Learning to learn: The Economic Implication of Comprehensive Approach to Learning on Industrial Development

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POSSIBILITIES AND CHALLENGES OF ECONOMIC TRANSFORMATION OF AFRICA (1)

- Bright forecast
  - EIU (2012) forecasted that average growth of the regional economy in 2013-16 will be around 5% year

- Challenges
  - Decreasing demand for region’s exports, and falling financial flow (FDI, aid and remittances)
  - Doing business is still not good for private sector
  - Youth unemployment (60% of unemployment is young people)
AFRICA HAS DEINDUSTRIALIZED

Manufacturing as Percentage of GDP
Sub-Saharan Africa

(John Page 2012)
POSSIBILITIES AND CHALLENGES OF ECONOMIC TRANSFORMATION OF AFRICA (2)

- **Deindustrialization** since the mid ‘80s
  - A declining share of output and employment
  - Declining sophistication
  - Anemic manufactured export growth

- **Key**
  - **Transform economic structure** from rural agricultural based economies to more diversified economies (creating job opportunities)
  - Industrialization is the main driver of the change
  - Harness **human capital**, filling the knowledge gap
OECF (current JICA, 1993a) argued in favor of infant industry protection and of credit subsidies for selected industries that are believed to have export potential, in opposition to bank’s approach.

WB (1993). East Asian Miracle, which endorsed industrial policy but only for export promotion, not on import protection and credit market intervention, OECF (1993b) disagreed with its view.

But, mainstream policy has not changed and industrial policy was sidelined.
RETURN OF INDUSTRIAL POLICY

- **DCED** (Donor Committee for Enterprise Development) (2010)
- **GDI** (German Development Institute) (2008)
- **Human Development Report** (2012)
- **KDI** (Korean Development Institute) (2012)
- **UNWIDER-Brookings: L2C** (2013)
- **JICA** (2012), (2013)
MARKET FAILURE AND LEARNING

- Investment in learning tends to become underinvestment due to market failure.
- Knowledge = Public Goods = 0 marginal cost but….
- Learning phase = losses for private firms = barrier to entry
- Because of the market failure, the state has to play the role of a catalyst to learning (Stiglitz, 1998; Greenwald and Stiglitz, 2012; Noman and Stiglitz, 2012).
AIDA (ACTION FOR THE ACCELERATED INDUSTRIAL DEVELOPMENT OF AFRICA)

- **2008 African Union Summit** “The industrialization of Africa”
- AU (2008) adopted **AIDA** (Action for the Accelerated Industrial Development of Africa) “no country of region in the world has achieved prosperity and a decent socio-economic life for its citizens without the development of a robust industrial sector (p1)”
- Initiated collaboration with AU
NEEDS TO DISAGGREGATE “WHAT TO LEARN”

- Learning how to learn has been identified as an issue requiring attention for development, but have been neglected.
- Important to disaggregate “what to learn.”
  - Only *new technology* and *skill* (Solow 1956)?
  - *Other types of knowledge* necessary to learn for industrial development.
MANAGEMENT CAPITAL?

- Management capital as residual (Solow 1956)
- Bruhn, Karlan, and Schoar (2010): Management capital as missing capital in Africa

Management Capital

- Improve marginal productivity of inputs (e.g. labour, physical capital)
- Improve resource constraints
ONLY A SMALL NUMBER OF EMPIRICAL STUDIES

- **Dinh et al. (2012)**: light manufacturing in Africa
- **Klinger and Schündeln (2007)**: a business training program held in Central America;
- **Karlan and Valdivia (2011)** on basic business training in Peru;
- **Field, Jayachandran, and Pande (2010)**: financial and basic business training in India
- **Bruhn, Karlan, and Schoar (2010)**: consultant services to supplement management knowledge.
- **Sonobe, Suzuki and Otsuka (2011)**: business administration, basic business skill, and desk study of manufacturing floor management
Policy environment as an external factor (Lall 1987): Indian firms acquired technological capability without any support from the government.

Country context matters greatly for industrial policy planning.

Need to “learn how to learn” selectively from the cases from various countries. (e.g. Different role of public sector to develop SME (Ito and Urata 1998).
A self-owned process of strategic responses to the changing environment and challenges/opportunities

- **Diversity** across countries
  - Domestic Capital-Dependent vs. Foreign Capital-Dependent
  - Natural Resource-Rich vs. Natural Resource-Poor
  - Interventionism vs. Liberalism

- **Diversity** over Time
  - IS → EO → (IS ↔ EO) → Globalization

- **Diversity** in growth-leading **Industries**
  - Heavy industry, consumer electronics, textiles, agro-processing, human resources, ICT …
## Transition of Development Strategies in Asia

<table>
<thead>
<tr>
<th>Year</th>
<th>Malaysia</th>
<th>Thailand</th>
<th>Indonesia</th>
<th>Korea</th>
<th>Taiwan</th>
<th>Singapore</th>
</tr>
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</table>

- **IS**: Import Substitution Strategy
- **EO**: Export Orientation
- **FTZ**: Free Trade Zone
- **EPZ**: Economic Processing Zone
- **SME**: Small and Medium Enterprises
- **EO**: Export Orientation
- **IS**: Import Substitution Development Strategy
- **EO**: Export Orientation Strategy
- **FTZ**: Free Trade Zone
- **EPZ**: Economic Processing Zone
- **SME**: Small and Medium Enterprises
Government Policy
- Inflation Policy,
- Exchange rate Policy,
- Industrial policy

Private firms
Long-term Investment Strategy
## Structure of Learning

<table>
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<tbody>
<tr>
<td>1. project execution</td>
<td>1. Absorptive capabilities</td>
<td>1. inventory control process</td>
</tr>
<tr>
<td>2. product engineering</td>
<td>2. Imitation</td>
<td>2. labor management process</td>
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<tr>
<td>3. process engineering</td>
<td>3. reverse engineering</td>
<td>3. Computerization</td>
</tr>
<tr>
<td>5. technological transfer.</td>
<td>5. Problem solving knowledge</td>
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| 1. inventory control process      | 2. Production technologies                                                        | 3. Marketing                                                    |
| 4. financial service.             | 3. Marketing                                                                      | 4. Labor relations                                              |
A COMPREHENSIVE APPROACH TO LEARNING – A NEW STRUCTURE

- Policy Planning
- Policy Implementation
- Strategic Business Administration
- Manufacturing Floor management
- Technology/skill
- Basic Business Skill
INDUSTRIAL POLICY SUPPORT TO ETHIOPIA

TICAD IV (May 2008)

G8 Hokkaido Toyako Summit (Jul. 2008)


Follow up Japan’s enhanced support to Africa
INDUSTRIAL DEVELOPMENT SUPPORT FRAMEWORK IN ETHIOPIA

Support to formulate development policy
Exchange of views on industrial development strategy, and recommendations by the Japanese side based on Asian development experience.

Support to nurture private companies
Technical cooperation of JICA for enhancing competitiveness of private companies on the basis of JICA’s experience in Tunisia.

Request from Prime Minister Meles (July, 2008)

The project of policy dialogue on industrial development

The project on quality and productivity improvement (KAIZEN)
<table>
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<tr>
<th>Company</th>
<th>Remarkable results</th>
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| Overall           | Average quantitative benefit is 500,000 ETB (29,200 USD) per company.  
Given that the average number of employee is 402 per company, average benefit per head is 1,240 ETB (73 USD), which compares to prevailing gross monthly wage (75 USD). |
| Company A (Metal) | Recovered 118,995 ETB (6,960 USD) as additional value. Per-head value is 1,000 ETB (58 USD).                                                          |
| Company B (Metal) | Reduced lead time from 2 weeks to 1 week.                                                                                                                                                        |
| Company C (Textile)| Halved time wasted by 780 min./month for a certain process and 624 min for another process                                                                                                             |
| Company D (Chemical)| Reduced overproduction waste by 50%  
Increased motion and movement by 100%                                                                                                          |
| Company E (Agro)  | Additional production at 12,000 lit./day, which accounted for 204,000 ETB (11,900 USD)                                                                                                            |
| Company F (Metal) | Regained reusable material which is worth 2,400,000 ETB (140,000 USD), which compares to its capital 770,000 ETB (45,000 USD). Per-head regain is 58,500 ETB (3,420 USD). |
| Company G (Agro)  | Identified, repaired and reused machinery and equipment which is worth 3,250,000 ETB (190,000 USD), which compares to its capital 20,000,000 ETB (1,170,000 USD). Per-head benefit is 9,420 ETB (550 USD). |
Pictorial Presentation of some of the achievements obtained in the pilot companies

Fig. 1 Sort, Set-in-order & Shine (3S) are implemented to standardize the inventory stock

Fig. 2 In-process stock is repositioned to avoid Muda of transportation
FOUR FACTORS – Policy level

1. Clear policy message from the government
   ✓ manager’s strong commitment and ownership

2. Learning policy planning
   ✓ MSE development policy in the framework of 5 year plan
   ✓ Catalyze learning in private sector

3. Learning policy implementation
   ✓ Try to reduce fragmentation in MSE development policy
   ✓ The government agency catalyzes the learning in private firms.

4. Policy Learning and expanding policy scope
   ✓ Shortage of foreign currency → Import substitution
SPREADING OUT THE KAIZEN MOVEMENT FROM ETHIOPIA TO OTHER AFRICAN COUNTRIES
Thank you!