



2008 Knowledge Sharing Program

# **Industrial Diversification and Export Promotion : Lessons from the Korean Experience**

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Korea's Leading Think Tank



# C O N T E N T S



**Motivation**

**Diagnostics of Azerbaijani Export Structure**

**Export-based Industrial Diversification: the Korean Experience**

**Industrial Policies under the WTO era**

**Policy Suggestions**

**Concluding Remarks**

**Part-01** | **Motivation**

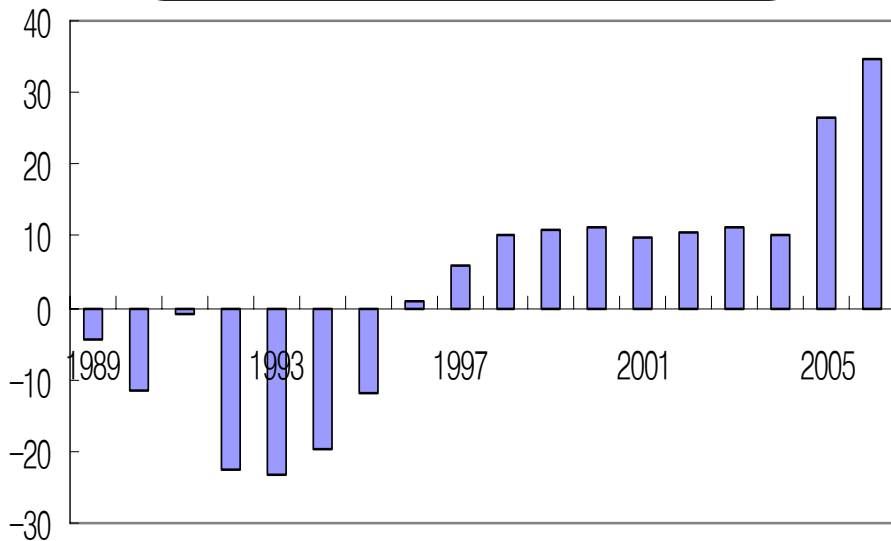
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# Motivation

## Growing concerns over industrial structure of Azerbaijan

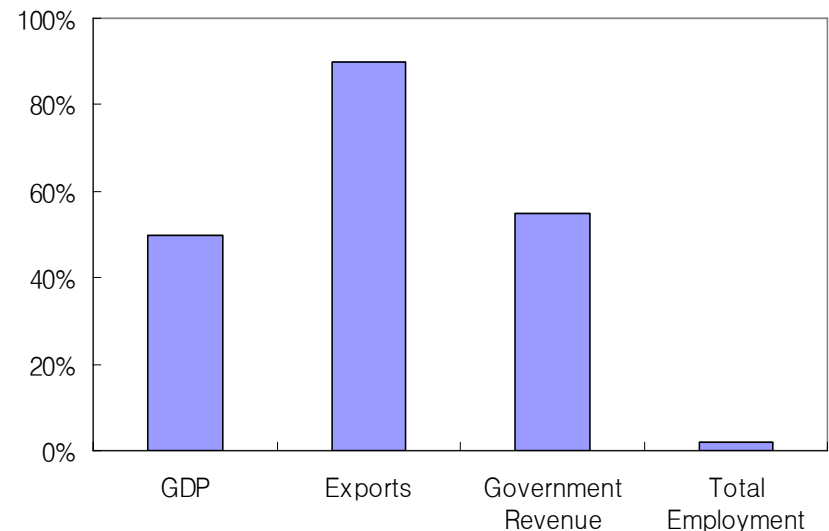
- Azerbaijan experiencing fast economic growth with annual GDP growth rates of more than 10% since the late-90s
- Recent growth mostly due to oil/gas production and construction boom, while non-oil sectors largely stagnant

GDP Growth rates (%)



Source: EBRD Database

Importance of Energy Sector (2006)



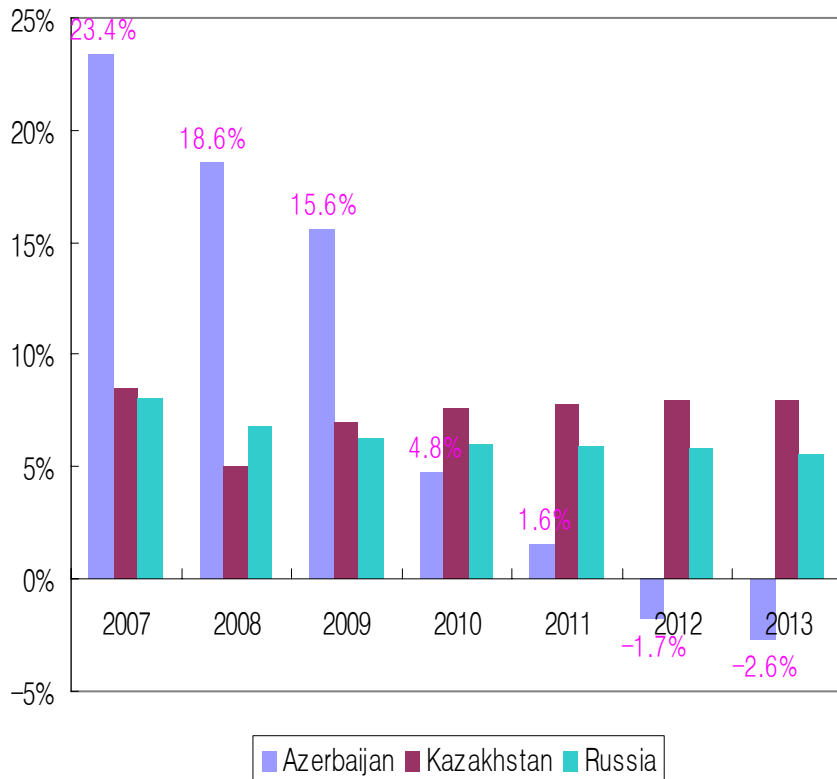
# Motivation

## Why Industrial Diversification?

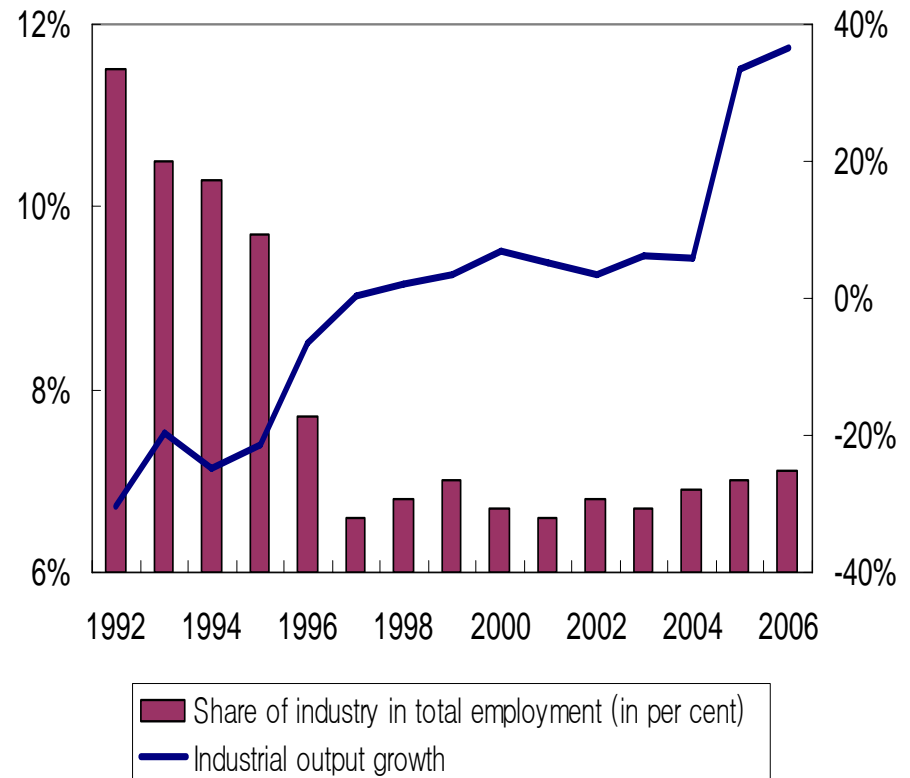
- Problems surrounding **resource-based economies**
  - Typically **vulnerable to external shock**, due to volatile commodity prices
  - Risk of “**Dutch disease**”
    - : Increased resource wealth resulting in raising the equilibrium exchange rate and wage levels, which in turn undermines the competitiveness of the non-oil sectors
  - Risk of **Institutional weakness**, notably due to rent-seeking behavior
- Need for **Sustainable economic growth**
  - Oil production boom that will peak in 2009~10 if no new deposits are discovered
- Need for **Employment creation**
  - The energy sector accounts for only 2.1% of the total employment
  - Social tension

# Annex 1

**GDP growth rates  
(forecast, 2007~2013)**



**Industrial Output vs Employment**



Source: IMF

# Motivation

## How to achieve successful diversification?

- Recent history proving the effectiveness of **the export-based industrial diversification**, especially for a country of which its domestic market size is relatively small.
- Identifying ‘**what to do**’ and ‘**what to avoid**’ lists
  - based on economic pre-conditions of Azerbaijan
  - based on lessons from other countries’ experiences
  - based on the international environments and rules, including the WTO Subsidies Code, etc

# Motivation

## Why could the Korean case be interesting?

- Korea emerging from one of the poorest agrarian economies into an industrialized country, mainly through an export-based industrialization strategy
  - Export growth accompanied by a considerable diversification in both the commodity structure of domestic production and exports
- But remember that there is no “one-size-firs-all” strategy for diversification !!!
  - Industrial strategies quite divergent across the fast-growing East-Asian countries
  - Which is most appropriate depends on the economic preconditions of the country and global economic environments that the country faces.
- Main foci here are **institutional and infra-structural aspects**, helping to effectively implement diversification strategy in Korea during the early stage of economic development

## Annex 2: Industrial Policies in East-Asia

	Japan	Korea	Taiwan	Singapore
Export promotion	Strong	Very strong	Very strong	Strong but mostly indirect
State-owned enterprises in manufacturing	Not used	Some critical industries	Key upstream industries	Key capital-intensive industries
Large firms in the private sector	Strongly promoted	Strongly promoted	Discouraged	Not promoted
Transnational Corporations	Strongly discouraged	Strongly discouraged	Discouraged	Strongly promoted
R&D	Private sector-led	Private sector-led	Government-led	Government-led
Centralization in policy-making	Strong	Very Strong	Very Strong	Strong

Source: Jang (2006)

**Part-2**

**Diagnostics of**

**Azerbaijani Export Structure**

**KDI**

# Diagnostics of Export Structure

## **The composition of exports changed in favor of energy-related sectors since independence**

- Agro-processing products and machinery for oil extraction in which Azerbaijan was used to have comparative advantage before the collapse of the Soviet Union
  - The collapse accompanied with the loss of export markets with excessive capacity
- As of 2006, oil sector accounts for 84.6% of total exports.
  - The share of crude oil in total oil-related exports becomes larger, mainly due to the construction of oil pipelines.

## Annex 3: Trade Structure by type of goods

		1996	1998	2000	2002	2004	2006
Primary goods		9.1%	30.3%	59.7%	69.8%	64.3%	61.4%
	(Crude oil, etc)	NA	(24.7%)	(56.5%)	(68.1%)	(62.6%)	(60.5%)
Intermediate goods	Semi-manufactured Goods	77.1%	55.5%	35.4%	25.4%	27.2%	32.2%
	(oil and gas)	(65.4%)	(43.9%)	(28.6%)	(20.6%)	(19.5%)	(24.0%)
	Parts and components	2.2%	2.9%	1.1%	1.3%	0.6%	0.3%
Final goods	Capital goods	3.9%	3.0%	1.4%	0.8%	4.1%	1.7%
	Consumption goods	7.7%	8.2%	2.4%	2.7%	3.7%	4.4%

Source: UN Comtrade database

# Diagnostics of Export Structure

## Sectors of comparative advantage

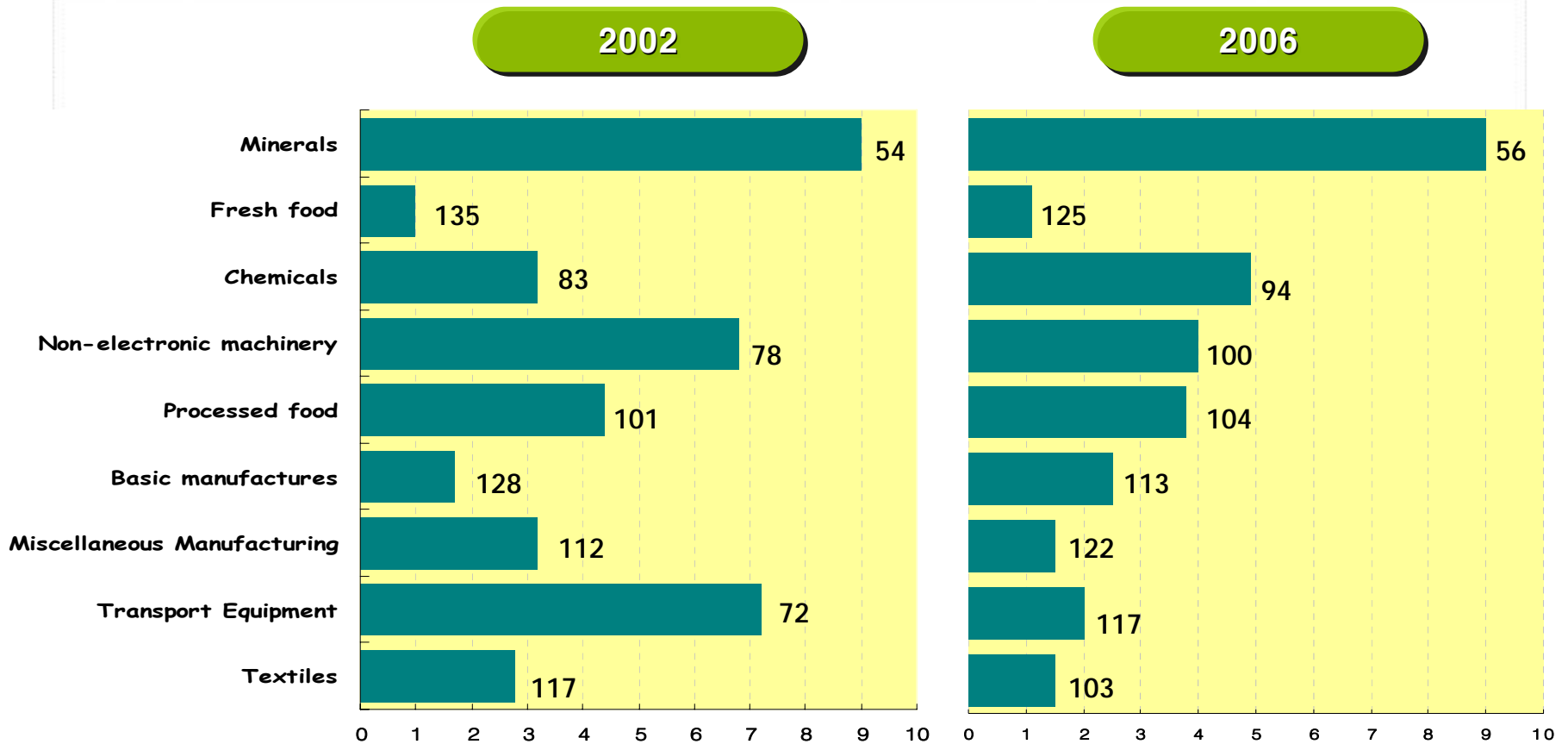
- Sectors showing comparative advantage (MED, 2004)
  - **Agriculture** (tobacco, nuts, tea, vegetables, cotton, oil seeds, etc)
  - **Agro-processing** (fruit juices, cigarettes, animal skins, semi-processed cotton, etc)
  - **Oil industry** (kerosene and medium oils, motor spirit and light oils, fuel oils, etc)
  - **Chemical and Petrochemical industry** (ethylene, polyethylene and plastics, etc)
- According to ITC trade performance index, most of the manufacturing sectors do not show the improvement in international competitiveness.
  - Only sectors like fresh food, basic manufactures and textiles reveals a marginal improvement.

## Annex 4: Top 10 Exporting products (2006)

HS code	Industry	Share in total exports	Share of top 3 markets	Net trade (US mil \$)	Balassa Index	Lafay Index
27	Mineral fuels, oils, distillation products, etc	84.6%	71.6%	4,777	5.8	209
28	Inorganic chemicals, precious metal compound, isotopes	2.5%	99.6%	127	3.6	5
39	Plastics and articles thereof	1.6%	59.2%	12	0.5	0
08	Edible fruit, nuts, peel of citrus fruit, melons	1.5%	90.0%	91	3.5	4
89	Ships, boats and Other floating structures	1.1%	100.0%	-311	1.5	-18
76	Aluminum and articles thereof	1.1%	86.0%	54	1.0	2
15	Animal, vegetable fats and oils, cleavage products, etc	1.0%	97.5%	23	2.7	1
52	Cotton	0.7%	88.2%	42	1.6	2
73	Articles of iron or steel	0.6%	64.9%	-388	0.3	-21
07	Edible vegetables and certain roots and tubers	0.5%	100.0%	22	1.6	1

Source: ITC database

# Annex 5: ITC Trade Performance Index of Azerbaijan



Note: Numbers in the graph represent ranking (out of 189 countries) of international competitiveness in terms of various indicators, including net exports, world market share, product/market diversification, etc

# Diagnostics of Export Structure

## Sources of comparative advantage (Luke & Rothert, 2006)

- Due to **relatively high wage levels**, Azerbaijan facing tough competition in labor-intensive exports in the world market.
  - The monthly wage level of Azerbaijan (198 US \$) close to that of China (220 \$)
- **Geographic remoteness and high transport costs** make certain products economically unviable for exporting
  - Exports to non-CIS countries dominated by raw materials and commodities
  - For small exporters, road and air transport are approximately twice as expensive, and rail/sea transport up to 4times as expensive, as for large exporters
- **Hard to find manufacturing sectors with comparative advantage vis-à-vis the world markets**
  - Most of the manufactured products with comparative advantage exported to CIS countries

# Diagnostics of Export Structure

## Implications: Some Guidelines for export diversification

- For the short and medium terms, it may remain relatively difficult to gain competitiveness in European and North American markets through exports of own designed manufacturing products
  - Due to the lack of cost competitiveness/infrastructure and to technology/marketing gaps
  - Foreign Direct Investment/ Free Exporting Zones, especially for energy-related manufactured goods, may be a viable option
- Central Asian (and former CIS) markets can be used as a test bed for exports of the manufactured products, at least for the short and medium terms
  - Furthermore, these markets are rapidly growing and thus has a great potential for import demands, thanks to the recent rise of oil/commodity prices

**Part-3**

**Industrial Diversification:  
the Korean Experience**



# Historical Context: Korea vs Azerbaijan

	Korea	Azerbaijan
Colonial Period	<p><b>1910~1945</b></p> <ul style="list-style-type: none"> <li>- Specialization in primary goods and raw materials for the trade with Japan</li> <li>- Industries mostly owned by the Japanese</li> </ul>	<p><b>1922~1991</b></p> <ul style="list-style-type: none"> <li>- Specialization in petrochemical products, oil-drilling equipment, and processed foods serving for the Soviet Union market</li> </ul>
Rehabilitation Period	<p><b>1945~1960</b></p> <ul style="list-style-type: none"> <li>- Colonial legacies and economic turmoil</li> <li>- Korean War</li> <li>- Import-substitution strategy</li> </ul>	<p><b>1991~1996</b></p> <ul style="list-style-type: none"> <li>- Soviet legacies and economic turmoil</li> <li>- Civil War over Nagorno-Karabakh</li> </ul>
Economic Development Period	<p><b>1960~1980</b></p> <ul style="list-style-type: none"> <li>- Export-oriented strategy</li> <li>- Heavy and Chemical Industry Drive (1973~80)</li> </ul>	<p><b>1997~present</b></p> <ul style="list-style-type: none"> <li>- Completing its post-Soviet transition into a major oil-based economy</li> <li>- Industrial diversification</li> </ul>
Stabilization Period	<p><b>1980~present</b></p> <ul style="list-style-type: none"> <li>- R&amp;D-oriented industrial strategy</li> <li>- Economic liberalization</li> </ul>	

# Understanding the initial conditions

## Colonial Legacies and the Korean War: 1910~1953

- Serving a source of rice and and primary goods for the benefit of Japan
  - Later emphasis shifted into a production base for military goods, which was not related to the traditional sectors of the Korean economy
  - Japanese domination of industry ownership, technical manpower, etc.
- After independence, **severing from the Japanese bloc as well as the partition of the country** caused economic turmoil and stagnation.
  - A sudden interruption of the supply of technical manpower and intermediate goods and the loss of major export markets
  - Most of industries including electricity supplies located in the North
- **The Korean War** further paralyzing the economy through the mass destruction of industrial facilities and the massive inflows of refugees from the North
  - Estimated physical war damage amounting to 85% of GNP for 1953

# Understanding the initial conditions

## Postwar Rehabilitation: 1953~1960

- Main policy objectives during the period
  - Reconstruction of industrial facilities and infrastructure
  - Economic stabilization against postwar inflation
- **High dependence on foreign aid** due to lack of domestic capital
  - Almost two-third of imports financed by foreign aid
  - To maximize foreign aid, the official exchange rate kept at artificially high level
- **Import-Substitution strategy** to resolve shortage of consumption goods
  - Prohibitively high tariffs, quota restrictions and prior approval for imports
- Foreign exchange shortage, motivation to maximize dollars per won, and import substitution, all resulting in a restrictive trade regime
  - Disappointing economic growth under the import substitution era

# The Miracle Years: 1960~73

## Shift toward the Export-based Industrialization Strategy

- Abandoning the Import-Substitution Strategy
  - Inappropriate for Korea due to the small domestic market and its factor endowment with its scarce capital and raw materials
  - Prices of intermediate goods higher than world prices
- Backgrounds for adopting the Export-based Industrialization Strategy
  - Recognition of **exports as a main conduit of foreign exchange receipts**, which in turn could be used for intermediate goods for domestic production and exports
  - Announcement by the U.S. to reduce development aid
  - **Comparative advantage in its abundant labor force**

# The Miracle Years: 1960~73

## Shift toward the Export-based Industrialization Strategy

- Major sources for reduction in the bias toward import-competing industries
  - Unified exchange rate system with periodic devaluation
  - Export incentives as well as partial liberalization of import licensing

## Exchange Rate Reform (1965)

- Periodic devaluation in favor of exporters
  - Ensuring the cost competitiveness in the international market
- Switch to a unitary, but managed, exchange rate system
  - Maintaining stable real exchange rate throughout the industrial drive
  - Preventing capital flight and capital inflows selectivity

# The Miracle Years: 1960~73

## Major Incentives for Exporters

- **Unrestrictive and tariff-free access to imported intermediate goods**
  - Export-Import Link System: exporters entitled to automatic import rights and to easy custom clearance
  - Wastage Allowance: exporters entitled not only to import needed inputs for producing for export, but an additional amount; given that the value of imports was still very high, these amounts increased the profitability of exports.
- **Automatic access to bank loans with preferential interest rates**
  - 8~13% for exporters vs 16~17.5% for non-exporters
- Other incentives
  - **Income tax reductions/ Reduced rates for transport/ Export credit insurance and guarantees, etc.**

# The Miracle Years: 1960~73

## No incentive targeting for specific industries or firms

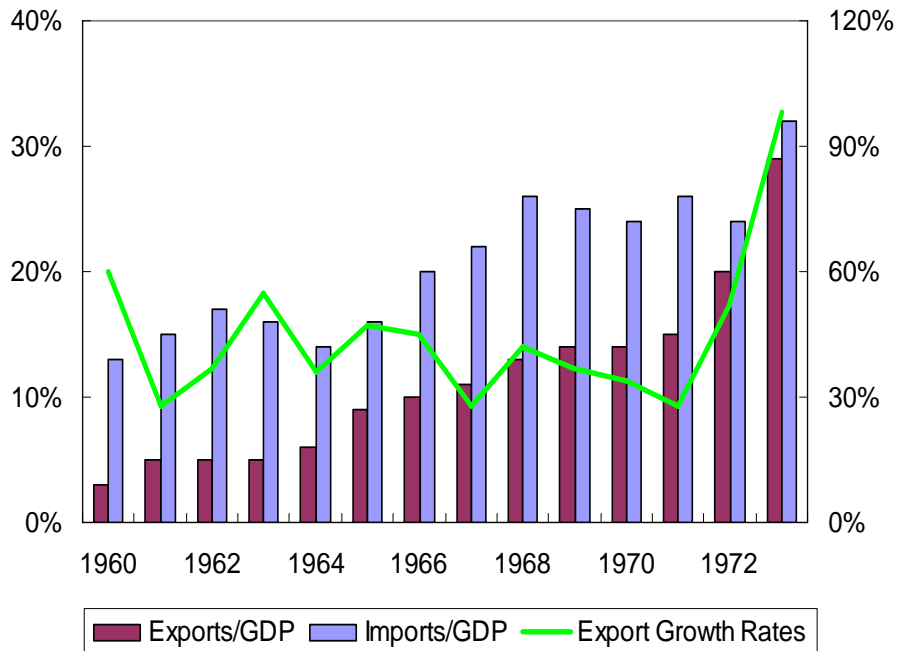
- Unlike most developing countries, access to basic incentives was automatic for all export-related activities
  - “Export targets” set by private sectors themselves

# The Miracle Years: 1960~73

## Economic Performance during the Miracle Years

- High exports and GDP growth, which were the highest in the world
- Rapid change in the composition of exports: primary to manufactured

### Export Growth



### Change in Export Structure

1961		1975	
Exports	%	Exports	%
1. Iron ore	13.0%	1. Textiles	36.2%
2. Tungsten	12.6%	2. Electronics	8.9%
3. Raw silk	6.7%	3. Steel Products	4.6%
4. Anthracite	5.8%	4. Plywood	4.1%
5. Squid	5.5%	5. Footwear	3.8%
6. Other fish	4.5%	6. Deep-sea Fish	3.6%
7. Graphite	4.2%	7. Ships	2.7%
8. Plywood	3.3%	8. Metal products	2.4%
9. Grain	3.3%	9. Petroleum	1.9%
10. Animal Fur	3.0%	10. Synthetic resin	1.7%

# The Miracle Years: 1960~73

## Key Factors for the Korean Miracle

- **Effective administrative support system with a coherent economic bureaucracy**
  - One of the most important prerequisites for successful policy formation and implementation
- **Policy consistency maintained throughout the entire period**
  - Significantly reducing uncertainty around business environment
- **Infrastructure Expansion**
  - Considerable policy emphasis especially in the early stage of development
  - Removing bottlenecks to economic development and exports
- **Human Capital**
  - Largely due to the education system reform in late-1940s

# The Miracle Years: 1960~73

## Institution and Growth: Bureaucracy

- **A highly capable, coherent economic bureaucracy, closely connected to, but still independent of, the business community**, as an important prerequisites for successful policy formation and implementation
  - Otherwise, vested interests impeding industrial development
- Modern Korean bureaucracy constructed through intense struggles for reform and endless experimentation over the course of the Post-Second World War period.
  - Ineffective bureaucracy (~ 1950s): Policy instruments often used for political purposes, and bureaucratic staffing itself being an important form of patronage
  - Organizational Reform (1960s): Centralized recruitment and selection; Improving objective recruiting system; Installing performance rating system;

# The Miracle Years: 1960~73

## Korean Experience: Economic Planning Board (EPB)

- EPB, established in 1961, as **a central body of economic development planning**
- An unusual level of intra-bureaucratic independence and control over the activities of other ministries
  - Its minister given the title of Deputy Prime Minister
  - Control over foreign exchange, money supply, trade policy, and the budget
- Separation of planning(+budgeting) and implementation
  - Other ministries still responsible for implementation of policy instruments
  - In order to make EPB not exposed to vested interests in the planning stage
- Structure
  - **Budget** Bureau (← the Ministry of Finance)
  - Statistics and **Research** Bureau (← the Ministry of Home Affairs)
  - **Planning** Coordination Offices (← the Ministry of Reconstruction)

# The Miracle Years: 1960~73

## Korean Experience: The Role of the President

- **The President's continuous commitment and full support** over export promotion strategy as a crucial factor for success
  - Guaranteeing EPB intra-bureaucratic independence and autonomy
  - President monthly presiding over 'economic situation room' meetings with ministers, political leaders including those from opposition parties, and the leaders of private sectors
    - \* monitoring and sharing the economic situations
  - President monthly presiding over 'export situation room' meetings with high ranking government officials and the leaders of private sectors since 1965
    - \* Reviewing export performance and removing bottleneck based on suggestions from private sectors

# Targeting Specific Industries or Firms?

## HCI Drive period of Korea: 1973~80

- Heavy and Chemical Industry(HCI) Plan in 1973
- Significant deviation from the export-oriented policies of the 1960s
  - “Import-substitution first and exports eventually”
  - targeting specific industries and specific activities, with various supports
  - Effective protection for HCIs at 43.2 % in 1978, compared to 3.6% for other manufacturing
- Motives
  - the strategic-military situation
  - Rising protectionism in the world economy
  - Continuation of the current account deficit

# Targeting Specific Industries or Firms?

## HCI Drive period of Korea: 1973~80

- **Considerable waste of resources** in the HCI drive
  - A few projects immediately successful, but many heavily loss-making
  - Fundamental flaw was its shift away from reliance upon reasonably uniform incentives to enable private sectors to decide whether projects made sense
- By mid-1980s, the virtual abandonment of the specific targeting and shift toward reliance upon uniform incentives
  - Consolidation, scaling back of investment plans, and altering the program
  - the number of industries to receive preferential treatment was significantly reduced, and the types of preferential treatment were also cut back

**Part-4** | **Industrial Policies under the WTO era**



# Industrial Policies under the WTO Era

## Two ways to stimulate private sectors (Schmitz, 2007)

- **Challenge:** by heightening competitive pressure to induce the reduction of X-inefficiency and technological investment
- **Support:** by providing better access to credit or support services

### Industrial Policies

		Support	
		Low	High
Challenge	High	Washington Consensus	Market Liberalization with Industrial Policies
	Low	No Policy	Market Protection with Industrial Policies

Source: Schmitz (2007)

# WTO Subsidies Code

## Tough conditions for pursuing industrial policy under the WTO era

- WTO regulates or even prohibits most governmental provisions or incentives to promote specific industries.

Two tales on the same coin (Caprio & Amsden, 2004)

### CASE 1: Brazil, 1960

The government imposed local content requirements on domestically produced automobiles in order to build up the domestic parts manufacturing sector. Content requirements were accompanied by incentives such as subsidies and preferential access to foreign exchange. **This led to an efficient and technologically advanced set of parts suppliers** in the country (Shapiro, 1994)

### CASE 2: Indonesia, 1996

The government imposed local content requirements on domestically produced automobiles as part of the Indonesian national car project in 1993. By 1996, the measure was sniffed out by the EC and a dispute panel was requested. BY 1998, the government had **eliminated all elements of the requirements that did not comply with WTO obligations**

# WTO Subsidies Code

## The Agreement on Subsidies and Countervailing Measures (SCM)

- Subsidy defined as ① a financial contribution ② made by government or any public body within the territory of a WTO member ③ that confer a benefit.
  - direct payments, foregone revenues and rights, government guarantees and equity participation, the provision of goods and services below market value, or from differential application of certain rules to different sectors and activities, such as bank credits directed to specific sectors and activities with preferential conditions
- SCM only applies to specific subsidies, that is, those targeted at an enterprise, industry, or group of enterprises or industries.
  - SCM prohibits subsidies that are conditional on export performance or on the use of domestically produced goods.

# WTO Subsidies Code

## The Agreement on Subsidies and Countervailing Measures (SCM)

- Prohibited subsidies
- Actionable subsidies
  - Subject to challenge through multilateral dispute settlement or countervailing action.
- Non-actionable subsidies
  - Regional development, Environment protection, R&D subsidies, etc.
  - Came up for review in 2000, when no agreement over its extension could be reached, and thus being now become actionable

# WTO Subsidies Code

## What to be allowed then...

- Subsidies for the provision of **physical and social infrastructure**
- Subsidies resulting from low energy taxes that benefits all enterprises
- Subsidies earmarked for specific enterprises **according to their size or similar criteria**
- Export insurances complying the OECD Arrangement on Export Credits
- Temporary admission (duty-free entry of goods or parts for subsequent export)
- **Duty drawbacks or tariff reimbursement for imported inputs** used for export production
- Pre- and Post-shipment credit at interest rates equivalent to international ones, etc.

- Old style subsidies are often restricted, but there is still manoeuvring room apply them creatively as well as think forward to devise alternative policy initiatives.

(Tussie and Lengyel, 2004)

**Part-5** | **Policy Suggestions**



# Strength and Weakness: Initial Conditions

## Strength relative to the Korean case are...

- Azerbaijan possesses fertile agricultural lands, rich industrial resources, including **considerable oil reserves**, and **a relatively developed industrial sector**.
  - The modern Korean history of economic development is so much of struggles against the foreign exchange shortage to finance domestic investment resources

## But weakness are ....

- The 'post-WTO' global context is different from the one that Korea experienced
  - Many of promotional measures taken by the Korean government during the rapid economic growth period, cannot be used by developing countries now.
- Geographic remoteness and high transport costs
  - Biggest bottleneck for improving international competitiveness
- Symptom of Dutch disease
  - Real exchange rate appreciation and high wage costs

# Policy Suggestions

## Guidelines for export diversification

- **Basic diversification strategy for the short and medium terms**
  - Use Central Asian markets as a test bed for exports of manufactured products
  - Promote Foreign Direct Investment/ Free Exporting Zones to encourage exports of energy-related manufactured goods toward non-CIS markets
- **Establishment of sound infra-structure and export incentives**
  - Improving transport system and constructing new export routes
  - Building up and implementing bonded warehouses and Free Export Zones
  - Adopting export insurance for non-oil exports

# Policy Suggestions

## Guidelines for export diversification (*Continued*)

- Reduction of trade barriers, especially for small exporters
  - Removing a bias against imports of intermediate goods for export production, by applying duty free exemption and/or duty drawbacks for non-oil exports
  - Improving the transparency of custom process
- Sound macro-management and institutional system favorable to exporters
  - Increasing exchange rate flexibility
  - Re-organizing the bureaucratic system, and creating an entity responsible for economic development plan and not vulnerable to vested interests

**Part-6**

**Concluding Remarks**

**KDI**

# Concluding Remarks

## Lessons from the Korea Experience

- Industrial development is a continuing process, not just a single event.
  - Periodic policy re-evaluation and revision are necessary!

*“Continuing reforms have been a hallmark of Korean economy policy, as further growth has increased the costs of existing controls and restrictive measures.”*

*“Modern Korean bureaucracy constructed through intense struggles for reform and endless experimentation over the course of the Post-Second World War period.”*

(Anne Krueger, 1995)

# Concluding Remarks

## **No Resource curse, but institutional curse exists!**

- What is detrimental to growth is not the dependence on natural resources per se, but rather the high concentration of exports subject to large price swing (Lederman and Maloney, 2002)
- **Poor economic performance often resulted from the ownership structures and unproductive usage of financial resources**
  - Many resource-based economies in Latin America failed to seize growth opportunities, due to waste of windfall gains to unproductive investment projects through import-substitution strategies.
  - As the examples of Canada, Australia and the Scandinavian countries, diversifying an resource-based economy is quite plausible, given the right institutions and policies

**Thank You!**

