STUDIES ON INDUSTRIAL SKILLS DEVELOPMENT AND SKILLS ASSESSMENT IN ETHIOPIA

Shoko Yamada, Nagoya University
Christian Otchia, Kwansei Gakuin University
Kyoko Taniguchi, Nagoya University

Structure of today's presentation

I. Issues on Human Resource Development in Africa
II. Design of our research
III. Findings 1: Mismatch between industry and training
IV. Findings 2: Mismatch between TVET trainers and trainees
V. Key findings and recommendations

Issues on human resource development in Africa

1. Labor productivity and employment

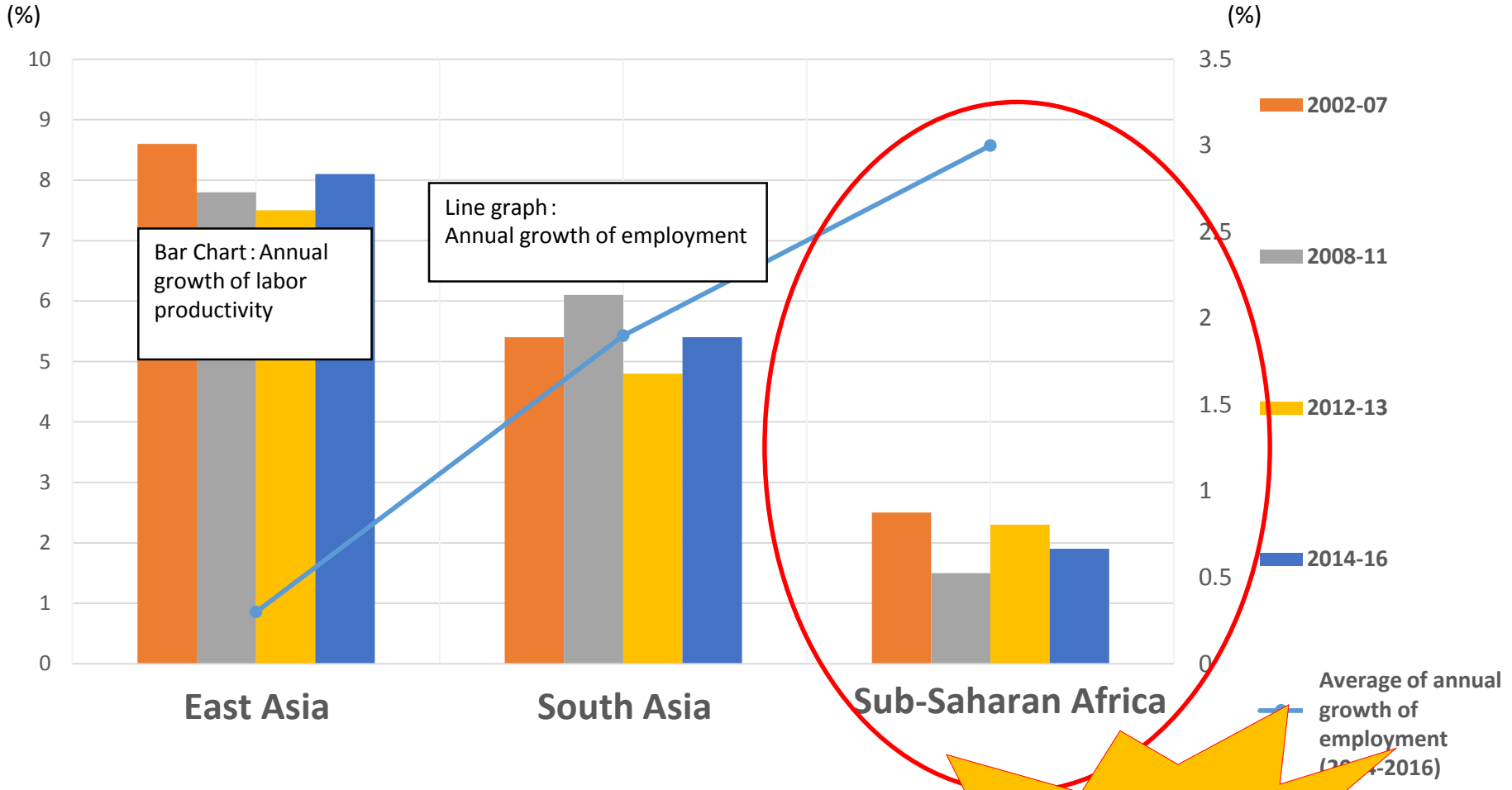
- Rapid economic growth in the recent years
  - GDP annual growth rate (2014) – 4.4% in contrast to 2.5% average for the world
  - Ethiopia's growth rate is particularly high - 10.8% per year since the beginning of the 2000s
- Employment has been expanding but the labor productivity is low (Figure 1)
- While 40% of African workforce is younger than 24 years old, the unemployment rate is highest among them
  - Youth unemployment rate in Sub-Sahara Africa: 14.1% (in Ethiopia: 11%)

⇔Overall unemployment rate: 8.0%

→National economy has grown but its benefit is not distributed to wider population

→Preparation of the workforce with high level of skills is the precondition for the economic growth based on the value-added production and decent employment

Employment and labor productivity growth by regions



Growth in economy and employment are not accompanied by high level of productivity and decent income for workers.

Urgent needs for workers' skills development

Source : ILO (2013). *Global Employment Trend 2012, p. 38*

Issues on human resource development in Africa

2. TVET and Skills in SDG4

<Shifting emphasis>

Venturing into the evaluation of educational development programs by **skills and knowledge acquired by learners**, instead of inputs for improving the quality of educational services

- Acquisition of employable skills (Target 4)
- Acquisition of literacy and numeracy (Target 6)
- Acquisition of values and attitude (Target 7)

Needs for skills development are widely recognized and the global trend of education is shifting to learners' competencies. But, …

How can we know if learners have acquired those skills and knowledge relevant for the work and life??

Design of our research 1. Background

- While the youth unemployment rate is improving, it is still high among TVET graduates
  - ←Areas more than half of its TVET graduates cannot find jobs with the skills they are trained: textile engineering, woodwork, carpentry, weaving and plumbing (Central Statistical Agency of Ethiopia 2014)

Supply-demand mismatch/ disconnection of labor market

- Only less than half of the TVET trainees pass the assessment to qualify for the levels of occupational standards they are trained for.

Lack of adequate skills

- Textile and Garment is a major manufacturing sector in Ethiopia
  - ←It is Ethiopian government's priority sector for export promotion, together with leather sector
  - ←The Ethiopian textile and garment industry has the highest number of trainers and trainees at governmental TVET Institutes (Federal TVET Agency, 2015).
  - ← Ethiopian textile industry contributes nearly 2 percent to GDP and 36 percent to the country's industrial production.

Our study has focused on the expected and actual skills of workers in the garment sector

Design of our research

2. Research objectives

The aims of the study were:

1. To capture the employable skills comprehensively covering (1) vocational, (2) cognitive, and (3) non-cognitive skills
2. Modularize the assessment tool: (2) and (3) to be applied across industries, while (1) will be developed for respective industries
3. Provide policy suggestions to improve the relevance of training

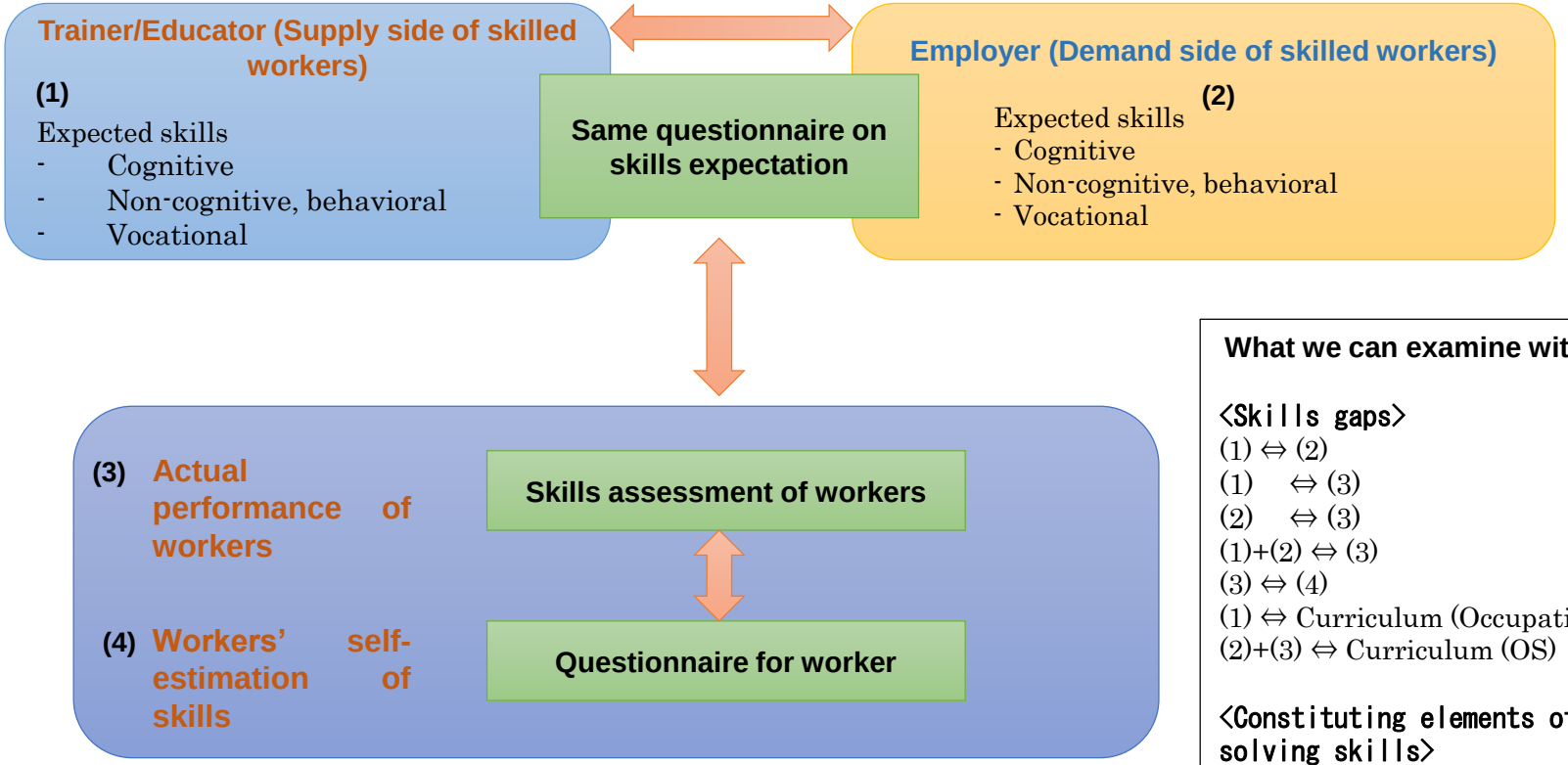
An assessment of skills of young garment factory workers were conducted:

- To assess what they can actually do
- To compare
  - The **assessment patterns** between the employers and the trainers
  - The **expectation for workers** expressed by the employers and the trainers
  - The skills which workers had and those which the **occupation standard (curriculum)** has intended to develop

Design of our research

Framework of Skills Assessment Module

Unique features of assessment module by the Skills Development Research Team, Nagoya University



What we can examine with this module

<Skills gaps>
(1) ⇔ (2)
(1) ⇔ (3)
(2) ⇔ (3)
(1)+(2) ⇔ (3)
(3) ⇔ (4)
(1) ⇔ Curriculum (Occupation Standard)
(2)+(3) ⇔ Curriculum (OS)

<Constituting elements of problem-solving skills>
Relationships among cognitive, non-cognitive, and vocational skills can be untangled

Research site and samples

<Geographic focus of sampling>

Addis Ababa and its vicinity

<Samples>

(1) Garment factories

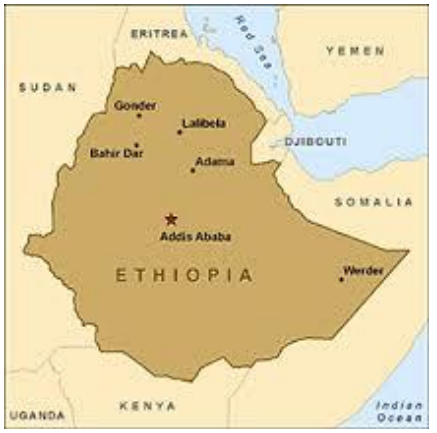
- 13 out of 35 garment factories which are members of the Ethiopia Textile and Garment Manufacture's Association (ETGAMA)

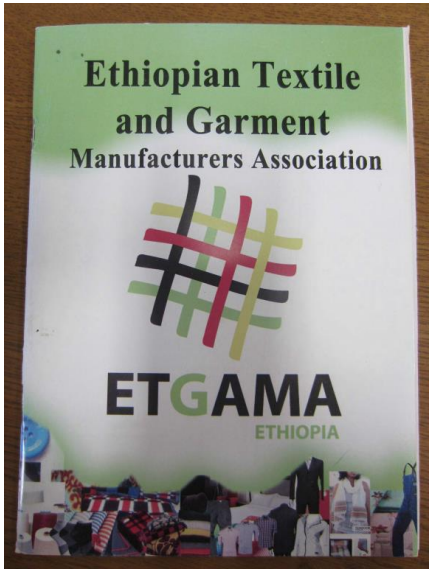
a. Workers of garment factories employed within last 3 years
b. Factory managers

(2) TVET Institutes

- 7 out of 27 public TVET institutes in Addis Ababa which has the largest number of students majoring "Garment Production"

a. Trainers of garment production courses
b. Trainers of Textile Industry Development Institute





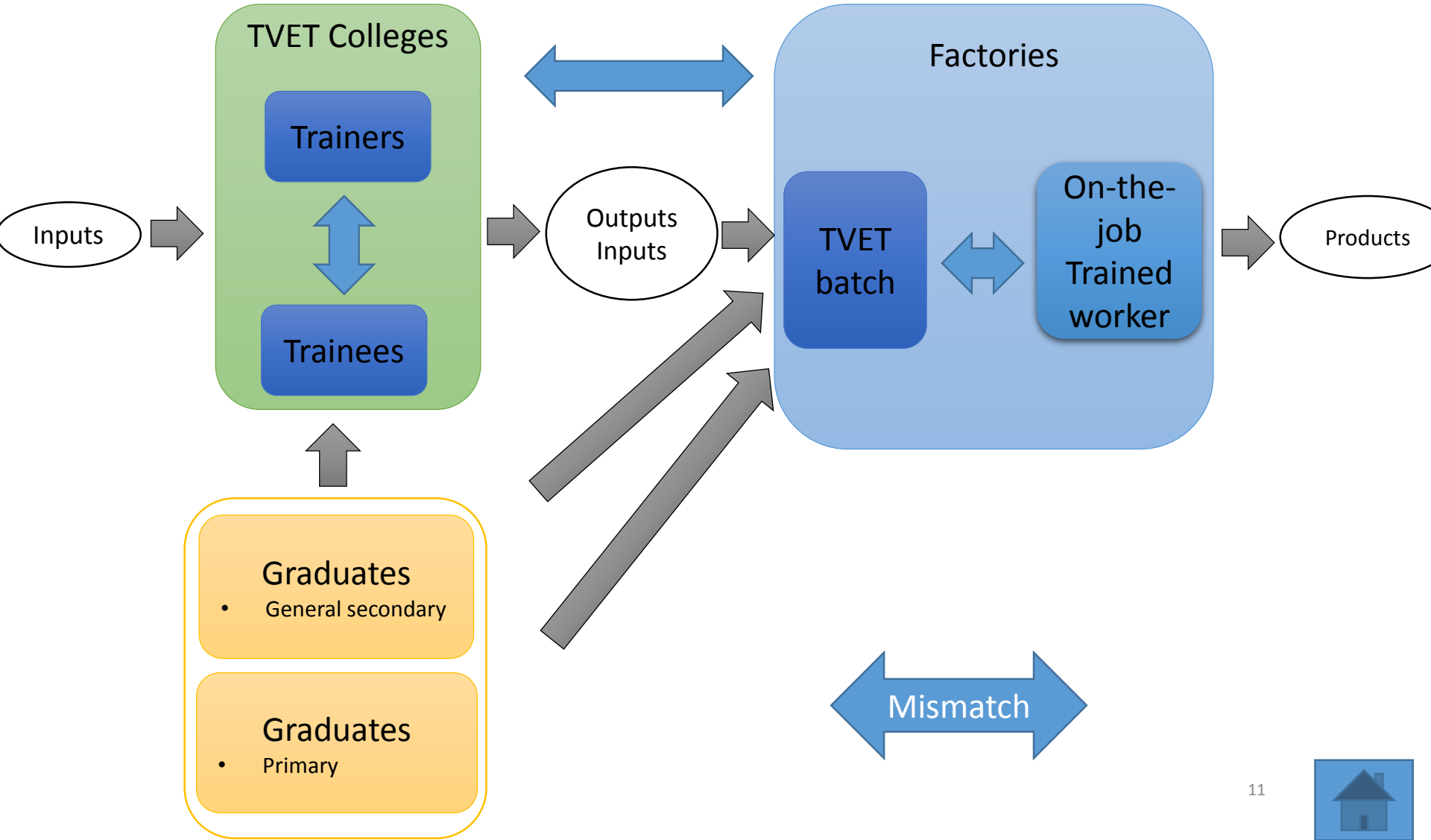
Design of our research

Summary of Data Collected

No.	Data type	Date	Sector	Sample	Observations
1	Employer survey	January 2016 (PH1)	Garment factory	13	7 of 13 factories were represented in the skills assessment and can be merged with the other dataset using the key "factory".
2	Trainer survey	January 2016 (PH1)	TVET institute	30	Data were collected in 5 TVET institutes in Addis Ababa.
3	Skills assessment	January 2016 (PH1)	Garment employee	19 workers & 9 assessors	3 Factory managers; 3 TVET college trainers; 3 TIDI trainers
4	Employee survey	January 2016 (PH1)	Garment factory	19	Data collected at TIDI while employees were waiting for the skills assessment.
5	Trainer survey	September 2016 (PH2)	TVET institute	53	5 of 7 TVET institutes were surveyed in Phase 1. We cannot identify respondent but data can be merged at school level.
6	Trainee survey	September 2016 (PH2)	TVET institute	162	

Design of our research

Conceptual framework



Findings 1:

Mismatch between industry and training

- TVET trainers and factory managers have different perceptions of workers' skills.

  TVET trainers tend to…

  - Grade generously← They have *teachers eyes* to compare assessees in comparison to their cohorts and personal improvement
  - Appreciate *comprehensive* skills
  - value *basic literacy and numeracy skills* more than factory manager.

  Factory managers tend to…

  - Grade critically← They see *the quality of outputs* on a commercial standard
  - Focus on specific skills← the difference from trainers are particularly strong on *finishing and sewing skills*.

- There is a large variation of workers' sewing skills.

  The differences of sewing skills are closely related to…

  Whether they went to TVET or not

  Availability of training and quality control at factory

- The skills appreciated by factory managers do not always match with emphasis in the the occupational standard.

  ←The analysis of the Ethiopian occupation standards on "apparel production" (Level 1-3) demonstrates that they allocate teaching hours widely to variety of areas including body measurement and pattern analysis

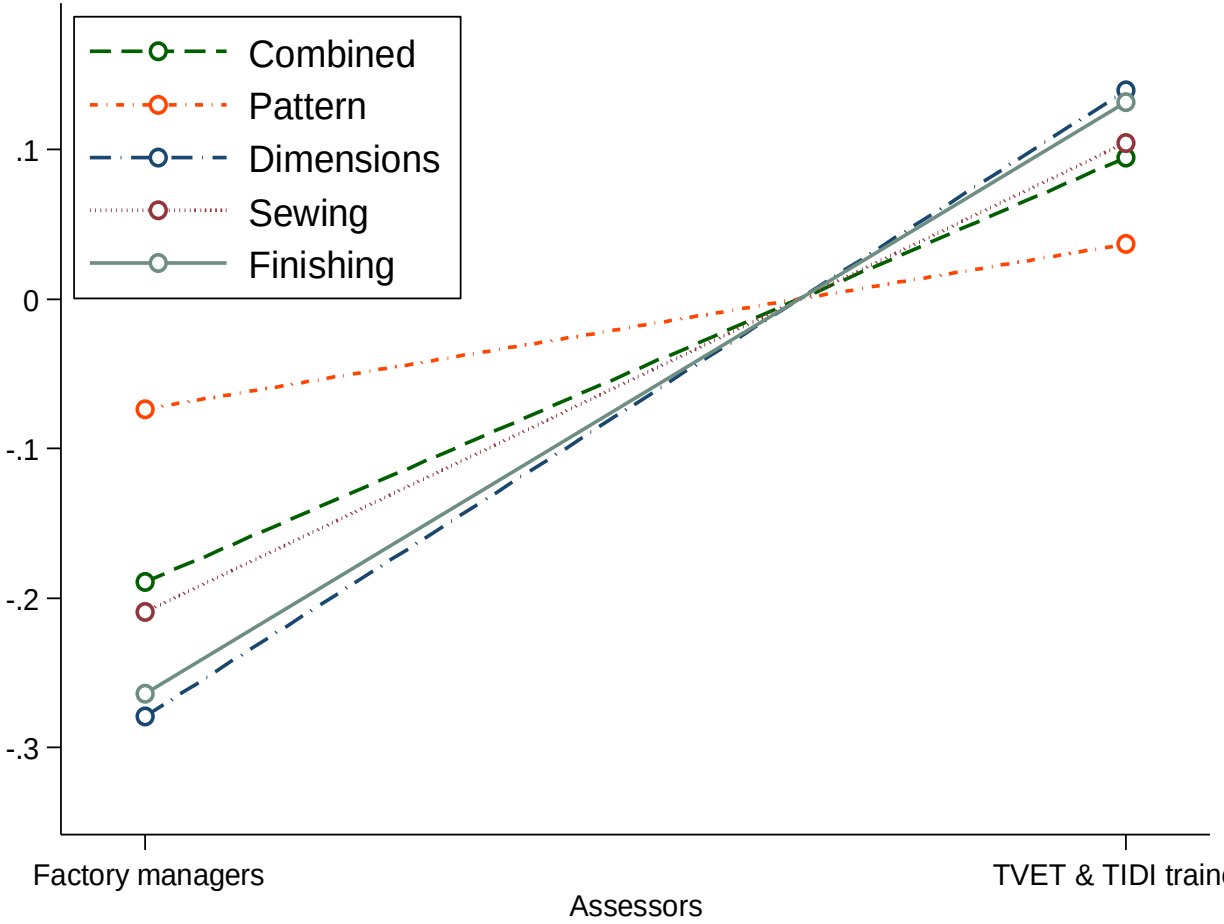
  ←This tendency is characteristic compared not only to the employers in Ethiopia but also to OSs for similar levels in South Africa.

Findings 1:

Mismatch between Factory and Training

1. TVET trainers and factory managers have different perceptions of workers' skills.
2. The limited interaction between TVET colleges and garment factories, and differences in garment skill expectation are key factors behind these gaps.

Figure 2: Perception gaps of garment production skills



Findings 1:

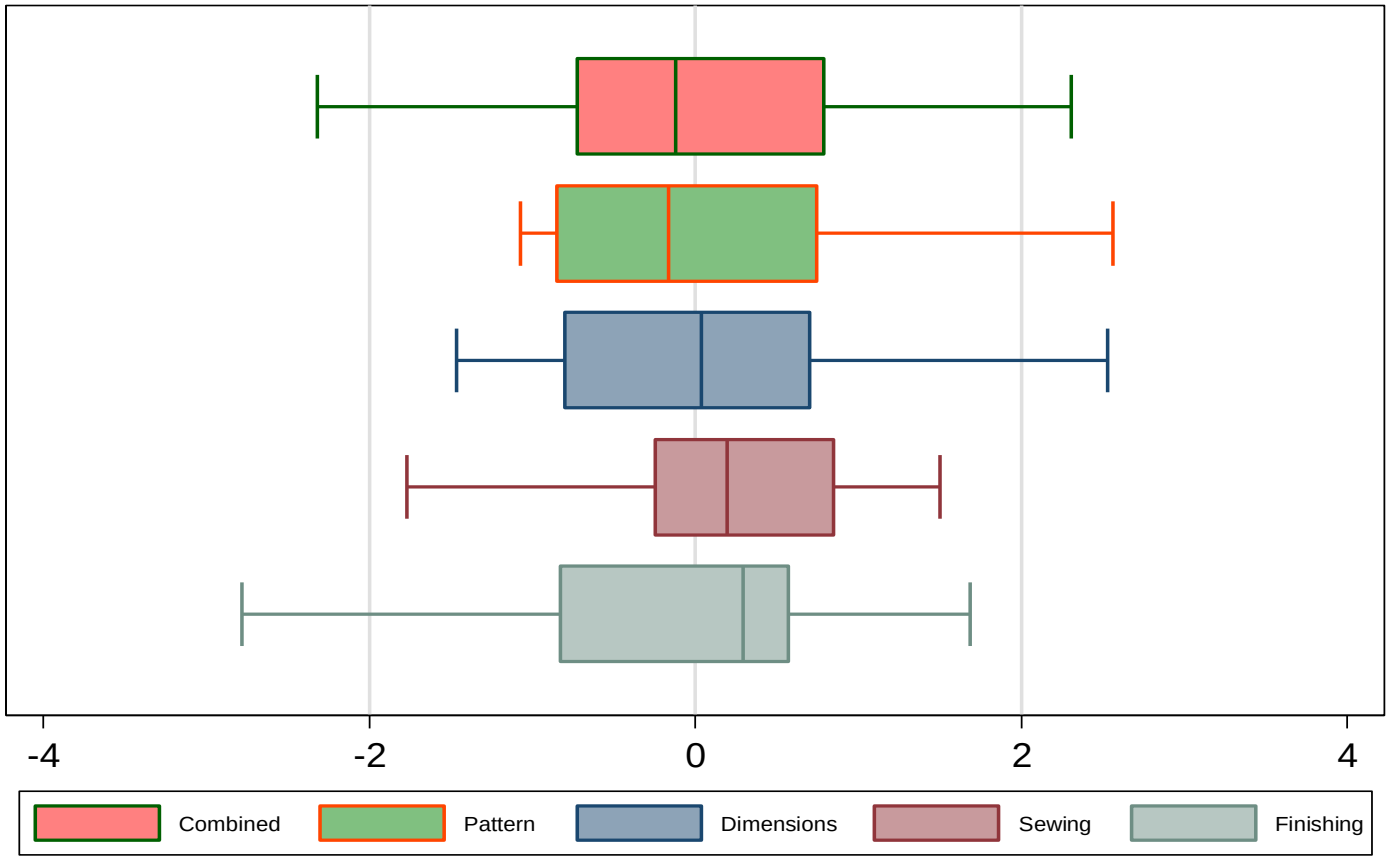
Variability in workers' skills distribution

Despite the design of our assessment module which tries to capture the garment production skills comprehensively,

- The major constituting elements of workers skills are those on sewing, ironing, and finishing the products, but not on analyzing the garment structure or making patterns

TVET graduates are better at them

Figure 1: Distribution of workers' assessment scores



Findings 1:

Behavioral skills and their contributions to earnings

1. Factory managers value obedience, discipline, and punctuality very highly
2. Workers' self-reported attitude toward work is closely related to their earnings
   - A worker with higher self-reported attitude earns 10 percent higher than workers with similar sewing or pattern making skills.
3. Perception of employers toward worker has also a strong influence on worker's earnings.

Findings 2:

Mismatch between TVET trainers and trainees

- TVET trainees consider they are likely to start their own business and be self-employed
  - ←About 2/3 consider that self-employment in garment sector is most likely career
  - ←Less than 10% want to work in garment factory
- Priorities in teaching differ significantly with trainee's learning priority
  - Trainers' priorities in teaching: Basic garment production skills (pattern making, cut and lay fabric, sewing, finishing, …)
  - Skills trainees want: pattern making, designing, entrepreneurship, making work plan, and machine maintenance
- Skills trainees want to learn tend to be difficult to teach
  - Skills which trainers believe that trainees are not good at: management, leadership, entrepreneurship, machine maintenance, and pattern marking.
  - Skills difficult for trainers to teach:
    - Leadership, entrepreneurship, making work plan, and machine maintenance
    - Pattern marking and sewing were ranked to be difficult to teach, especially by C-Level trainers.

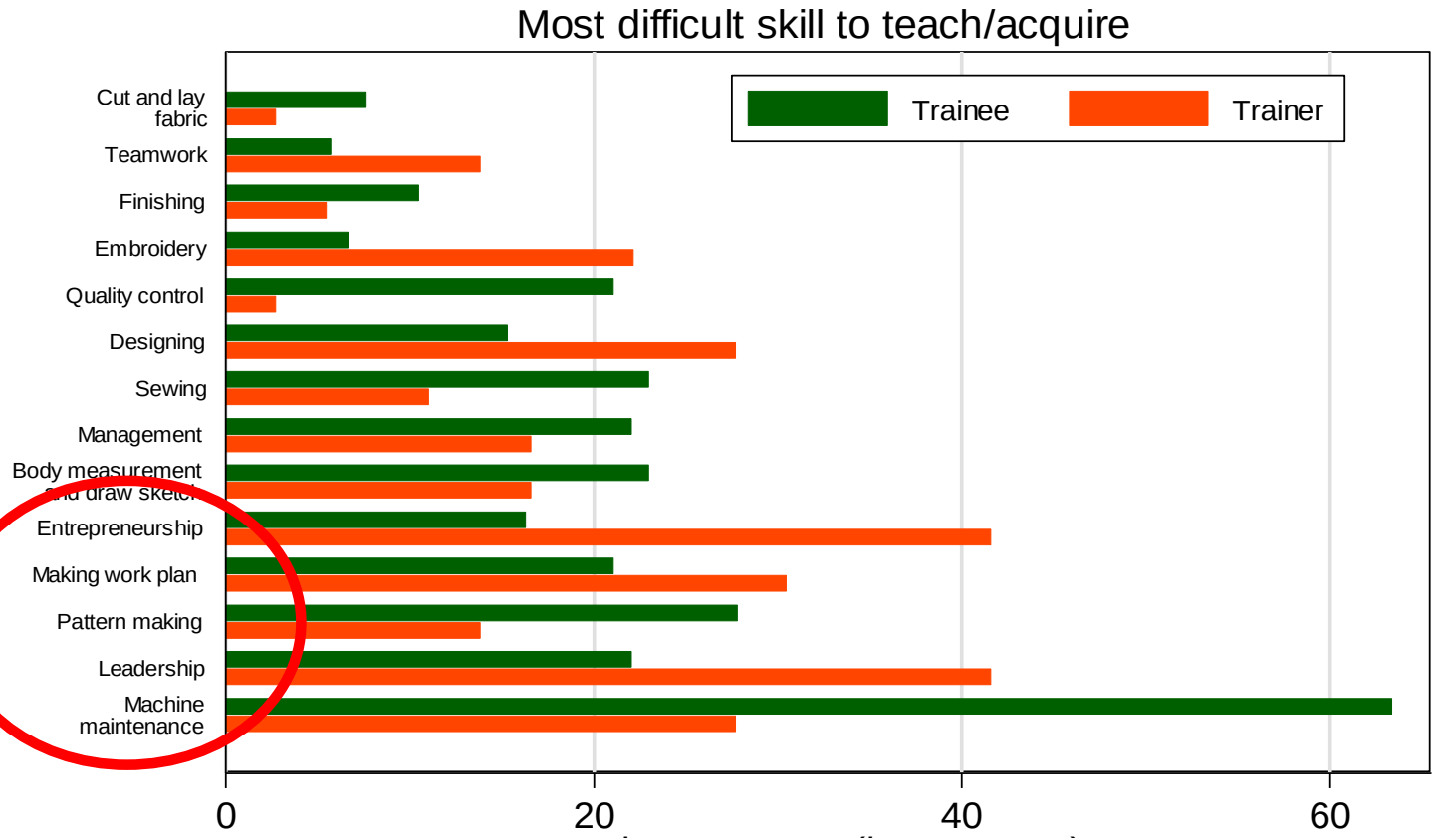
Findings 2: Mismatch between TVET trainers priorities and trainees needs

Entrepreneurial skills and enterprise culture are ranked low

Basic garment production skills receive the highest priority, which is consistent with the curriculum

Findings 2: Gaps in perceived difficulty of skills between trainers and trainees

1. Entrepreneurship, leadership, making work plan are difficult to teach but not difficult to learn
2. Pattern making is difficult to learn but not difficult to teach
3. Significant differences of perception in machine maintenance, leadership, and entrepreneurship skills acquisition.



Findings 2: Satisfaction with cooperative training

- Total level of satisfaction with cooperative training depends on school
  - ←Trainees' average satisfaction level is 3.12/5
  - ←Satisfaction levels vary across TVET colleges
- 3 Keys to a successful cooperative training

① Factory trainer

- ←Cooperative training is provided by a well trained factory trainer
- ←Factory trainers are always aware of the theoretical trainings received by the trainees from the TVET institutes
- ←Factory trainers and TVET trainers work together to tailor the training program

② Facilities of the Factory

- ←Trainees have access to appropriate machines and equipment for the practical training
- ←Factory trainers have a clear understanding of the objectives of the cooperative training

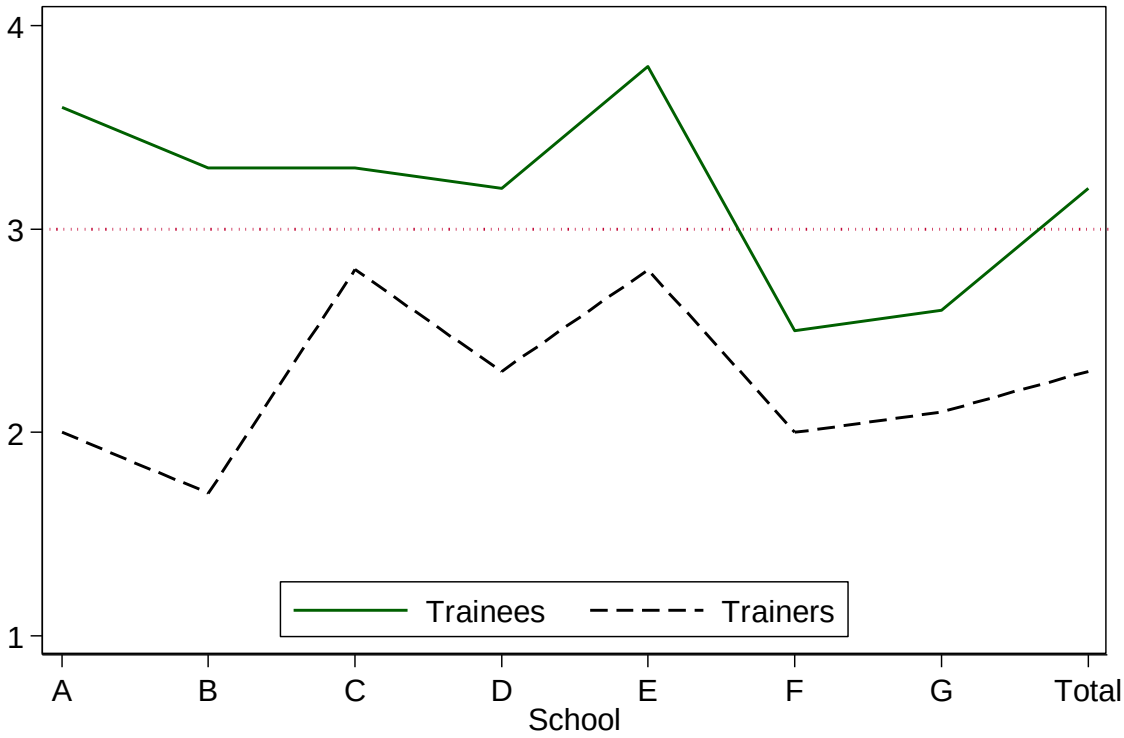
③ Training module

- ←Factories have modern machines and hand tools for practical training
- ←TVET trainers receive regular feedback from factory trainers
- ←Training modules are constructed following the occupational standard requirements

Findings 2: Satisfaction with cooperative training

1. Trainees in 5 TVET colleges (out of 7) are satisfied with cooperative training
2. Level of satisfaction varies largely by school
   ←Schools which use more demonstration ranked cooperative training higher
   ←Schools with higher level C trainers tend to evaluate cooperative training positively.

Gaps in perception of cooperative training



Findings 2:

With what kind of conditions can the cooperative training contribute to different objectives of skills training?

	Minimum level of cooperative training	Adequate cooperative training	Exposure to the real working environment	Passing the occupational assessment	Mastery of the theories of occupation
	(1)	(2)	(3)	(5)	(6)
Factory trainer		X	X		X
Facilities of the factory	X	X	X	X	X
Training module			X	X	X

Summary of Key findings

- The criteria of assessing workers' skills are influenced by the expectation of the assessors
  - TVET trainers and factory managers clearly show differences in their reported expectations and grading patterns
  - TVET trainers want to see more comprehensive skills while factory managers want high skills in a few focused areas ➡TVET graduates demonstrate better performance in wide-ranged skills
  - TVET trainers grade by comparing the persons who perform tasks, while factory managers compare outputs
- Workers' skills are influenced by the availability of training and quality control in the work place
- Non-cognitive, behavioral skills are as important as vocational skills
  - High self-esteem is an important determinant of performance by workers
  - Obedience, discipline, and punctuality are valued by the factory managers
- Trainees want to learn skills for entrepreneurship, leadership and business plan, while trainers consider them difficult to teach
- The satisfaction level of cooperative training depends largely on school the trainees belong to
- Preparedness of factory trainers, facilities of the factory, and the availability of good training module are the key determinant of the satisfaction of cooperative training.

Conclusion: Potential of research for evidence-based policy-making

- Regardless of major system reforms and political commitment, decisions in the TVET and skills development sector is largely made without hard evidence
- Curriculum and occupation standards should be constantly checked whether they meet the demands from the labor market and learners. To do so…
  - Assessments of workers' skills (vocational, cognitive, and non-cognitive) should be regularized
  - Curriculum and teachers perception on skills demands need to be compared with the employers' skills expectations
  - Trainees' expectations on different modes of training should be captured so that the provision will match with the career development strategies of trainees and employees.

For further enquiry, please feel free to contact…

Email: skillsdevelopmentafrica@gmail.com

Website: http://www.gsid.nagoya-u.ac.jp/syamada/researchproject.html#research01