Export-led Industrialization

: Korea’s experience and its implications

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PART 1.

Introduction
Introduction

Korean Experience: From Poverty to Prosperity

- Korea emerging from one of the poorest agrarian economies into an industrialized country, mainly through an export-based industrialization strategy
  - Korea in the 1950s, with more than two-thirds of the entire population engaged in the primary sector, possessed all the familiar characteristics of an extremely underdeveloped economy.
  - Export growth had been accompanied by a considerable diversification in both the commodity structure of domestic production and exports.

- Exports grew on average by more than 20% a year over three decades and more
  - Exports grew to $466.4 bil (46% of GDP) in 2010
  - Trade surplus: $41.7 bil in 2010
  - Became the 7th largest exporting country and the 13rd largest economy in 2010
  - shipbuilding (1st), steel (5th), automobile (5th), DRAM semiconductors (1st), electronics (3rd)
Shanties in the hill: HyunJeo-Dong, Seoul in the 1950s
Cheong-Gye-Cheon Stream in Seoul after the Korean War
Cheong-Gye-Cheon Stream in Seoul, Today
Korean Miracle: From Poverty to Prosperity

GDP per capita (Current price, US $) by country: World Bank

1962
- Sri Lanka: 146
- Philippines: 153
- Mexico: 387
- Korea: 104
- India: 92
- China: 70

2007
- Sri Lanka: 1,616
- Philippines: 1,639
- Mexico: 9,715
- Korea: 20,014
- India: 1,046
- China: 2,432
Rapid Industrialization of Korea

Time length required for industrialization

- Netherlands (98)
- Denmark (114)
- Belgium (75)
- France (104)
- Ireland (114)
- U.S. (54)
- Germany (68)
- Canada (41)
- Norway (68)
- Sweden (45)
- Japan (39)
- Italy (35)
- Venezuela (32)
- Spain (33)
- Finland (25)
- Portugal (36)
- Taiwan (20)
- Malaysia (26)
- Korea (19)
Evolution of Korea’s Export Structure

from *agriculture* to *manufacturing*;
from *light industries* to *heavy and chemical industries*

<table>
<thead>
<tr>
<th>Year</th>
<th>Agricultural Products</th>
<th>Textile Products</th>
<th>Light Industry Products</th>
<th>Semiconductor, Mobile Phone, DTV, Display, Automobile, Shipbuilding, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td></td>
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<tr>
<td>1970</td>
<td></td>
<td></td>
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<tr>
<td>1980</td>
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<tr>
<td>1990</td>
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<tr>
<td>2000</td>
<td></td>
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</tr>
<tr>
<td>2005</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
Reducing Poverty

Absolute Poverty (%) : 1961-1993

Absolute poverty declined steeply from 48% in 1961 to less than 10% entering 1980s
# Introduction

## Evolution of Korea’s Trade and Industrial Policy

<table>
<thead>
<tr>
<th>Period</th>
<th>Economic Situation</th>
<th>Trade Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colonial Period (1910~1945)</td>
<td>Specialization in primary goods and raw materials for trade with Japan&lt;br&gt;- Industries mostly owned by the Japanese</td>
<td></td>
</tr>
<tr>
<td>Rehabilitation Period (1945~1961)</td>
<td>Colonial legacies and economic turmoil&lt;br&gt;- Korean War&lt;br&gt;- Foreign Aid-dependent country</td>
<td>- Import-substitution Policy</td>
</tr>
<tr>
<td>Stabilization Period (1980~present)</td>
<td>Innovation-based economy&lt;br&gt;Economic liberalization</td>
<td>- Trade Liberalization and Technology-Oriented Industrial Policy in the 1980s&lt;br&gt;- Globalization and IT Industry Promotion Policy since the 1990s</td>
</tr>
</tbody>
</table>
Introduction

No “one-size-fits-all” Strategy!

- There is no “one-size-fits-all” strategy for economic development!!!
  - 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.

- Identify ‘what to do’ and ‘what to avoid’ lists
  - based on current economic conditions for each country
  - based on lessons from other countries’ experiences
  - based on the international environments and rules

- Recent Korean experiences indicate the effectiveness of the export-based industrial diversification, and more recently that of FDI-induced growth strategy!
## Introduction

### Comparison of Industrial Policies of the East-Asia Countries

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

Source: Jang (2006)
PART 2.

Export-led Industrial Policy: Korean Experiences
Export-led Industrial Policy: historical background

Colonial Legacies and the Korean War: 1910~1953

- Serving a source of rice 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
Export-led Industrial Policy: historical background

Severely Stagnant Industrial Production in the early 1950s

Mfg Output Index, rough estimates (1940=100)
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
### Export-led Industrial Policy: historical background

#### Foreign Aid in Korea (1953-1960)

<table>
<thead>
<tr>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>12.8</td>
<td>108.4</td>
<td>205.8</td>
<td>271.0</td>
<td>368.8</td>
<td>313.6</td>
<td>219.7</td>
<td>245.2</td>
</tr>
<tr>
<td>CRIK</td>
<td>158.8</td>
<td>50.2</td>
<td>8.7</td>
<td>0.3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>UNKRA</td>
<td>29.6</td>
<td>21.3</td>
<td>22.2</td>
<td>22.4</td>
<td>14.1</td>
<td>7.7</td>
<td>2.5</td>
<td>0.2</td>
</tr>
<tr>
<td>Total foreign aid</td>
<td>201.2</td>
<td>179.9</td>
<td>236.7</td>
<td>293.7</td>
<td>382.9</td>
<td>321.3</td>
<td>222.2</td>
<td>245.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Imports</td>
<td>345.2</td>
<td>243.3</td>
<td>341.4</td>
<td>386.1</td>
<td>442.1</td>
<td>378.2</td>
<td>303.8</td>
<td>343.5</td>
</tr>
<tr>
<td>Aid/import ratio</td>
<td>58.3</td>
<td>73.9</td>
<td>69.3</td>
<td>76.1</td>
<td>86.6</td>
<td>84.9</td>
<td>73.1</td>
<td>71.4</td>
</tr>
<tr>
<td>Import/GNP ratio (current price)</td>
<td>12.9</td>
<td>7.3</td>
<td>9.8</td>
<td>13.1</td>
<td>12.0</td>
<td>10.7</td>
<td>10.1</td>
<td>12.6</td>
</tr>
<tr>
<td>Import/GNP ratio (constant price)</td>
<td>n.a.</td>
<td>8.8</td>
<td>11.2</td>
<td>13.0</td>
<td>14.3</td>
<td>11.7</td>
<td>9.3</td>
<td>10.4</td>
</tr>
<tr>
<td>Current account deficit/GNP</td>
<td>n.a.</td>
<td>6.2</td>
<td>8.7</td>
<td>11.7</td>
<td>10.5</td>
<td>8.7</td>
<td>7.5</td>
<td>9.3</td>
</tr>
</tbody>
</table>

*Note:* CRIK = United Nations Civil Relief in Korea, UNKRA = United Nations Korea Reconstruction Agency.
Export-led Industrial Policy: historical background

Discrepancy between Official and Market Exchange Rates

<table>
<thead>
<tr>
<th>Year</th>
<th>Official (a)</th>
<th>Market (b)</th>
<th>Ratio=(b)/(a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1954</td>
<td>18.0</td>
<td>67.6</td>
<td>3.8</td>
</tr>
<tr>
<td>1955</td>
<td>40.8</td>
<td>77.6</td>
<td>1.9</td>
</tr>
<tr>
<td>1956</td>
<td>50.0</td>
<td>96.6</td>
<td>1.9</td>
</tr>
<tr>
<td>1957</td>
<td>50.0</td>
<td>103.3</td>
<td>2.1</td>
</tr>
<tr>
<td>1958</td>
<td>50.0</td>
<td>118.1</td>
<td>2.4</td>
</tr>
<tr>
<td>1959</td>
<td>50.0</td>
<td>125.5</td>
<td>2.5</td>
</tr>
<tr>
<td>1960</td>
<td>62.5</td>
<td>143.7</td>
<td>2.3</td>
</tr>
<tr>
<td>1961</td>
<td>127.5</td>
<td>148.3</td>
<td>1.2</td>
</tr>
<tr>
<td>1962</td>
<td>130.0</td>
<td>134.0</td>
<td>1.0</td>
</tr>
<tr>
<td>1963</td>
<td>130.0</td>
<td>174.5</td>
<td>1.3</td>
</tr>
<tr>
<td>1964</td>
<td>213.4</td>
<td>285.6</td>
<td>1.3</td>
</tr>
<tr>
<td>1965</td>
<td>255.5</td>
<td>316.0</td>
<td>1.2</td>
</tr>
<tr>
<td>1966</td>
<td>271.5</td>
<td>302.7</td>
<td>1.1</td>
</tr>
</tbody>
</table>
Export-led Industrial Policy: historical background

Korea remained as a resource-poor backward economy until 1950s

- Largely rural peasant economy, wholly lacking natural resources
- Has the highest density of people on arable land in the world
- Exports were 3% of GDP (88% of which were primary products)
- Crucially dependent on foreign aid-transfers (More than 10% of GDP)
- The third poorest country in Asia with no hope for growth

- Low economic growth
- High population growth,
- Low savings and investment rates, and
- Serious Balance of payments difficulties
Export-led Industrial Policy: historical background

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
  - Announcement by the U.S. to reduce development aid
  - 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
  - Comparative advantage in its abundant labor force
Export-led Industrial Policy: historical background

Shift toward the Export-based Industrialization Strategy

- As a matter of fact, the Korean government started to promote industrialization without analyzing the merits of outward-looking policies or having any idea about the comparative advantages in labor-intensive manufacturing exports as an outlet for its massive disguised unemployment in the early 1960s.

- The ideology of “Export First” policy was established in the later part of the First Five-year Economic Development Plan period (1962-66) and was clearly recorded in the Second FYEDP document.
  - It was by the mid-1960s that the government leaders and technocrats apparently became fully convinced that the expansion of manufactured commodity exports was the only means available for Korea to achieve rapid industrialization and to convert the then only plentiful resource, labor, from a handicap to an advantage.
Foreign exchange devaluations were the most important trigger!

- Under overvalued currency regime, all domestically produced goods were too expensive to foreigners so that exports are one of the least profitable activities.
- As the official exchange rate began to send correct price signal, exports started to rise.
- As subsequent export expansion through the exchange rate reforms self-enforced the importance of promoting export-oriented production activities.
Export-led Industrial Policy: Key Policy Instruments

Major Incentives for Exporters

- Income tax reductions (30% in 1961, 50% in 1962; abolished in 1973)
- Automatic access to bank loans with preferential interest rates
  - 8~13% for exporters vs 16~17.5% for non-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 (abolished in 1965)
  - 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.
- Other incentives
  - Cash subsidy/ Reduced rates for transport/ Export credit insurance and guarantees, etc.
Export-led Industrial Policy: Characteristics

No incentive targeting for specific industries or firms

- The three major policy tools at the disposal of government – preferential tax system, preferential credit rationing system and administrative support system – were to be fully mobilized to reward those who contributed to export expansion.
- It was an open-entry system, with a fairly objective measurable performance test and with various objective rewarding devices.
- Unlike most developing countries, access to basic incentives was automatic for all export-related activities
  - “Export targets” set by private sectors themselves
- Those who contributed to export expansion were assured to be honored publicly, and the export activities were elevated to the rank of patriotic activities.
Export-led Industrial Policy: Characteristics

Less distorted profits signals to the domestic markets

• During 1967-83, the export expansion of Korea did not accompany any extensive import liberalization.
  - The government rather instituted a half-open economy by allowing monopolistic market structures in domestic markets for the sectors that enjoy scale economies.
• However, the government did not allow those entrepreneurs to enjoy a lackadaisical life with monopolistic rents.
  - The threat to allow imports if the domestic prices of the protected industrial products went too far out of line frequently been used to hold down domestic prices to near international levels and also to give less distorted profit signals to the entrepreneurs.
• Since 1983, the government has turned the random threats into a more systematic timetable for import liberalization.
Export-led Industrial Policy: Performance

Economic Performance during the Miracle Years (1960~1973)

- 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

<table>
<thead>
<tr>
<th>1961</th>
<th>1975</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exports</td>
<td>%</td>
</tr>
<tr>
<td>1. Iron ore</td>
<td>13.0%</td>
</tr>
<tr>
<td>2. Tungsten</td>
<td>12.6%</td>
</tr>
<tr>
<td>3. Raw silk</td>
<td>6.7%</td>
</tr>
<tr>
<td>4. Anthracite</td>
<td>5.8%</td>
</tr>
<tr>
<td>5. Squid</td>
<td>5.5%</td>
</tr>
<tr>
<td>6. Other fish</td>
<td>4.5%</td>
</tr>
<tr>
<td>7. Graphite</td>
<td>4.2%</td>
</tr>
<tr>
<td>8. Plywood</td>
<td>3.3%</td>
</tr>
<tr>
<td>9. Grain</td>
<td>3.3%</td>
</tr>
<tr>
<td>10. Animal Fur</td>
<td>3.0%</td>
</tr>
</tbody>
</table>
Export-led Industrial Policy: Performance

Change in Export Composition (1960~1970)

Export Composition (%)

Good I: labor-intensive manufactures
Good II: chemicals and machinery
PART 3.

Evaluations and Implications
Evaluations: Key Factors for the Korean Miracle

Key factors for the Korean Success

- **Policy consistency maintained throughout the entire period**
  - Outward-looking and industry-oriented development strategy
  - Stable and favorable macroeconomic policy for exporting sectors
  - Significantly reducing uncertainty around export engagement

- **Effective administrative support system with a coherent economic bureaucracy**
  - Strong Political leadership and institutional building
  - Timely reform efforts, well-prepared planning, administrative support (export target, monthly export meeting presided by the President)

- **Appropriate Infrastructure Expansion**
  - Considerable policy emphasis especially in the early stage of development
  - Removing bottlenecks to economic development and exports

- **Extreme Social Mobility with Intense Enthusiasm for Education Attainment**
  - Education system reform in late-1940s

- **Favorable World Economic Environment**
Evaluations: Key Factors for the Korean Miracle

Extreme Social Mobility

- The ruling noble class of the Yi dynasty was uprooted during the Japanese colonial period (1910-1945)
- The traditional landlord class virtually disappeared after the land reform that was enforced immediately after the Second World War.
- The entire society was shattered and reshuffled by the Korea War (1950-53)
### Evaluations: Key Factors for the Korean Miracle

#### Policy Coherency towards Outward-looking Industrial Development

- Korea achieved coherency through its 5-Year (rolling) Economic Development Plans (EDPs) for medium and long-term coordination and Monthly Economic Trend Monitoring Meetings for short-term coordination.

- One notable feature of the 5-Year EDPs was that they contained detailed action plans for direct implementation rather than mere mission statements.
  - Another notable feature of the development plan is that it highlighted the **technology development** issue as one of the main objectives right from the outset.

- The Monthly Economic Trend Monitoring Meetings were aimed at reaching a consensus among ministries and at checking the performance of development plans on a real-time basis.

- Korea also set up very specific and implementable export promotion plans with quantitative policy targets and continuously re-evaluated/revised the plans.
## Evaluations: Key Factors for the Korean Miracle

### 1971 Korea’s Export Promotion Framework

<table>
<thead>
<tr>
<th>Policy Areas</th>
<th>Implementation Measures</th>
</tr>
</thead>
</table>
| Priority sector selection             | 1. Selection Criteria  
2. Industry selection                                                                                                                                  |
| Financial support for production      | 1. Overall scale of financial support  
2. Overall scale of resource allocation                                                                                                                  |
| capacity building                     |                                                                                                                                                        |
| Free export zones                     | 1. Time schedule for zone construction  
2. Number of firm within zones                                                                                                                           |
| Enhancement of export profitability   | 1. Size of financial support  
2. Implementation of specific measures to facilitate raw materials  
3. Technical assistance for designing and packaging of exported products                                                                                 |
| Export market diversification         | 1. Strengthening export promotion branch in Europe  
2. Strategic import policy for export development  
3. Support for developing new exported products  
4. Support for exporting firms who intend to establish foreign branch  
5. Export promotion meeting for regional targeting                                                                                                        |
| Enhancement of export support system  | 1. Increase of credit limit for export financing  
2. Special depreciation scheme for capital investment  
3. Expansion of port facilities                                                                                                                          |
| Enhancement of Administration         | 1. Simplification of custom clearance procedure  
2. Improvement of exported product testing methods                                                                                                       |
| procedures                             |                                                                                                                                                        |
| Removal of impediments against        | 1. Steady revision of export promotion scheme based on private sector opinions on export obstacles                                                                 |
| export activities                      |                                                                                                                                                        |
Evaluations: Key Factors for the Korean Miracle

President’s full commitment and full support over export promotion

- Guaranteeing EPB intra-bureaucratic independence and autonomy
- President monthly presiding over ‘Monthly Economic Trend Monitoring Meetings’ with ministers, political leaders including those from opposition parties, and the leaders of private sectors
  * Aimed at reaching a consensus among ministries and at checking the performance of development plans on a real-time basis.
- President 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
Evaluations: Key Factors for the Korean Miracle

Monthly Briefings of Economic Trends (MBET) Meeting
Evaluations: Role of Trade Policy on Economic Growth

Role of Export Promotion

- At the early stage of economic development (1960~1970s), exports served as an important source for capital accumulation as well as a venue for absorbing advanced technological and managerial know-how.

Roles of Exports by the Stage of Development

<table>
<thead>
<tr>
<th></th>
<th>Early Stage</th>
<th>Later Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Source of Comparative Advantage</td>
<td>Cost competitiveness</td>
<td>Innovative capacity</td>
</tr>
<tr>
<td>The roles of exports</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finance source for domestic investment</td>
<td>Strong</td>
<td>Weak</td>
</tr>
<tr>
<td>Bigger market demand</td>
<td>Strong</td>
<td>Medium</td>
</tr>
<tr>
<td>Learning-by-exporting</td>
<td>Strong</td>
<td>Weak</td>
</tr>
<tr>
<td>Strategic Focus for Openness Policy</td>
<td>Exports as a main conduit for economic growth</td>
<td>Other modes of openness, including imports, becoming equally important!</td>
</tr>
</tbody>
</table>
Implications

Lessons from the Korean Experiences

- No secret recipe…. An outward orientation with strong incentives for exports and a commitment to growth through trade are the key!

- Address fundamental problems
  - Remove bottlenecks and Tackle problems of poor infrastructure
  - Stick with reforms
  - Sound macroeconomic policies
  - Economic liberalization and importance of foreign trade recognized
Implications

Lessons from the Korean Experiences

- Remove any bias against exports
  - Realistic exchange rate – incentives for exporters
  - Inputs for exports at world prices
  - Incentives are uniformly applied across all exporters

- Leadership and political stability
  - Strong commitment from President
  - Consistent policy implementation
  - Long-term goals can be set

- Policy needs should be closely monitored and modified if necessary
  - Monthly export performance meeting chaired by President

- The competition in the domestic market
  - Gradual liberalization of trade and FDI must be followed
Concluding Remarks

Lessons from the Korean Experiences

- 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)