Skills mismatch and anticipation of skills needs
Methodologies and experiences

Skills anticipation and matching. ILO tools and approaches.

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Global drivers of change and changing skill needs

- Technological change
- Globalisation and trade
- Demographic change
- Mobility of labour
- Change in work organisation
- Educational attainment
- Transition to environmental sustainability and a low carbon economy
Demand for skills is changing faster than training is delivered.
Policy cycle:

- **Skill needs assessment & anticipation**
- **Evaluation of training outcomes and their relevance to the labour market needs**
- **Monitoring of training relevance**
- **Skills development (delivery)**
- **Skills development policy / Curriculum design / Competency standards**
Key ILO resources

‘Members should… support and facilitate research on human resources development and training, which could include: … identifying, measuring and forecasting the trends in supply and demand for competencies and qualifications in the labour market…’

ILO Recommendation 195 on HRD, 2004

“A mismatch between skills demand and supply has high economic and social costs and results from and contributes to structural unemployment. Early identification of current and future skills needs is part of a forward-looking strategy that reduces skills gaps.”

Conclusions on skills for improved productivity, employment growth and development, ILC 2008

Anticipating future skills needs is recognised as the first building block of a robust training and skills strategies and policies
ILO skills anticipation and matching tools: Inter-agency compendium
ILO skills anticipation and matching tools: Specific policy or driven

- Sectoral approaches
- Social dialogue
- Elements of foresight as a change management tool
Labour market information (LMI)

Any information concerning the size and composition of the labour market, the way it functions, its problems, opportunities and employment-related intentions of its actors.
Volume I: USING LABOUR MARKET INFORMATION

- Explains skills measurement
- Defines minimum LMI requirements for evidence-based and informed decision making
- Deals with standard statistics rather than surveys
- Provides examples of key indicators of skills supply, demand and mismatch
- Indicates the usual sources and institutions responsible for the data collection, flow and analysis
How to measure a skill?

Testing a skill? (competencies)

Proxies:
- Occupations
- Jobs / job tasks
- Qualifications
- Education / training type / subject / level
- Vacancies

Matrices
- E.g. Sector / occupation
- E.g. Sector / level of qualification
Measurement of supply

Some examples on supply measurement
Supply data and sources

- Demographic data and projections (sex, age groups) – national statistical offices (NSOs)
- Stock of labour force and its composition (LFS)
- Flows: enrolment, participation, graduation, dropout data by field and types of courses – formal education (admin data, MoE), (in)formal training courses (PES, MoL)
- Unemployment data and projections (MoL /PES, LFS)
Age structure of population

Age structure in Peru

Data needed
• Demographic data (possibly projection) – population by age
• Time series

Strengths and weaknesses
• No direct information on skills
• But an essential background information for further analysis – is the working age population growing or declining – oversupply or lack of labour can be expected?
Educational attainment – labour force flows

Population (25+) by education attainment, Mexico

Source: UNESCO online database
Distribution of enrollment by field of study, tertiary education (Chile)

Source: UNESCO online database
Structure of graduates

USA: Nuclear engineering graduates

Data needed
- Administrative data from the education system

Strengths and weaknesses
- Without forecast of graduates it may be not enough to assess skills demand supply development
- Graduates may not go into the expected industry/sector
Measurement of demand

Some examples on demand measurement
Proxies for skills demand and data sources

- Structure and composition of employment (LFS, PES)
- Employment growth (LFS, PES)
- Vacancies (PES, MoL)
- Non-ad-hoc sector-specific more detailed employment and vacancy statistics (e.g. collected by sector councils, chambers of commerce, trade unions or employers’ organisations)
Employment trends by occupation

Employment growth by occupation, between 2006 and 2015, Bolivia

1. Managers (ISCO-08)
2. Professionals (ISCO-08)
3. Technicians and associate professionals (ISCO-08)
4. Clerical support workers (ISCO-08)
5. Service and sales workers (ISCO-08)
6. Skilled agricultural, forestry and fishery workers (ISCO-08)
7. Craft and related trades workers (ISCO-08)
8. Plant and machine operators, and assemblers (ISCO-08)
9. Elementary occupations (ISCO-08)
X. Not elsewhere classified (ISCO-08)

Source: ILOSTAT database (LFS)
Employment growth between 2010 and 2016, Peru

Source: ILOSTAT database (LFS)
EMPLOYMENT BY AGE GROUP IN SECTORS GERMANY 2016

<table>
<thead>
<tr>
<th>Sector</th>
<th>From 15 to 24 years</th>
<th>From 25 to 49 years</th>
<th>From 50 to 64 years</th>
<th>65 years or over</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activities of households as employers;...</td>
<td>15</td>
<td>83</td>
<td>106</td>
<td>23</td>
</tr>
<tr>
<td>Other service activities</td>
<td>90</td>
<td>602</td>
<td>423</td>
<td>0</td>
</tr>
<tr>
<td>Arts, entertainment and recreation</td>
<td>70</td>
<td>296</td>
<td>163</td>
<td>0</td>
</tr>
<tr>
<td>Human health and social work activities</td>
<td>508</td>
<td>2,868</td>
<td>1,802</td>
<td>118</td>
</tr>
<tr>
<td>Education</td>
<td>211</td>
<td>1,534</td>
<td>889</td>
<td>0</td>
</tr>
<tr>
<td>Public administration and defence; compulsory</td>
<td>212</td>
<td>1,506</td>
<td>1,153</td>
<td>24</td>
</tr>
<tr>
<td>Administrative and support service activities</td>
<td>141</td>
<td>1,115</td>
<td>721</td>
<td>0</td>
</tr>
<tr>
<td>Professional, scientific and technical activities</td>
<td>169</td>
<td>1,400</td>
<td>680</td>
<td>0</td>
</tr>
<tr>
<td>Real estate activities</td>
<td>12</td>
<td>103</td>
<td>85</td>
<td>27</td>
</tr>
<tr>
<td>Financial and insurance activities</td>
<td>105</td>
<td>733</td>
<td>444</td>
<td>8</td>
</tr>
<tr>
<td>Information and communication</td>
<td>110</td>
<td>798</td>
<td>323</td>
<td>3</td>
</tr>
<tr>
<td>Accommodation and food service activities</td>
<td>274</td>
<td>848</td>
<td>397</td>
<td>0</td>
</tr>
<tr>
<td>Transportation and storage</td>
<td>149</td>
<td>1,077</td>
<td>738</td>
<td>0</td>
</tr>
<tr>
<td>Wholesale and retail trade; repair of motor vehicles</td>
<td>704</td>
<td>3,165</td>
<td>1,801</td>
<td>118</td>
</tr>
<tr>
<td>Construction</td>
<td>283</td>
<td>1,485</td>
<td>922</td>
<td>0</td>
</tr>
<tr>
<td>Water supply; sewerage, waste management and...</td>
<td>15</td>
<td>111</td>
<td>99</td>
<td>0</td>
</tr>
<tr>
<td>Electricity, gas, steam and air conditioning supply</td>
<td>25</td>
<td>171</td>
<td>125</td>
<td>0</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>758</td>
<td>4,372</td>
<td>2,669</td>
<td>114</td>
</tr>
<tr>
<td>Mining and quarrying</td>
<td>5</td>
<td>43</td>
<td>36</td>
<td>0</td>
</tr>
<tr>
<td>Agriculture, forestry and fishing</td>
<td>41</td>
<td>240</td>
<td>216</td>
<td>0</td>
</tr>
<tr>
<td>Total - all NACE activities</td>
<td>5,896</td>
<td>22,560</td>
<td>13,800</td>
<td>1,122</td>
</tr>
</tbody>
</table>

Source: Eurostat (LFS)

Data needed
- LFS/employer survey – employment by age and sector
- robust samples

Strengths and weaknesses
- Enables to estimate some part of outflows (replacement demand) without panel data
- Usefulness depends on how detail sector classification is available
- Different and evolving retirement age in different sectors needs to be considered
Measurement of mismatch

Some examples on skills mismatch measurement
Mismatch measurement options and sources

- Comparing skills levels and education levels of those in employment (ISCO /ISCED) – normative or statistical (session 1) (LFS)

- Subjective self-evaluation on over/under education or over/under skilling (special surveys, e.g. ILO SWTS)

- Unemployment rate by education and age (LFS)

- Returns on investments into training (wage statistics)

- Tracer studies on course graduates

- Vacancy and job seekers statistics
Unemployment rate by level of educational attainment

Unemployment rate by education and sex, Chile 2016

Source: ILOSTAT database (LFS)
Unemployment rate by level of educational attainment

Unemployment rate by education and sex, Honduras

Source: ILOSTAT database (LFS)
Graduate tracer surveys

Australia, based on survey of graduates, 4 month after completion

Data needed
- Tracer surveys

Strengths and weaknesses
- May be difficult to stay in touch with graduates
Returns on education, or simply wage change per type of education

Data needed
- Reliable data on wages (labour force or HH surveys)

Strengths and weaknesses
- Strong theoretical grounds
- But markets are not perfect (wage bargaining, investment incentives, tax breaks etc.)
- Wage data subject to measurement error

% change of median wage in enterprises by occupation
2005-2010, Czech Republic

- Electronics and telecommunication engineers: 58%
- Nursing associate professionals: 52%
- Carpenters and joiners: 31%
- Median wage: 26%
- Tailors, dressmakers and hatters: 13%

Source: Average earnings information system (www.ispv.cz)
Labour Force Survey (LFS)

- Rich information
- Regular (time series)
- All information available by gender / age
- Covers the households from the whole economy (formal and informal)
- Important input in modelling / projections
What types of information are collected by PES?

**Administrative Registries**

<table>
<thead>
<tr>
<th>JOB SEEKERS</th>
<th>VACANCIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Wages offered and type of contract, working hours</td>
</tr>
<tr>
<td>Group of age</td>
<td>Qualifications and experience required</td>
</tr>
<tr>
<td>Location</td>
<td>Type of establishment –size-</td>
</tr>
<tr>
<td>Occupation</td>
<td>Sector, industry, location</td>
</tr>
<tr>
<td>Desired working conditions</td>
<td>Average time required to fill a vacancy</td>
</tr>
</tbody>
</table>

Job vacancies per occupation
Labour shortages
Hard-to-fill positions
IDENTIFY AREAS OF MISMATCH
One stop shop information channelling

Where different pieces meet together and become useful:

- O*NET OnLine
  - http://www.onetonline.org/

- Sri Lanka Jobs
  - http://www.srilankajobs.net/

- New Zealand – Smartphone application

- Government of Barbados
  - Ministry of Labour
The guide

- Gives options for forecasts and projections at national or sector level (Input/Output modelling, SAM, CGE economic growth modelling) and
- Qualitative foresights
- Defines when which approach is more appropriate
- Defines feasibility in terms of data availability and requirements (e.g. stakeholders’ involvement)
- Two annexes with multiples good practices
<table>
<thead>
<tr>
<th>Level of question</th>
<th>Type of question</th>
<th>Some key headline questions</th>
<th>Type of methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jobs</td>
<td>Quantitative</td>
<td>How many direct jobs now and in the future?</td>
<td>Quantitative, Qualitative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>How many indirect jobs now and in the future?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>How many induced jobs now and in the future?</td>
<td></td>
</tr>
<tr>
<td>Occupations /skills</td>
<td>Qualitative</td>
<td>What occupations? How they should be defined?</td>
<td>Qualitative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>What are the boundaries between occupations?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Quantitative</td>
<td>How many people in each occupation? What is the resulting demand for skills?</td>
<td>Quantitative, Qualitative</td>
</tr>
<tr>
<td></td>
<td>Qualitative</td>
<td>What skills and competencies? How do these relate to occupations?</td>
<td>Qualitative</td>
</tr>
<tr>
<td>Education and training</td>
<td>Qualitative</td>
<td>What sources of skills are available? What types of training and education are needed? How can they be provide?</td>
<td>Qualitative</td>
</tr>
<tr>
<td></td>
<td>Quantitative</td>
<td>What is the existing stock of people with the right skills to be recruited? What is the current flow of newly trained people? What flow will be needed in the future?</td>
<td>Quantitative, Qualitative</td>
</tr>
</tbody>
</table>
QUANTITATIVE MODEL
Czech Republic – model ROA CERGE

Data:
- External sectoral forecast (Cedefop, Ministry of Finance, National Training Fund)
- Data on graduates and enrolments
- Labour force survey – structures of employment

http://en.nvfcz/predvidani-kvalifikacnych-potreb

5 year horizon
30 occupation clusters
27 education clusters
### Occupation profiles

The model feeds further analyses and information products on national and regional level.

#### Example:
What are labour market prospects of a welder?

### QUANTITATIVE MODEL

#### CR—presentation of results

<table>
<thead>
<tr>
<th>Occupation profiles</th>
<th>Name of the occupational group</th>
<th>Founders and welders</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of people employed (2011)</td>
<td>9,600 person</td>
</tr>
<tr>
<td></td>
<td>Employment trend (since 2005)</td>
<td>NO CHANGE</td>
</tr>
</tbody>
</table>

#### Employment by industry in region

<table>
<thead>
<tr>
<th>Industry</th>
<th>What part of this group jobs is created by this industry (2011)?</th>
<th>What is the industry employment trend within the region (2008-2011)?</th>
<th>What is the industry forecast (for whole country) till 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metallurgy and metalworking industry</td>
<td>48%</td>
<td>SMALL DECLINE</td>
<td>SMALL DECLINE</td>
</tr>
<tr>
<td>Automotive and mechanical engineering</td>
<td>38%</td>
<td>SMALL DECLINE</td>
<td>NO CHANGE</td>
</tr>
<tr>
<td>Other industries</td>
<td>14%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Labour market opportunities for the occupational group

<table>
<thead>
<tr>
<th>Indicator</th>
<th>This group</th>
<th>Region average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job seekers (2011 average and trend during this period)</td>
<td>517</td>
<td></td>
</tr>
<tr>
<td>Job vacancies (2011 average and trend during this period)</td>
<td>243</td>
<td></td>
</tr>
<tr>
<td>Job seekers per one vacancy (2011 average)</td>
<td>2.1</td>
<td>12.8</td>
</tr>
<tr>
<td>Unemployment rate (2011)</td>
<td>5.1%</td>
<td>11.9%</td>
</tr>
<tr>
<td>Median wage (2011)</td>
<td>27,500 Kč</td>
<td>19,500 Kč</td>
</tr>
</tbody>
</table>

#### Qualification

<table>
<thead>
<tr>
<th>Level of education for workers within this group</th>
<th>Best suitable field of study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share of employees with tertiary degree</td>
<td>Engineering and metal processing</td>
</tr>
<tr>
<td>Share of employees with secondary degree</td>
<td>Secondary (ISCED 3c)</td>
</tr>
<tr>
<td>Number of graduates of best suitable field of study in the region</td>
<td>738 persons</td>
</tr>
<tr>
<td>Forecast of graduates for this field of study (2011-2016)</td>
<td>( \text{SIGNIFICANT DECLINE} )</td>
</tr>
</tbody>
</table>

#### Age structure

<table>
<thead>
<tr>
<th>Share of persons in the group aged 50+ in the region</th>
<th>Share of persons in the group aged 50+ in the country</th>
<th>Ageing index (region vs. national average)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18%</td>
<td>24%</td>
<td>0.73</td>
</tr>
</tbody>
</table>

#### Summary of key findings

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Qualitative:
ILO-MSM Skolkovo Technology foresight of future skills

- New tool. Built on technology foresights and skills foresights
- Built on the foresight experiences in Brazil, China, the Czech Republic, Germany, India, Japan, Korea, Romania and Russia
- Targets sectors exposed to large technological changes
- Interactive. Based on social dialogue
- The beauty of the method is its simplicity. Could be done in a couple of months
- Piloted in Armenia food processing and ICT/Precision Engineering and in Vietnam metal processing
Skills Technology Foresight: Key Steps

1. TRENDS
2. HARD & SOFT TECHNOLOGIES
3. WORK TASKS + WORKING CIRCUMSTANCES
4. SKILLS DEMAND
5. RECOMMENDATIONS FOR TVET & HE

CONSTRAINTS AND OPPORTUNITIES:
- planned / committed investment
- infrastructure availability
- industrial policies
- cultural & social barriers to adoption

Analysis of gap between required & available TVET & HE programs for skills provision

Analysis of gap between demanded & available skills
Technology foresight of future skills in Armenia

**Sectors:**
- Food processing
- ICT/ Precision engineering
- 2 foresight sessions each of about 30 participants

**Roadmapping** (2016, 2020, 2030):
- Identify soft and hard technologies, drivers of change, work tasks, technical and core skills.
- Validation.

**Results and findings:**
- Social dialogue and implementing committees established with sectors’ ownership of findings
- Map of the future and a vision created
- 20 demanded skills and jobs of the future identified
- 5 programmes for two sectors proposed to improve relevance of training (e.g. retention of workers, collaboration with diaspora, on-the-job training)
Navigator through Jobs of the Future

‘Navigator’ lists over 120 jobs of the future in 20 different sectors, showing where, how, and why new jobs will emerge. It has already become an important career advising tool for teenagers, and has encouraged many universities & colleges across Russia to revise their educational programs.
Volume 3:
Working at sectoral level
Why sectoral approaches?

- Sector is crucial to understand the key drivers of change in skills demands to have sectoral focus and perspective
- Clear stakeholders
- Easier to facilitate coordination among all relevant stakeholders and social dialogue
- Reduce complexity and scope of interventions
- Specific skills questions (e.g. gaps, occupational change) need the sort of close up examination that sectoral research enables
- More chances to provide immediate results, and thus easier to ‘sell’ the idea
- Linked to industrial policies, investment decisions etc.
The guide

- Lists all methods possible to use at sectoral level, quantitative as well as qualitative, their advantages and disadvantages (table 1, chapter 2)
- Institutional arrangements at sectoral and factors of success (chapter 3)
- Practical step-by-step considerations (defining the sector – data audit – data gathering – analysis – consultation process) (chapter 4)
- Annex with multiple good practices
The guide: institutional story - success factors

- Clearly defined functions and objectives
- Led by industry towards achieving its vision
- A shared vision for the industry (observatories in France, SENAI’s’Antenas Thematicas in Brazil)
- Facilitate broader economic/development goals (Canada – restructuring, Singapore – new industries and high-tech products; developing countries – broader development and poverty reduction goals)
- Capacity to analyse and use LMI, and implement resulting policies and measures
- Maximise the use of financial incentives (seed public funding, tapping on national funds – Australia, low-skilled jobs taxation – Singapore, (sectoral) levy funds – Brasil, S.Africa, Australia, Netherlands)
- Make different elements of the system work hand in hand (complement central, sectoral and sub-national levels)
- Monitoring and evaluation
Example: ILO - STED

- STED – Skills for Trade and Economic Diversification
- ILO’s Sector-based methodology to provide strategic guidance on integrating skills development into policies to strengthen traded sectors
- Designed to use skills to:
  - Improve competitiveness
  - Improve position in international trade
  - Drive growth in output and sales
  - Create more decent employment
- Essentially, a combination of strategic analysis & social dialogue
  - Skills sector studies for traded sectors,
  - With strong social partner and stakeholder involvement, and engagement
Skills availability can enable better export performance

Percent of firms identifying an inadequately educated workforce as a major constraint

Source: calculated from the WB Enterprise Survey
Exporting firms are more skills intensive and offer more training

Source: calculated from the WB Enterprise Survey
### Detailed STED Analytic Framework

<table>
<thead>
<tr>
<th>Stage 1: Sector position and outlook</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sector Selection</td>
</tr>
<tr>
<td>Sector Characterisation</td>
</tr>
<tr>
<td>Business Environment</td>
</tr>
<tr>
<td>Envisioning the Future</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stage 2: Business capability implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gap in Business Capabilities Required to Achieve Objectives</td>
</tr>
<tr>
<td>Stage 4: How many workers by skill type?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stage 3: What type of skills?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implications for Types of Skills Needed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stage 6: Proposed responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed Response to Future Skills Needs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stage 0: Choice of sectors</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Stage 5: Skills supply gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skills Supply</td>
</tr>
<tr>
<td>Gap between Skills Supply and Types of Skills Needed</td>
</tr>
<tr>
<td>Gap between Skills Supply and Numbers Needed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stage 4: How many workers by skill type?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modelling Employment and Skills Demand</td>
</tr>
</tbody>
</table>

**Stage 1:** Sector position and outlook

**Stage 2:** Business capability implications

**Stage 3:** What type of skills?

**Stage 5:** Skills supply gap

**Stage 6:** Proposed responses

**Stage 0:** Choice of sectors
Full-Cycle STED Rapid Analytic and Implementation process

**STED Analytic phase**

- **Choosing Sectors**
  - Output document: Note on sector selection

- **Desk Research**
  - Output document(s): Report(s) on desk research
  - Existing ILO Enterprise Survey and Trade Studies on Jordanian QIZs

- **STED Technical and Policy Workshop**
  - Output document(s): Report on Workshop

- **Conclusions and Recommendations**
  - Output document(s): Finished STED report(s)

**STED Implementation phase**

- Direct implementation of recommendations under the project in collaboration with partners
- Building and maintaining institutions for continuous skills dialogue and support to implementation (such as skills councils)
- Training adaptation, design and delivery (access to training – better distributional effects from trade revenues)
- Integration into broader technical assistance projects in the area of skills, trade, sector development and employment promotion
- Capacity building on Skills Anticipation for government and other stakeholders based on the STED methodology

**Consultation and capacity development with sector stakeholders**

- (employers, workers, government, education and training providers etc.)
  - through steering committees and/or stakeholder workshops

Consultation and capacity development with national constituents – government, employers, workers
STED applications so far
(Currently active in 5 countries and 10 sectors)

Ukraine
Year: 2010
• Metal Industry
• Tourism

Macedonia
Year: 2011
• Tourism
• Food Processing

Tunisia
• Metallurgy
• Food Processing

Jordan
• Pharmaceuticals
• Food processing

Kyrgyzstan
• Garments

Viet Nam
• Tourism

Cambodia
• Food Processing
• Light Manufacturing

Myanmar
• Tourism
• Vegetable & fruits

Malawi
• Oilseeds
• Horticulture

Egypt
• Furniture
• Food Processing

Bangladesh
Year: 2011
• Agro Processing
• Pharmaceuticals

Up-coming STED work in Benin, Ghana, Guatemala, Morocco and the Philippines
Anticipating and matching skills and jobs: Volumes 4-6

- Next year - available in Spanish
- Volume 4: The role of employment service providers
- Volume 5: Developing and running establishment skills survey
- Volume 6: Carry out tracer studies
<table>
<thead>
<tr>
<th>Alternative approaches</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal, national level, quantitative, model-based projections</td>
<td>Comprehensive (typically all sectors); consistent; transparent; quantitative.</td>
<td>Data-hungry; costly; not everything can be quantified. May give a false impression of precision/certainty.</td>
</tr>
<tr>
<td>Skills surveys of employers</td>
<td>Direct user/customer involvement; easy to set-up and carry out.</td>
<td>May be very subjective; inconsistent; costly; can too easily focus on the margins rather than skill gaps within the current workforce; limited reliability of information on future</td>
</tr>
<tr>
<td>Tracer studies / graduate surveys</td>
<td>Ability to provide useful information for improving planning and programming relatively low cost, easy execution.</td>
<td>Demand for detailed information about sample groups, confined to workers’ early market experience and findings may be biased.</td>
</tr>
</tbody>
</table>
## Is there an ideal approach? Pros and cons

<table>
<thead>
<tr>
<th>Alternative approaches</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenarios and foresights</td>
<td>Strong on sectoral or other specifics; can be used when limited data available. Helps us to avoid unpleasant surprises, make better decisions today inspire, engage and enable shared action.</td>
<td>Risk of inconsistent across sectors, areas, etc.; can be constructed as the “official future”; people may not be able to suspend their disbelief. May suffer from cultural/cognitive myopia; cannot be validated.</td>
</tr>
<tr>
<td>Delphi-style methods</td>
<td>Holistic; applicable in situation with limited data availability. A possibility to avoid large group gatherings - virtual participation; handles single or multiple questions; brings together large number of experts and different opinions.</td>
<td>Time-consuming process; labour intensive; participant expertise may influence results.</td>
</tr>
<tr>
<td>Focus groups/round tables</td>
<td>Useful to improve and develop ideas; strong tools to validate preliminary results/ideas/tools/strategies.</td>
<td>Importance of moderator is often underestimated; opinions can be biased (group thinking effect); participants may be reluctant to share some opinions in a group.</td>
</tr>
<tr>
<td>Sectoral approaches</td>
<td>Sector is crucial to understand the key drivers of change Clear stakeholders - Easier to facilitate coordination among all relevant stakeholders and social dialogue Reduce complexity and scope of interventions</td>
<td>Partial, especially when it comes to quantitative modelling Engagement of SMEs, SMEs in rural and remote areas and coverage of informal and unorganised sector is a challenge</td>
</tr>
</tbody>
</table>
Thank you!

“When the winds of change blow, some seek shelter, others build windmills” – an old Chinese Proverb