

Education, Skills and International Competitiveness In an Era of Soft Labor Demand

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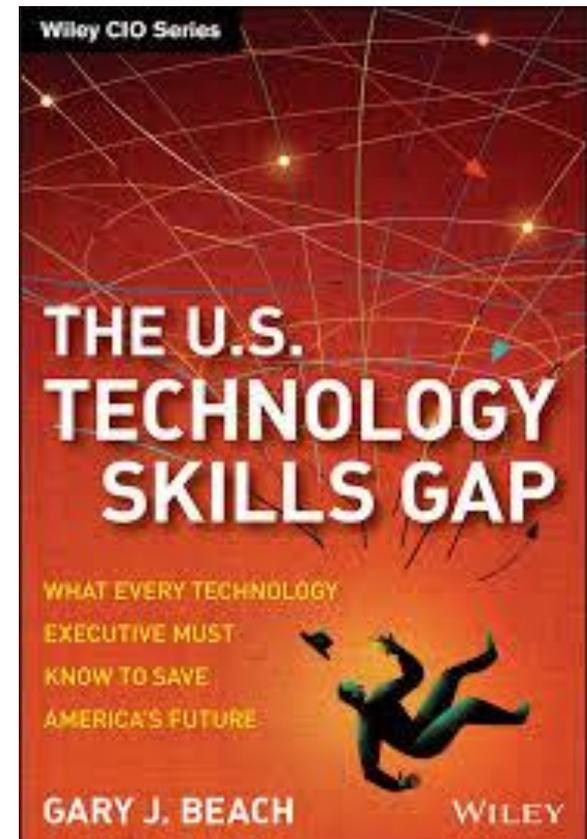
The Skills Gap Cacophony:

Employers around the world report skill gaps

India: Reports by sector skill councils

	Number of Positions Listed	Number of Positions deemed to suffer a skills gap.
Leather	11	10
Textiles and Garments	32	30
Food Processing	38	38
Electronics	17	11
Auto accessories	62	62

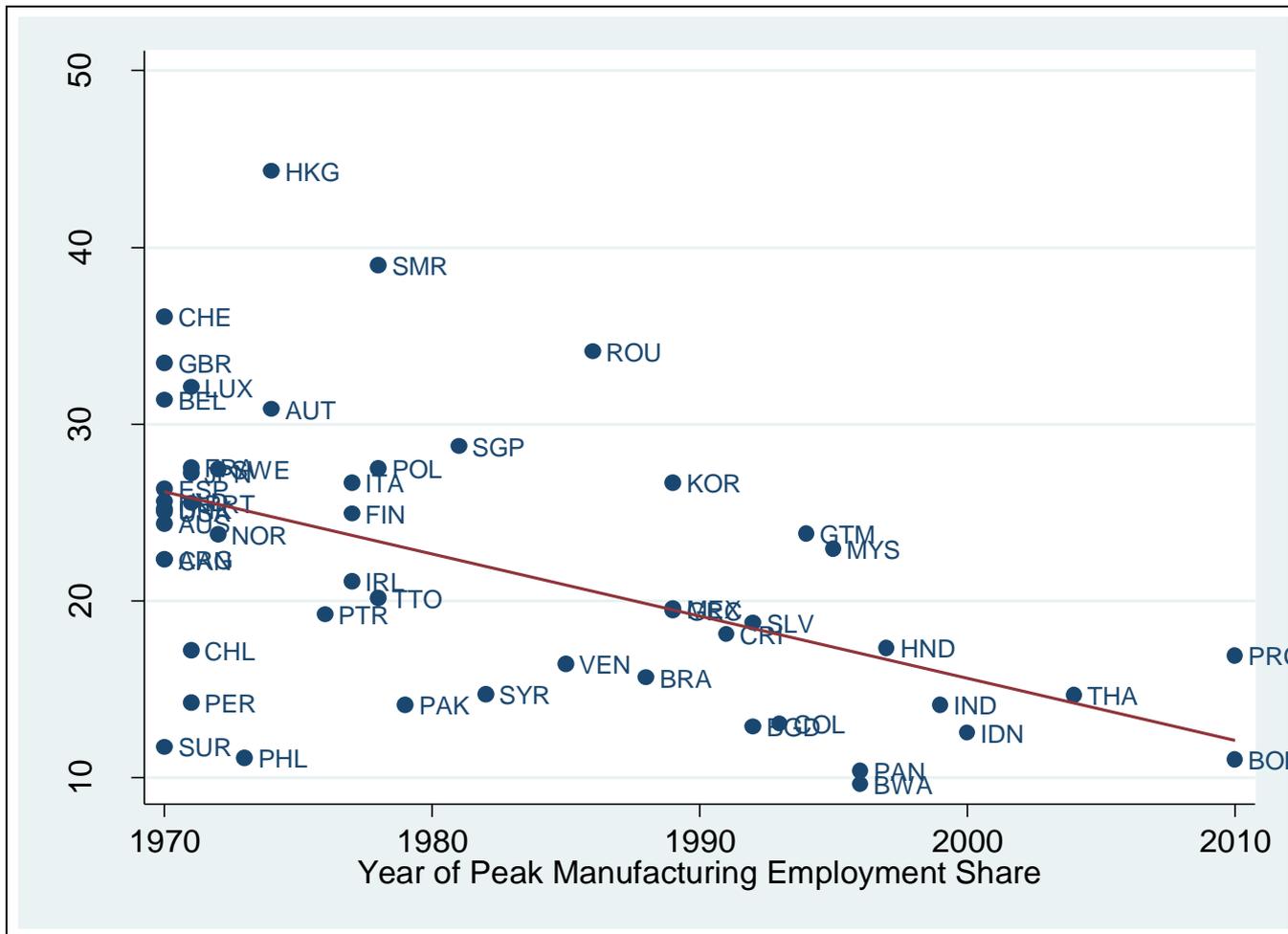
USA



... but something doesn't seem right.

1. Why now? The world is overflowing with educated workers – many unemployed and underemployed.
2. Wage returns to secondary education have been falling.
3. Vocationally trained workers do not find jobs.
4. Employers often don't act like there is a skill gap.
5. The high-employment tradable sectors are not very education-intensive....

...and they are getting smaller.



Joint work with Jesus Felipe (ADB) and Changyong Rhee (IMF).

What do employers mean by “skill”?

- Highly variable definitions of “skill” amongst Indian employers :

Skill

1. Curiosity, willingness to learn
2. Soft skills – communications, people skills.
3. Ability to work effectively with machines and technical processes.

4. Attitude: “ready to work”; flexibility (e.g. acceptance of night shifts); docility.
5. Availability of manpower at crunch times.

Labor Relations

Policy Takeaway

- Confusion arises because:
 - Only some sectors are skill constrained. Others aren't.
 - All claim to be ... so long as they don't have to pay for skilling.
- Balance supply and demand:
 - Insufficient skill supplies hurt high-skill sectors.
 - Excess skill supplies hurt workers.
- How to do this?
 - **Fix the quality of basic education !!!**
 - Get the incentives for skill acquisition right.
 - Improve labor relations.
- Firms complaining of skill gaps often need something else.

Skills and Education

Skill: The ability to execute a task efficiently

Trainability

Rudimentary Academic Skills: Literacy, numeracy

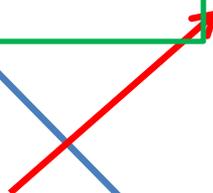
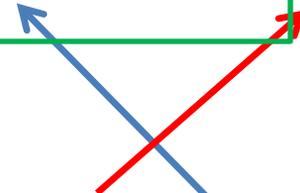
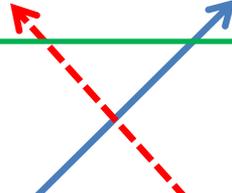
Foundational Skills: Communication, interpersonal, critical, analytical, ability to learn

Vocational Skills: Industry/occupation-specific

Quantity | Quality
General Education

Vocational / Technical Education

Learning/ Training On the Job



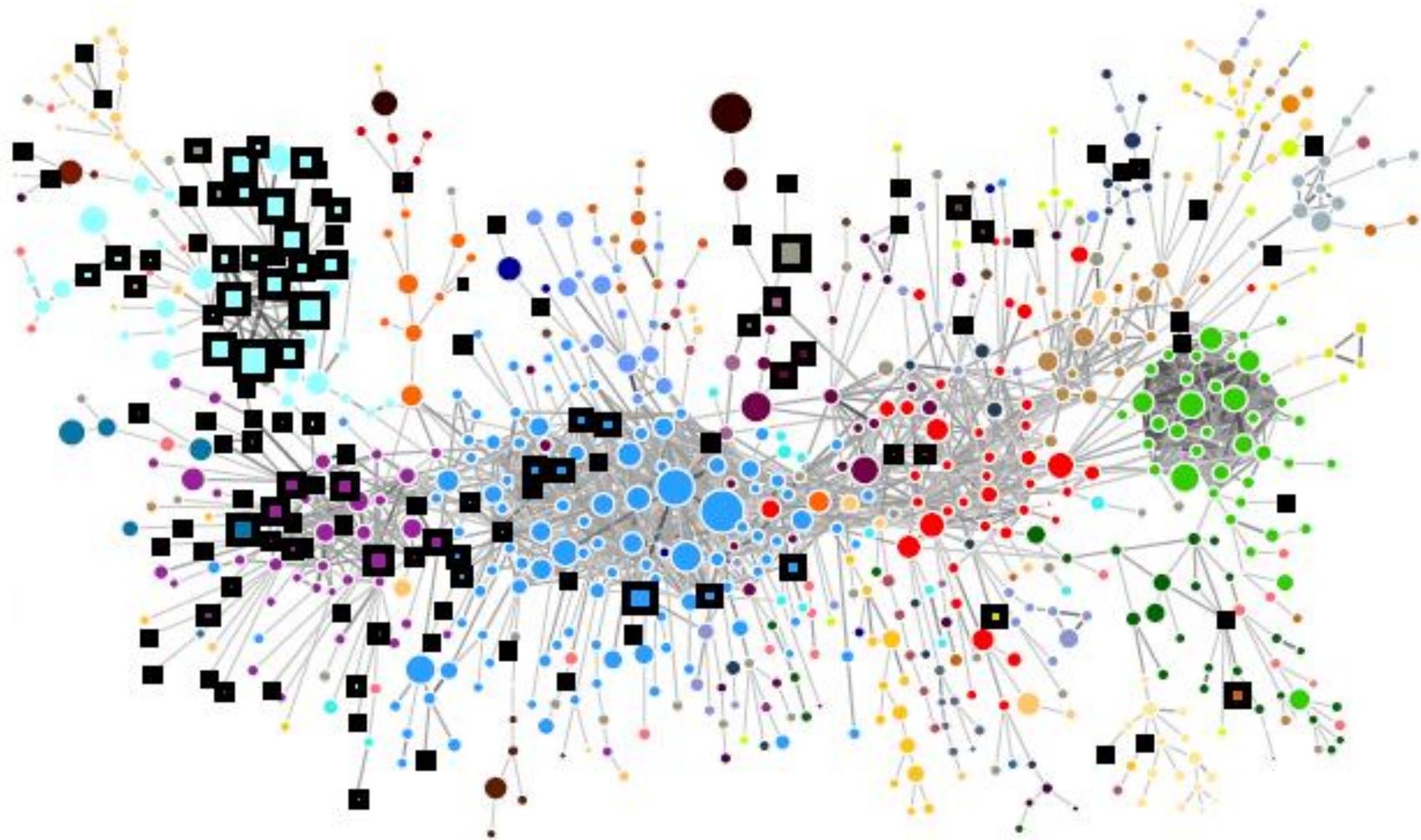


Skill intensive products

Skill unintensive products

- ELECTRONICS
- MACHINERY
- AIRCRAFT
- BOILERS
- SHIPS
- METAL PRODUCTS
- CONSTR. MATL. & EQUIP
- HOME & OFFICE
- PULP & PAPER
- CHEMICALS & HEALTH
- AGROCHEMICALS
- OTHER CHEMICALS
- INDOR. SALTS & ACIDS
- PETROCHEMICALS
- LEATHER
- MILK & CHEESE
- ANIMAL PRODUCTS
- MEAT & EGGS
- FISH & SEAFOOD
- TROPIC. ALAG. RIC.
- CEREALS & VEG. OILS
- COTTON/RICE/SOY & OTHERS
- TOBACCO
- FRUIT
- MISC. AGRICULTURE
- NOT CLASSIFIED
- TEXTILE & FABRICS
- CLOTHING
- FOOD PROCESSING
- BEER & SPIRITS & CIGS.
- PRECIOUS STONES
- COAL
- OIL
- MINING

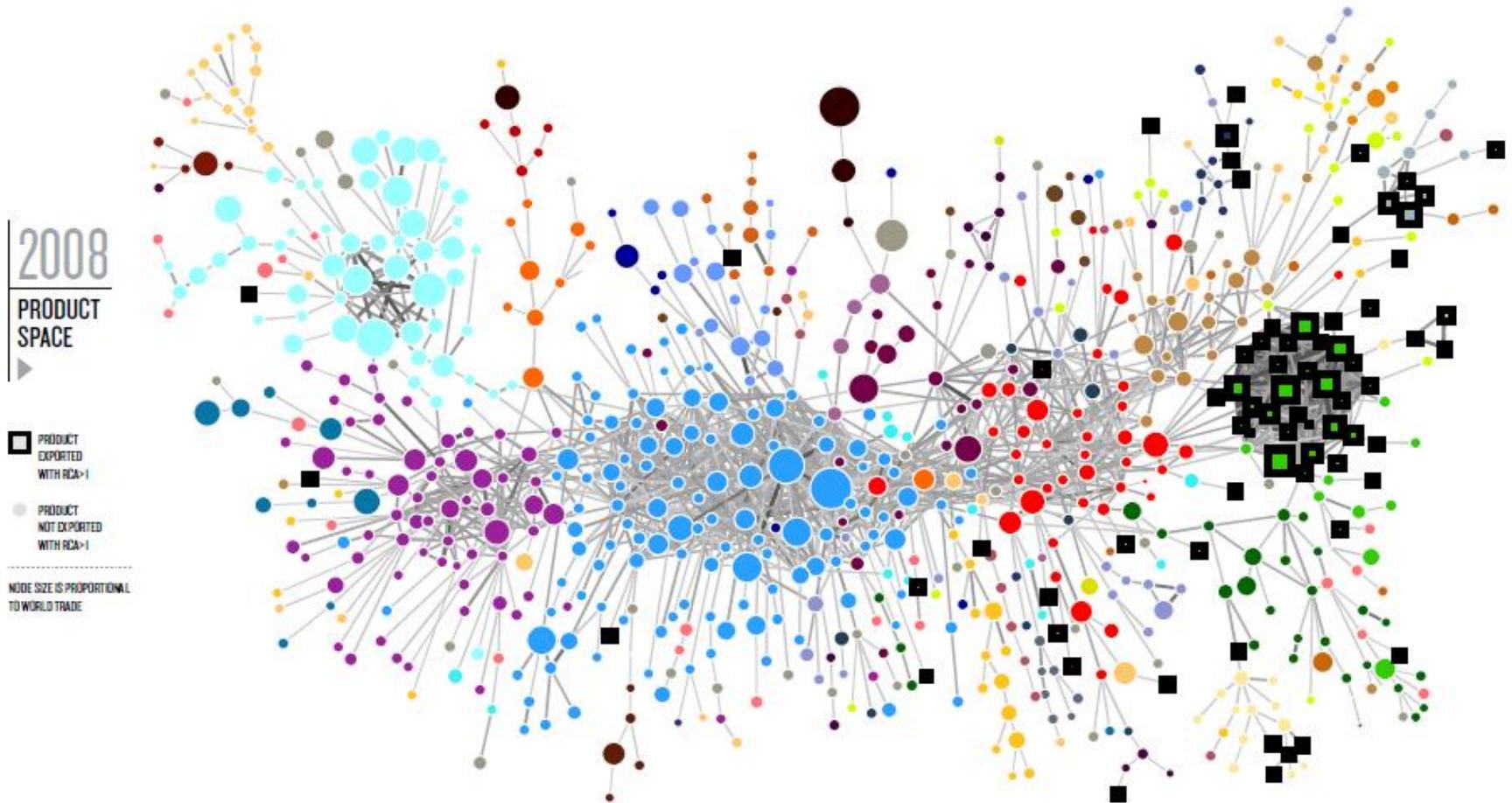
Singapore enjoys a brain gain...



Source: Hausman et al., 2011, *Atlas of Economic Complexity*.



... while Bangladesh suffers brain drain.

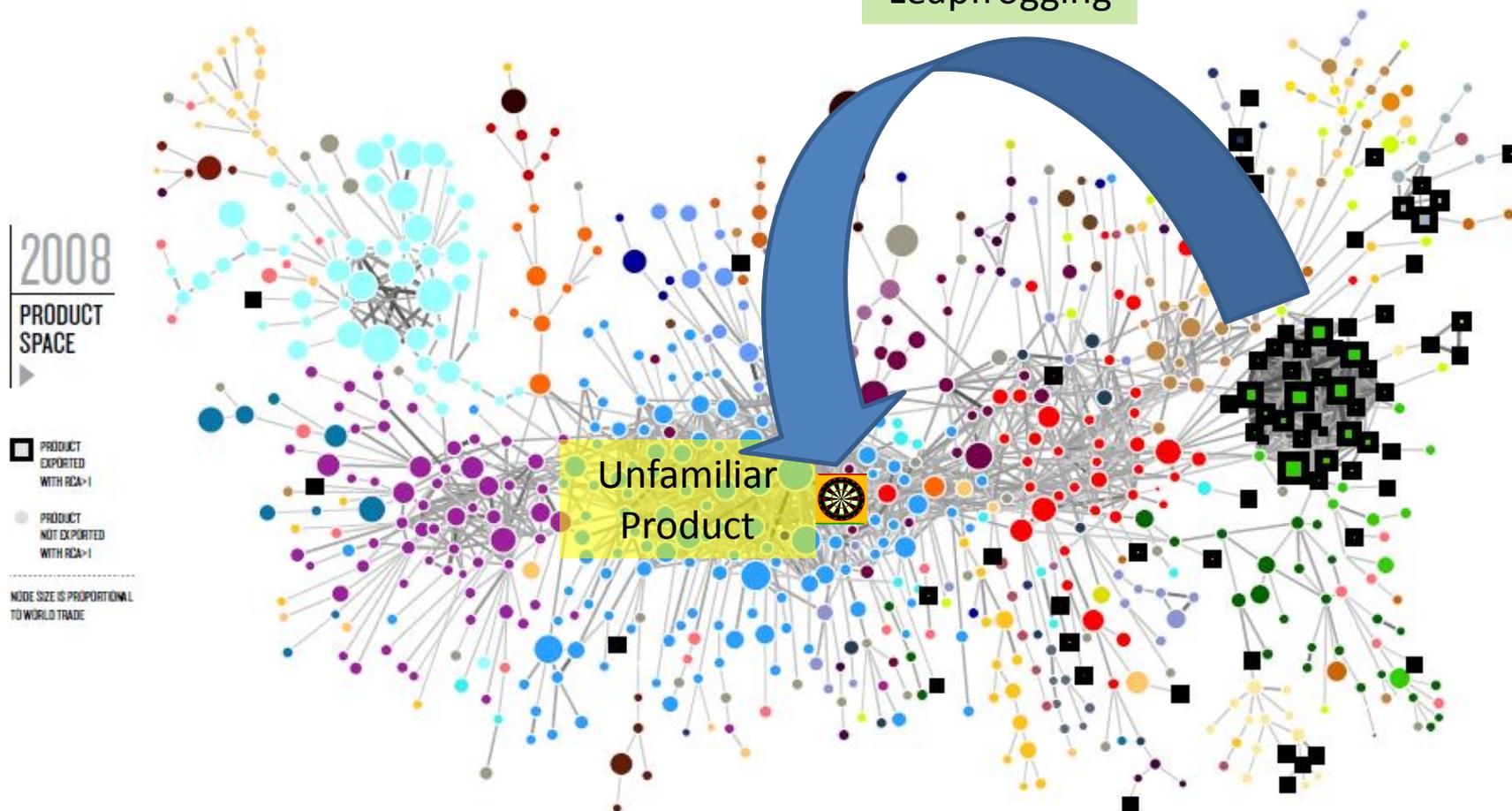


Source: Hausman et al., 2011, *Atlas of Economic Complexity*.



But the real value of education is in facilitating faster transitions into unfamiliar products. High quality education allows learning.

Leapfrogging



For more, see: Mehta and Felipe (2014). *Education and the Journey to the Core*

Why do real skill gaps happen?

The core incentive problem

- A. Skills are vested in workers, who are risk averse.
- B. Effective skill delivery mechanisms involve employers.
 - Understanding of skill requirements.
 - Lower cost of training.
- Contradiction:
 - Employers reluctant to invest in human capital they cannot own.
 - Worker reluctant to invest without employment assurance.
- Contracts to bridge this gap are sometimes illegal.
- Less likely if: (i) labor relations are good, (ii) Unions act as honest brokers, or (iii) There is an *anchor firm*

(<https://www.theciip.org/system/files/CI%20Note%20-%20Practical%20Skills%20-%20How%20To%20---Print.pdf>)

Principles for Successful Skill Development

1. Determine whether to deliver vocational skills in-firm or pre-service based on cost and effectiveness.
2. High quality basic education is the key.
3. Get the incentives right.
 - Make it a good investment for workers.
 - Keep the costs down.
 - Employers “put their money where their mouth is”.
 - Training institutes accountable for quality.
4. Ensure conducive labor relations.

Violating the principles results in policy confusion: the Indian case

- Skill gaps defined by employers' in terms of their private costs and benefits.
 - “I cannot find skilled workers at wages I can afford to pay.”
- A competitive firm's labor budget:
$$(\text{Affordable CTC}) * L \equiv P * Q - \text{Other Input Costs} - \text{Fixed Costs}$$
- “Skill gap”:
$$\text{Affordable CTC} < \text{Skilled Workers Reserve Wage} + \text{Non-Wage Labor Costs}.$$
- Employers more likely to report skills gaps when:
 - Firms are inefficiently small.
 - Globalization increases competition, driving down output prices.
 - Wages are lifted by growth, unions, safety nets or rising (!!) education levels.

Example 1: India's (formal) apparel sector.

(Joint work with Rana Hasan and Nidhi Kapoor)

- Industry reports skill gaps in 8/9 positions.
- Yet, production workers (~90% of employees):
 - pick up required skills on the job in only 2-6 weeks
 - earned 2% returns to each year of lower secondary education.
- Low & variable retention rates.
- Firms with 10+ employees pay 30% higher wages than those with less than 6 employees.
 - Small firms report “poaching” of workers.
- Shortage of talented shop-floor managers is real, but demand driven (some left for Bangladesh and Sri Lanka).

Don't worry so much about skill
– fix the real problems!

- If skilling subsidies are used, they should go to smaller firms.
 - If they register, offer short contracts and improve conditions.
- Firms remain small, missing large scale basic cottons and winter exports.
- Cartel/trade restrictions in polyester fibre/fabric.

Example 2: A (formal) Indian auto parts firm

- Technical skills crucial for productivity, and expensive to learn. Most firms invest in them.
 - Most employees permanent, unionized.
 - Average 18 years of service.
 - Promotion to supervisor possible.
- But – problems with quality of pre-service training in basic machine skills.
 - Governance issues at training institutes.
 - Firms make it up, at high cost in foregone output.

Example 3: A Better (Chinese?) Model

- Government subsidizes training.
 - Worker invests time/effort in very short courses.
- Firms issue advance employment contracts, contingent on student passing test.
- Firms have tie-ups with multiple training institutes. Make them compete. (NB: Large firms required)
- Government publishes training institutes' placement results and incoming student scores.

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Messages

- Provide the right incentives to employers, workers and trainers to invest in the right skills in the right ways.
- When the incentives are wrong..
 - Many employers report skill gaps where there are none,
 - and others cannot get their skill problems resolved.
- To be truly internationally competitive, focus relentlessly on high quality basic education.