Measurement in the Arab region

MENA Innovation Scoreboard
Where we started....
Example of innovation scoreboards:


مؤشر الابتكار العالمي 2017 (127 دولة)
Meetings for the formulation of the MENA Scoreboard

- European Investment Bank, Centre for Mediterranean Integration
- Islamic Educational Scientific and Cultural Organization (ISESCO),
- UN-ESCWA Technology Centre (ETC)
- Arab League Educational, Cultural and Scientific Organization (ALECSO)
- OECD & AIDMO attended some meetings

Amman, March 2014

Rabat, May 2016

Cairo, November 2014
The MENA Scoreboard

• The Innovation Meter relies mostly on recognized international resources for the definition of its indicators, including the United Nations (UNStats), UNESCO, the World Bank, ISO and selected business surveys.

• With the lack of timely data in the region, the index also uses ‘alternative’ indicators that measure the same phenomenon.
The MENA Scoreboard

- The **MENA Meter has 39 indicators** grouped under two pillars:
  - input and enablers,
  - output and impact.
- **Input and Enabler:**
  - human resources,
  - knowledge enablers
  - business enablers;
- **output and impact**
  - value-added potential of the private sector,
  - quality of scholastic output,
  - business impact
  - intellectual asset formation
الورقة مؤشرات الإبتكار

**INNOVATION METER FOR MENA-COUNTRIES**

**INPUT AND ENABLERS**

1. **HUMAN RESOURCES**
   1.1 Annual number of tertiary graduates as a % of the population 15-64 years:
   1.2 Percentage of tertiary level graduates in technical / science curriculum - tertiary level
   1.3 Total outbound tertiary level students as a % of tertiary graduates
   1.4 Total personnel in R&D as a percentage of population aged between 15-64 years
   1.5 % of secondary level students enrolled in vocational programmes

2. **KNOWLEDGE ENABLERS**
   2.1 Inbound international tertiary level students as % of total tertiary graduates
   2.2 Foreign Direct investment (BoP) net inflows as % of GDP
   2.3 Gross national spending on R&D / GDP
   2.4 GERD financed by business as % of GDP
   2.5. Percentage of firms that licensed-in technology from foreign firms

3. **BUSINESS ENABLERS**
   3.1 Domestic credit to the private sector (% of GDP)
   3.2 Ease of getting credit (Credit registry coverage (% of adults))
   3.3 Business Survey: Firms using banks to finance investments (% of firms)
   3.4 Business Survey: Proportion of investments financed by banks
   3.5 Private equity investment value as a % of GDP
   3.6 Ease of starting a business (time required in days)

**OUTPUT AND IMPACT**

4. **VALUE ADDED POTENTIAL BY ENTREPRENEURIAL SECTOR**
   4.1 Sum total of ISO certification type 9001, 14001 and 22000 last available year related to GDP
   4.2 New business registration per 1000 population 15-64 years, latest available year
   4.3 Industry value added as percentage of GDP
   4.4 ICT Service exports as % of GDP
   4.5 Agriculture value added per worker (2005 US$)
   4.6 Charges for the use of intellectual property, receipts (BoP, current US$) as % of GDP

5. **QUALITY OF SCHOLASTIC OUTPUT**
   5.1 8th grade achievements sum total math and science scores
   5.2 GMAT-score last available year
   5.3 Total of GRE scores in last available year
   5.4 H-index for citation impact last available year
   5.5 International Scientific co-publication per million inhabitants
   5.6 Number of universities in QS-1000 rankings per thousand inhabitants

6. **BUSINESS IMPACT**
   6.1 Firms with ICT enabling business model creation (% of total)
   6.2 High-Tech merchandize exports as % of merchandized exports
   6.3 Medium Tech exports as % of exported merchandized goods
   6.4 ICT goods exports (% of total goods exports), last figure 2013
   6.5 % of firms (> 10 empl) introducing new products or services
   6.6 % firms (>10 empl) introdcing new manufacturing methods and service delivery methods

7. **INTELLECTUAL ASSET FORMATION**
   7.1 Resident patent applications / million inhabitants 15-64 years
   7.2 International PCT Applications via WIPO Administered Treaties / million inhabitants 15-64 years
   7.3 U.S. PATENT AND TRADEMARK OFFICE: Utility Patent granted / million inhabitants 15-64 years
   7.4 Resident Trademarks registrations per million inhabitants 15-64 years
   7.5 Industrial design registrations per million inhabitants 15-64 years
   7.6 Citable documents per million inhabitants 15-64 years
### INPUT AND ENABLERS

1. **HUMAN RESOURCES**
   - 1.1 Annual number of tertiary graduates as a % of the population 15-64 years:
   - 1.2 Percentage of tertiary level graduates in technical / science curriculum - tertiary level
   - 1.3 Total outbound tertiary level students as a % of tertiary graduates
   - 1.4 Total personnel in R&D as a percentage of population aged between 15-64 years
   - 1.5 % of secondary level students enrolled in vocational programmes

2. **KNOWLEDGE ENABLERS**
   - 2.1 Inbound international tertiary level students as % of total tertiary graduates
   - 2.2 Foreign Direct investment (BoP) net inflows as % of GDP
   - 2.3 Gross national spending on R&D / GDP
   - 2.4 GERD financed by business as % of GDP
   - 2.5 Percentage of firms that licensed-in technology from foreign firms

3. **BUSINESS ENABLERS**
   - 3.1 Domestic credit to the private sector (% of GDP)
   - 3.2 Ease of getting credit (Credit registry coverage (% of adults))
   - 3.3 Business Survey: Firms using banks to finance investments (% of firms)
   - 3.4 Business Survey: Proportion of investments financed by banks
   - 3.5 Private equity investment value as a % of GDP
   - 3.5 Ease of starting a business (time required in days)
### OUTPUT AND IMPACT

#### 4 VALUE ADDED POTENTIAL BY ENTREPRENEURIAL SECTOR

- **4.1** Sum total of ISO certification type 9001, 14001 and 22000 last available year related to GDP
- **4.2** New business registration per 1000 population 15-64 years, latest available year
- **4.3** Industry value added as percentage of GDP
- **4.4** ICT Service exports as % of GDP
- **4.5** Agriculture value added per worker (2005 US$)
- **4.6** Charges for the use of intellectual property, receipts (BoP, current US$) as % of GDP

#### 5 QUALITY OF SCHOLASTIC OUTPUT

- **5.1** 8th grade achievements sum total math and science scores
- **5.2** GMAT-score last available year
- **5.3** Total of GRE scores in last available year
- **5.4** H-index for citation impact last available year
- **5.5** International Scientific co-publication per million inhabitants
- **5.6** Number of universities in QS-1000 rankings per thousand inhabitants

#### 6 BUSINESS IMPACT

- **6.1** Firms with ICT enabling business model creation (% of total)
- **6.2** High-Tech merchandize exports as % of merchandized exports
- **6.3** Medium Tech exports as % of exported merchanized goods
- **6.4** ICT goods exports (% of total goods exports), last figure 2013
- **6.5** % of firms (>10 empl) introducing new products or services
- **6.6** % firms (>10 empl) introducing new manufacturing methods and service delivery methods

#### 7 INTELLECTUAL ASSET FORMATION

- **7.1** Resident patent applications / million inhabitants 15-64 years
- **7.2** International PCT Applications via WIPO Administered Treaties / million inhabitants 15-64 years
- **7.3** U.S. PATENT AND TRADEMARK OFFICE: Utility Patent granted / million inhabitants 15-64 years
- **7.4** Resident Trademarks registrations per million inhabitants 15-64 years
- **7.5** Industrial design registrations per million inhabitants 15-64 years
- **7.6** Citable documents per million inhabitants 15-64 years
Innovation Measurement in the Arab region

- **Innovation Indexes** combine many indicators
  - Comparing performance of countries’ Innovation
  - Rankings should be considered with caution

- Recognized major **indicators**
  - Spending levels on R&D
  - Innovation carried out by firms
  - Exports of high-tech products
  - Patenting
  - Quantity and quality of graduates particularly in technical and scientific disciplines.
Innovation Measurement in the Arab region

• Arab countries should **improve their statistical data collection** for innovation indicators particularly as regards firms’ innovation surveys and detailed spending levels on R&D

• **Specific indicators** addressing Arab countries gaps should be developed (e.g., educational outcomes, vocational training and brain drain)

• Urgent need to **adopt the MENA Meter at the highest level and commit to collect the national data**
Thank you very much