Adaptive skills development to boost economy:
The experience of post-WWII Japan and its implications to Africa

Shoko YAMADA, Professor
Nagoya University
Outline of today's talk

• “East Asian Miracle” and skills development in post-WWII Japan
  – Post-war recovery and growth driven by heavy industries
  – “East Asian Miracle” – Mutual effects of governmental plan and private initiatives
  – Economic maturation to stagnation and diversification

• Changing demands for skills in different time periods
  – Discourses on “competencies”
  – Responses from the education system to the changing skills demands

• How can we capture the changing demand for the skills?
  – Strengths of the SKY project of Nagoya University
Figure 10-1  Industrial Production Index

Historical real GDP per capita growth in Japan and US

- United States
- Japan

Korean War (1950-53)

Rapid Economic growth (1954-1973)
Changes over time in school enrollment by education levels

- Elementary school
- Lower secondary school
- Upper secondary school
- Former middle school
- Higher education

- Percentage (%)
Contributing factors for fast post-war recovery

• Endogenous conditions
  – Production bases were not completely destroyed → stepping board for the heavy industry driven economy
  – High level of literacy and numeracy among the general public
    • Primary school education was universal as of 1900
    • Junior secondary education enrolment reached 99% as of 1950s
  – Hyper inflation → drive for the export

• Exogenous conditions
  – U.S. military demand for the heavy industry products
    • Korean War
    • Vietnam War
“East Asian Miracle” (1950 ~ 1970s)
Mutual effects of governmental plan and private initiatives

Government-led initiatives
• Introduction of export-oriented industry promotion policy as soon as the U.S. occupation ended
  – Prioritization of heavy industry (steel, metal, ship/aircraft) ← tax benefit and developmental loans
• Strengthening the TVET and engineering education in relation to the priority sectors
  – Industrial Education Promotion Law
  – Science Education Promotion Law

Private sector dynamics
• Increased domestic demands for precision equipment (home appliances, camera watch)
• International demands for Japanese technologies (car, audio)
• Commitment of the workforce
  – “Golden Eggs” – massive recruitment of youths from rural areas
  – Collective work ethics of Japanese companies

Period of a technology-led, export-oriented growth
with a unified goal for the whole society
Economic maturation and diversification (1980s ~)

- Effects of the government-led industry promotion was mixed
  - Not all big successful companies were protected by the government
  - There were some industries which were not much successful despite the governmental protection (e.g. computer, nuclear fusion)

- The service sector grew bigger than manufacturing ➔ the demand for the hard vocational skills reduced

- Globalization of Japanese mega companies brought about the needs for “international business skills”

- Emphasis on individuality than collectivity

- As economy matures, the demands for skills (both soft and hard skills) diversify
From early concentration on the hard skills to diverse needs on the soft skills

<table>
<thead>
<tr>
<th>Period</th>
<th>Priority of skills development proposed by the industrial associations</th>
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<tr>
<td>1950s ~early 1970s</td>
<td>Quantitative expansion; <strong>Hard skills</strong> development for priority industries</td>
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<tr>
<td>1970s</td>
<td>Qualitative improvement</td>
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<tr>
<td>1980s</td>
<td><strong>International skills; creativity;</strong> demands to meet <strong>diverse skills</strong> needs</td>
</tr>
<tr>
<td>1990s</td>
<td>Individuality; liberal arts education</td>
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<tr>
<td>2000s~ present</td>
<td><strong>Problem-solving skills; work-place innovation</strong></td>
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How to cope with the changing needs on skills?

- Skills demands are growingly diversified and fast to change
- The “model” which worked in the past may not apply for others in today’s world
  - **Catch-up economy** which start with light, export-oriented industry is based on the cheap labor force and favorable legal and infrastructure support for the investors --> potential conflict with the wellbeing of workers
  - **Resource-dependent economy** does not contribute to strengthening the human capital for value-added production
  - Technological innovation like **fintech** happens in Africa but not necessarily by the hands of African engineers

**Training programs and policies should be constantly checked, adapted, and modified**
The vision for the proactive skills development

• **Systemic planning of the whole skills development system**
  – *<perspectives>* Workers – training providers – employers
  – *<labor market mechanism>* job matching – transparency of employment needs – check and revise mechanism of training programs
  – *<incentives in the workplace>* salaries – promotion – opportunities for skills upgrading

• **Lifelong learning**
  – Consideration of the workers’ life time career development
  – Balancing the individual aspiration with social goals of development

• **General competencies vs. industry-specific skills**
  – Soft skills – hard skills
  – Cognitive skills – noncognitive skills
  – General vocational skills – specific vocational skills

The starting point is an accurate diagnosis of the skills which workers currently have ➞ *Skills and Knowledge for Youths (SKY) project*
The strengths of the SKY project survey

We can

- **Diagnose** the skills of workers from multiple angles and provide answers to the above questions
  - Our module provides pictures about the complex relationships among **cognitive**, **non-cognitive (soft)**, and **vocational (hard) skills**
- We can **benchmark** workers’ skills in comparison to other survey participants in South Africa and other African countries
- We can **indicate the specific gaps** between the employers’ expectations and workers’ skills
- We can provide **evidence-based proposals** for improving the skills development plan
1. Diagnosis of Overall Performance

Overall Performance

Apparel production skills
• Simple and advanced sewing
• Pattern making
• Finishing
• Knowledge on theories

Cognitive skills
• Basic mathematics
• Reading comprehension
• Integrated problem-solving

Behavioral (non-cognitive) skills
• Leadership, teamwork, tidiness, obedience, punctuality, etc.

Personality traits
• Extraversion, conscientiousness, emotional stability, openness, agreeableness
2. Finding relative strengths and weaknesses (Benchmarking)

Group A  Group B  Group C  Group D

Set of questions selected for each group

Common pool of assessment questions

Common basis of comparison

Benchmarking
3. Identification of factors which influence the performance

High performance
Worker A
Worker E

Low performance
Worker B
Worker C
Worker D

What makes their performance different??

Educational background?
Years of experience?
Home background?
Gender?
Commuting distance?
Absenteeism?
4. Proposals for revised training programs

(a) Current programs / strategy of skills development
(b) Current skills of workers
(c) Desired skills

Mismatch?
Mismatch?

Based on the examination of (a) existing skills development programs; (b) current skills of workers; and (c) skills desired by the employers, we will propose revision of training programs
Please find more about us

Website
https://skills-for-development.com

SKY project twitter
@SKYproject_NU

Shoko Yamada (syamada@gsid.Nagoya-u.ac.jp)