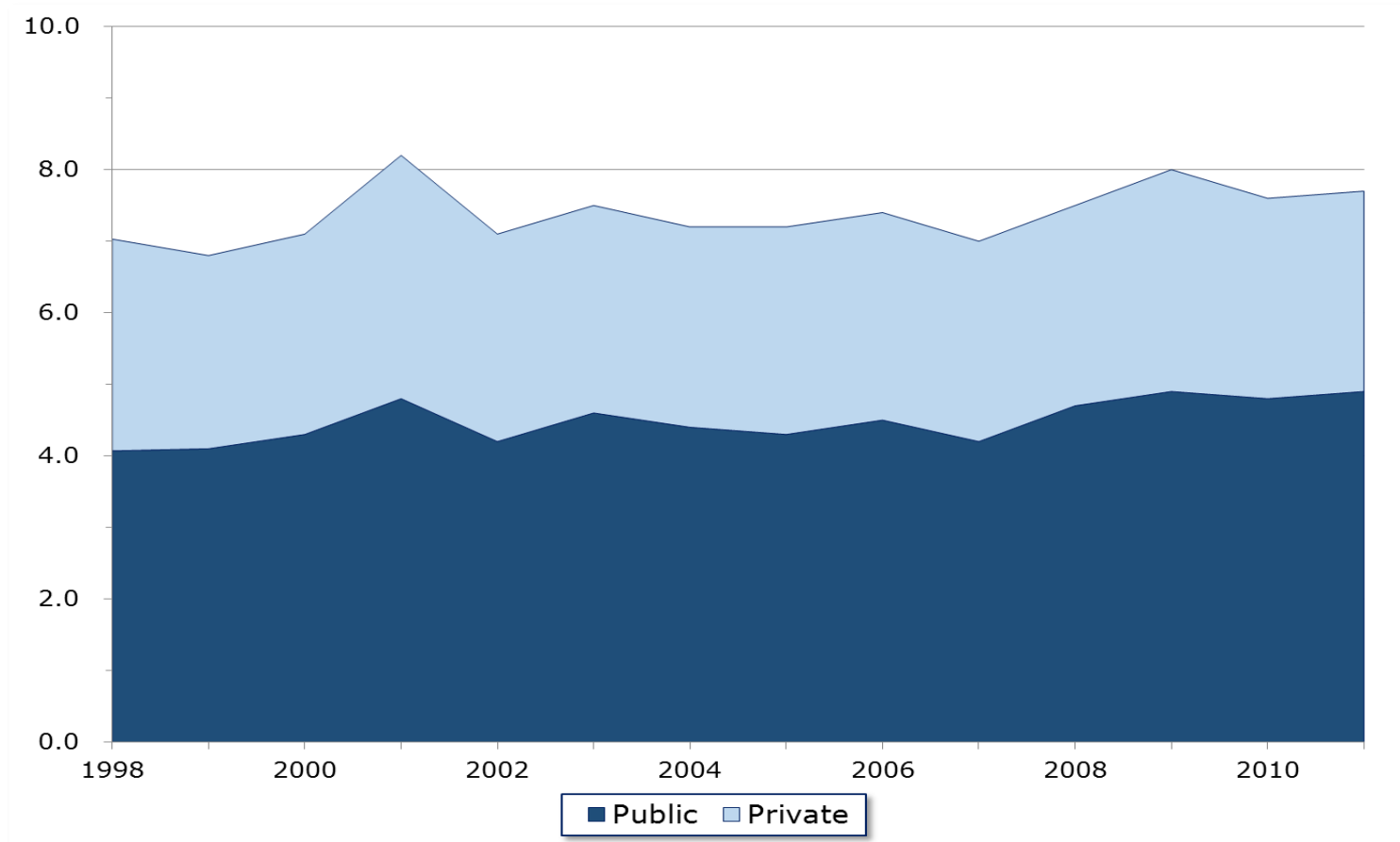
- With capital and labor being exhausted, productivity *is* the only source of growth.
 - TFP rises with technological progress, human capital accumulation, institutional improvement, etc.
- Korea exerts every effort to invest in R&D and education, and to reform their systems.
 - Investment in intangible assets (R&D, education) exceeds investment in tangible assets (equipment).
 - Will government's effort be able to revive growth? — a highly intriguing question.

- GDP Spending on R&D: Public and Private



Source: Korea National Science and Technology Information Service, OECD

- GDP Spending on Education: Public and Private



Source: Korea Statistical Information Service

IV Policy Implications (and a Summary)

- “I do not think it is in any way an exaggeration to refer to this continuing transformation of Korean society as a miracle. [...] **How did it happen?**” (Lucas, 1993)
- The mind-boggling question to policymakers, economists, and people alike is:
 - **Can we do it, too?**
- Without a convincing theory or proven best practices, we need to look into our own as well as others’ experiences.

- The Korean government has played an key part in:
 - Initiating the economic development
 - Resource allocation and reallocation
 - Establishment of institutions
 - Expanding overseas markets
 - Investing in R&D, education, and infrastructures

- Notwithstanding that it made mistakes and blunders
 - Government failures, political capture, corruption, policy errors, etc.

- “The real question about industrial policy is not whether it should be practiced, but how.” (Rodrik, 2010)
 - Every country has an economic strategy using industrial policy — then we better use it well.
- However, there remains a lot to be answered to the role of government for growth (industrial policy in particular).
 - Trial-and-error seems the best way that enables us to learn from successes and failures, and to adjust.

- It should be applied to new challenges, too.
 - Economic conditions have changed since 1997, 2007.
 - Keep identifying, and trying to tackle, problems.
- Experiences say context is far more important than text.
 - One economics, many recipes (Rodrik, 2009)
 - For instance, R&D is a tool, not a goal itself.
- And the government should execute industrial policy by continuously restructuring and reforming it to reflect changes in economic conditions and policy environment.