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# تحويل الاقتصادات العربية:

المضي قدما على طريق المعرفة والابتكار

## Transforming Arab Economies:

Traveling the Knowledge and Innovation Road

## Transformer les économies arabes :

La voie de la connaissance et de l'innovation

INTERVIEW

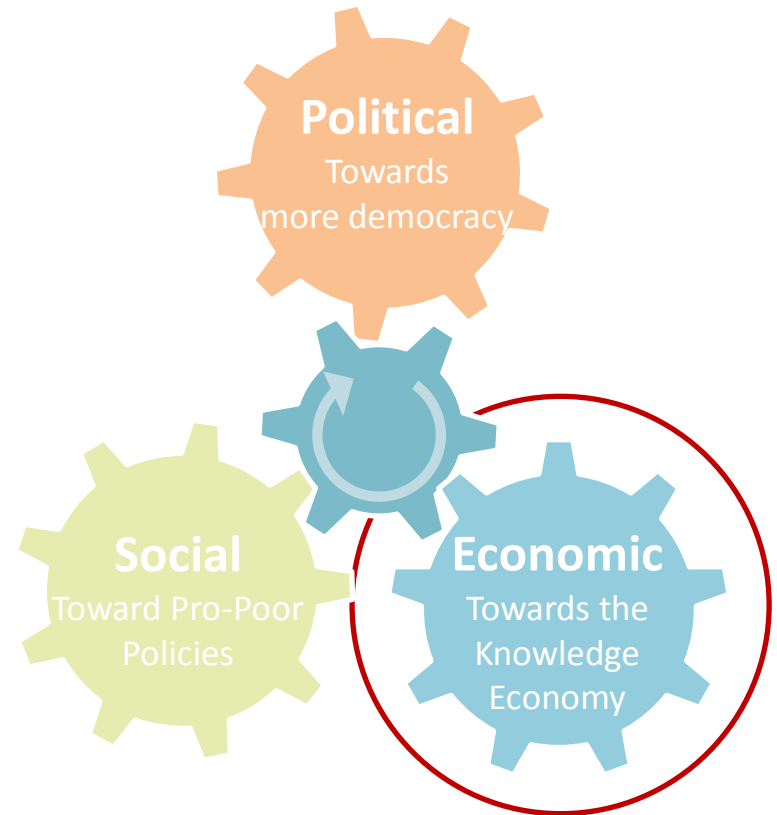
Presented by: Anuja Utz and Jean-Eric Aubert

KNOWLEDGE  
INNOVATION  
GROWTH  
EMPLOYMENT



# Arab World: Transition on three fronts

- ◆ **Political transition:** move towards more democratic regimes;
- ◆ **Social transition:** equitable programs to protect the poor in place of inefficient policies that promote public sector-based employment and the subsidization of basic goods; and
- ◆ **Economic transition:** develop more competitive and productive economic regimes.

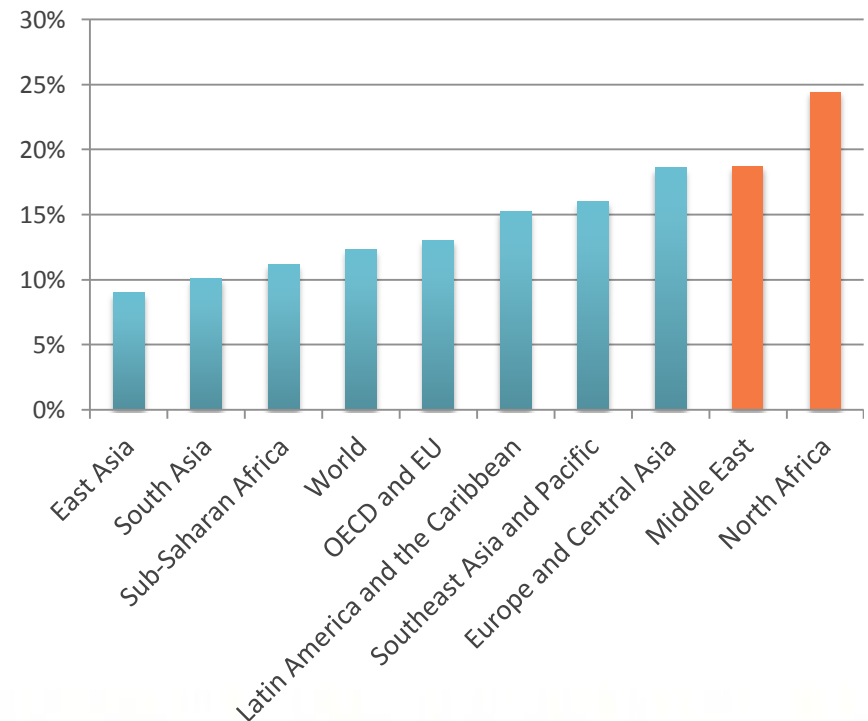




# Rationale

- ◆ Need to create more and better jobs for the legions of young people whose rates of joblessness are among the worst in the world (20–25 percent among individuals between ages of 15 and 25)
- ◆ One way is cope with this critical issue to raise the profile of knowledge and innovation in the region's economies
- ◆ Many Arab countries have started to make investments in knowledge, innovation, and technology over the past decade.

**Youth Unemployment Rates by Region**





# Transforming Arab Economies:

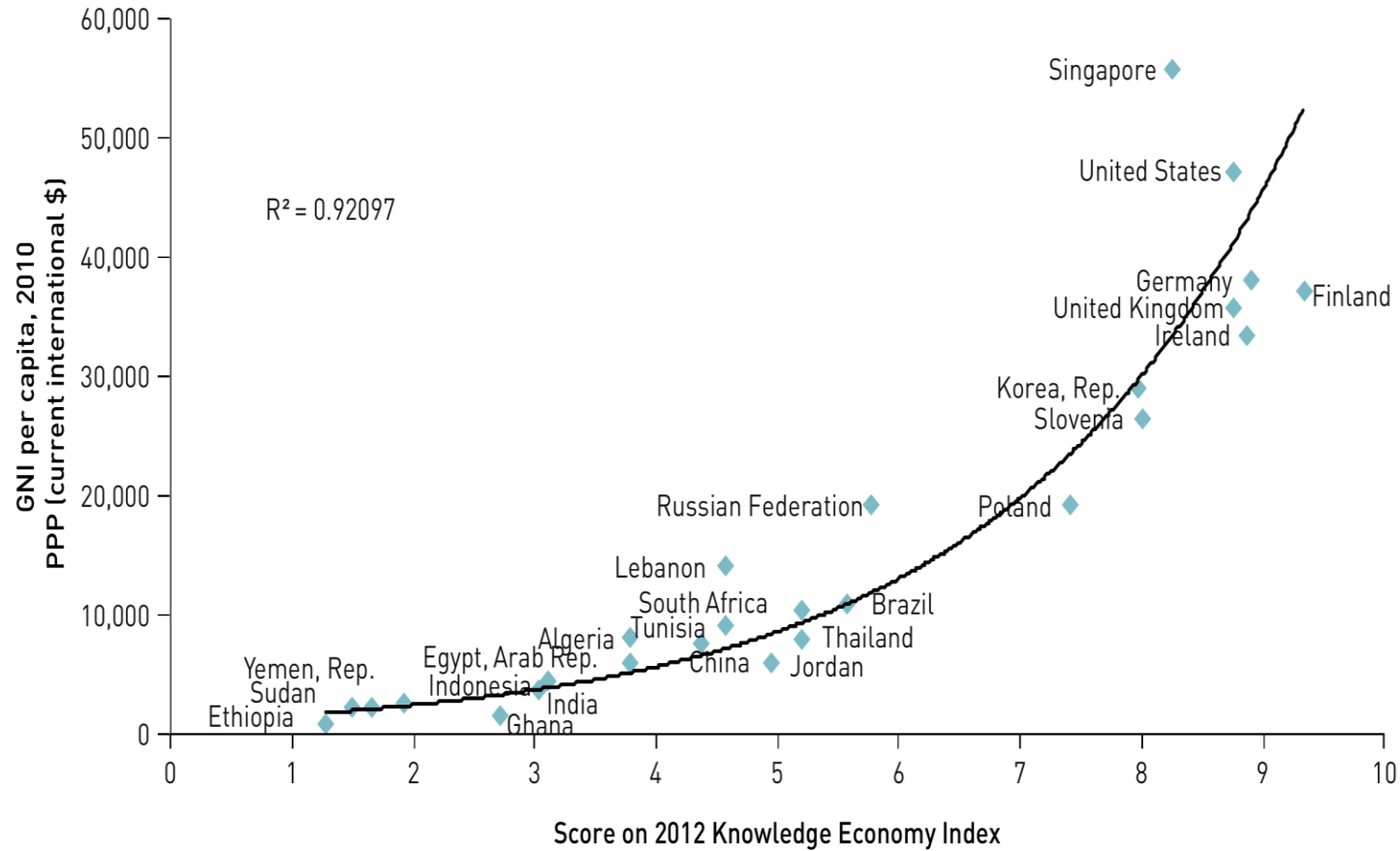
## *Traveling the Knowledge and Innovation Road*

- ◆ Report proposes a new type of development strategy based on knowledge and innovation for the Arab world
- ◆ ***It focuses on three main questions:***
- ◆ **Why** should countries in the Arab world make the move to a knowledge- and innovation-driven economy?
- ◆ **What** would that move entail?
- ◆ And **how** should it be carried out?
  
- ◆ Provides examples from the Arab world and from global experience, as well as policy guidance and ideas for coordinated action that could be useful.





# Strong links between knowledge and growth



Source: Authors' calculations; [www.worldbank.org/kam](http://www.worldbank.org/kam).





# Four pillars of the KE

## Pillar 1

### Economic and Institutional Regime

The country's economic and institutional regime must provide incentives for the efficient use of existing knowledge, the acquisition of new knowledge, and the application of both to economic activity—to improve productivity, to raise quality, to innovate, and to launch new enterprises.

## Pillar 2

### Education and Skills

The country's people need education and skills that enable them to create and share knowledge, and to use it well.

## Pillar 3

### Information and Communication infrastructure

A dynamic information infrastructure is needed to facilitate the effective communication, dissemination, and processing of information.

## Pillar 4

### Innovation System

The country's innovation system—firms, research centers, universities, think tanks, consultants, and other organizations—must be capable of tapping the growing stock of global knowledge and adapting it to local needs, as well as creating new products and processes that can compete in export markets and meet needs at home.





# Four pillars strengthened through diversification and regional integration





# Main messages

- ◆ To cope with job challenge, countries in the Arab world should embrace an economic growth model based on knowledge and innovation
- ◆ Expand/deepen reforms in key policy areas: education, innovation, ICT and business environment
- ◆ Develop specific sectors and sites that are sources of new activities and jobs (low hanging fruits)
- ◆ Implementation requires a vision, top government coordination, and participatory approach to mobilize population
- ◆ Active regional integration processes – within the Arab world and around the Mediterranean – are key
- ◆ Important to involve development partners in this process.



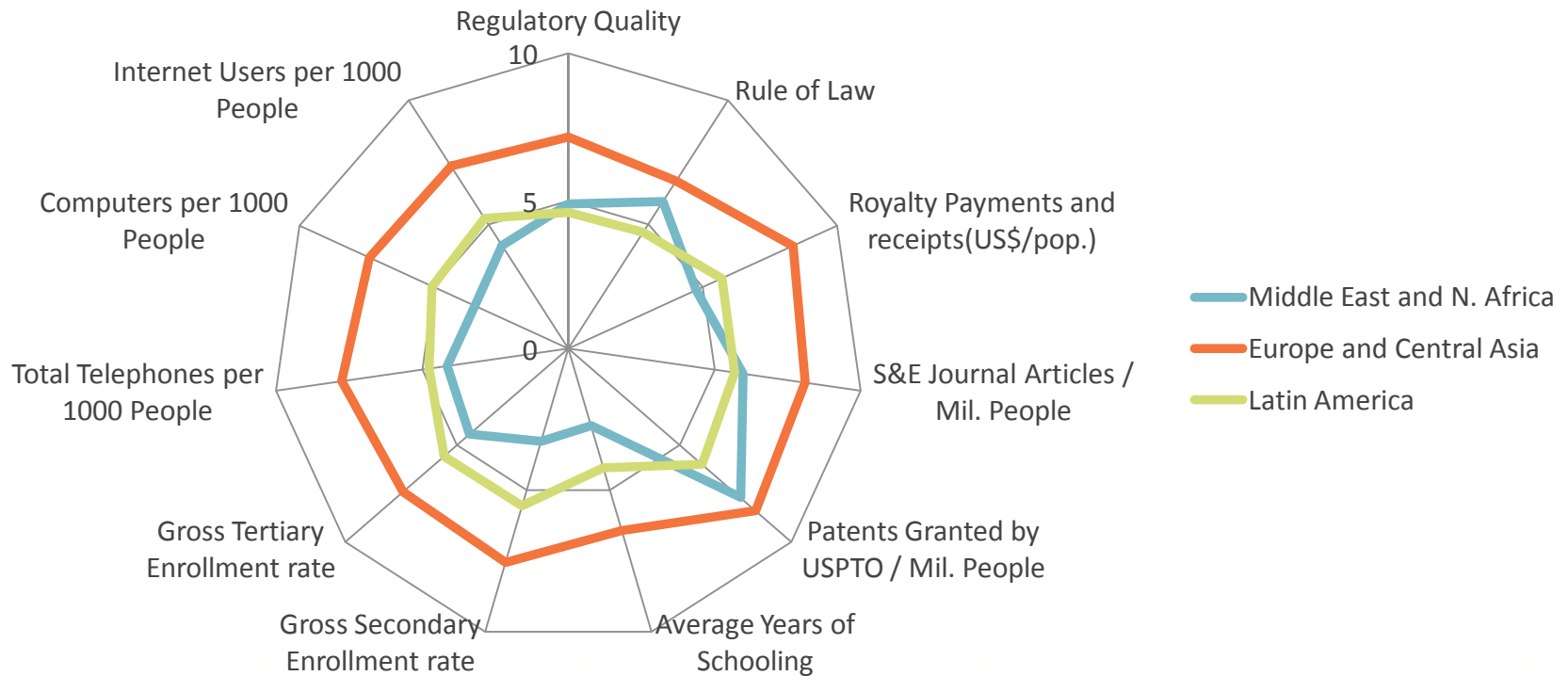


# BENCHMARKING THE REGION





# The region's KE performance in comparative perspective, 2012

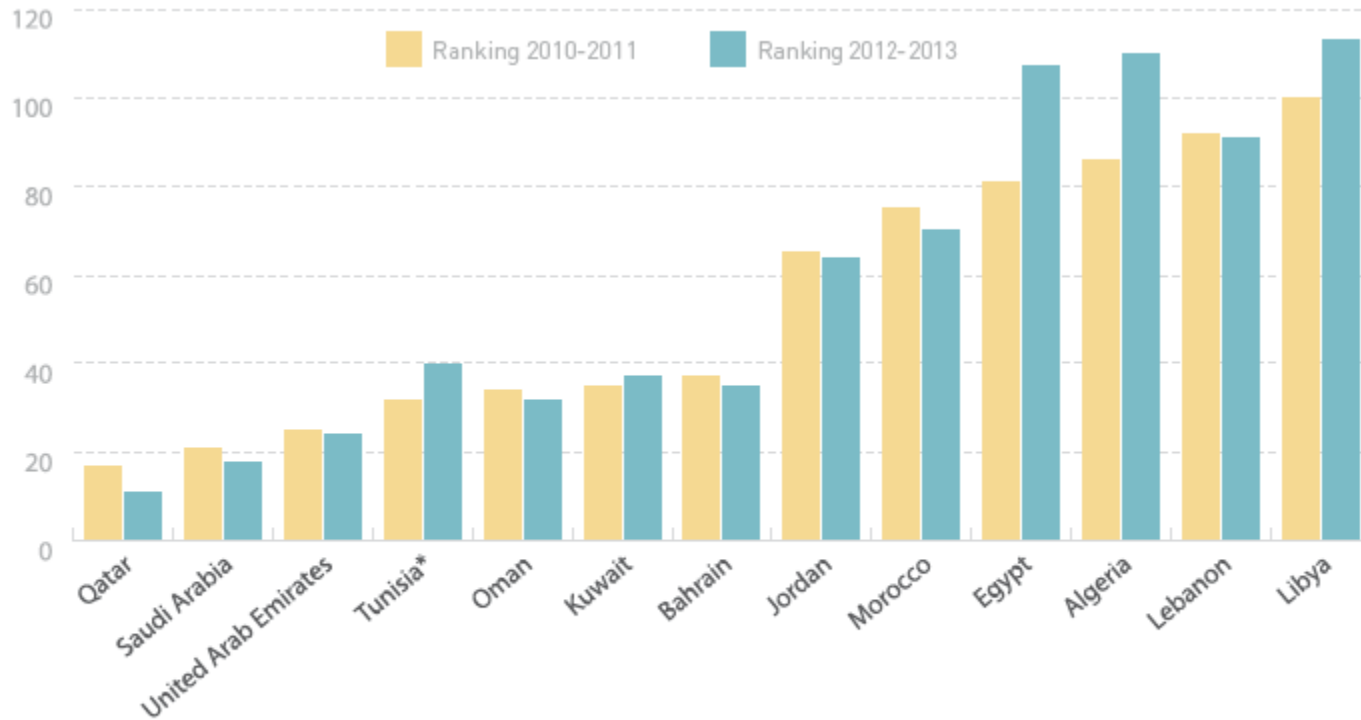


Source: Knowledge Assessment Methodology ([www.worldbank.org/kam](http://www.worldbank.org/kam), World Bank 2012a).





# Country rankings on the GCI, 2010-11 and 2012-13



Source: World Economic Forum 2010, 2011, 2012.

Note: Rankings for Tunisia are for 2010-11 and 2011-12.

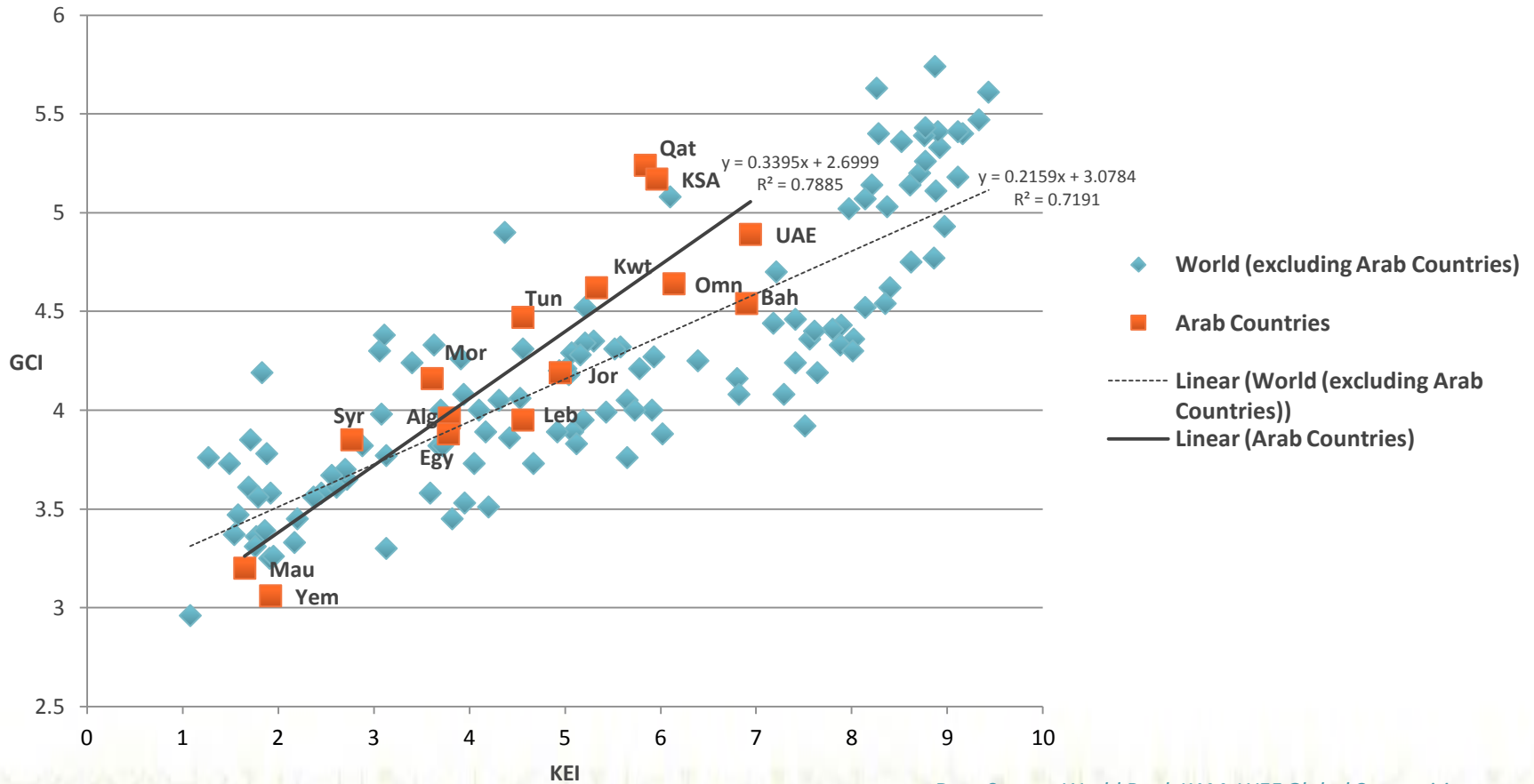
Source: WEF and OECD 2011.





# Knowledge-Weak Competitiveness

## Country performance on the 2012 KEI plotted against the 2011–12 GCI



Data Source: World Bank KAM, WEF Global Competitiveness



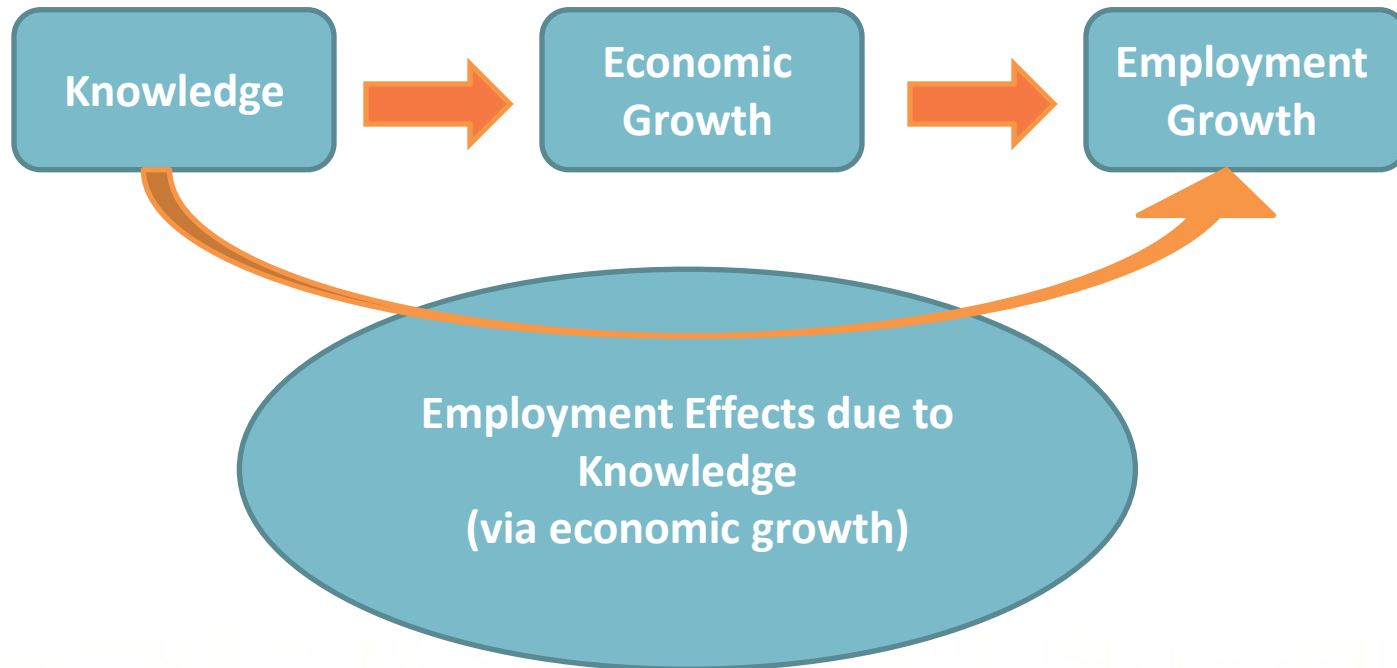
# KNOWLEDGE ECONOMY AND EMPLOYMENT





# Knowledge economy and employment

## Estimating Employment Effects of Knowledge





# KE and employment in MENA

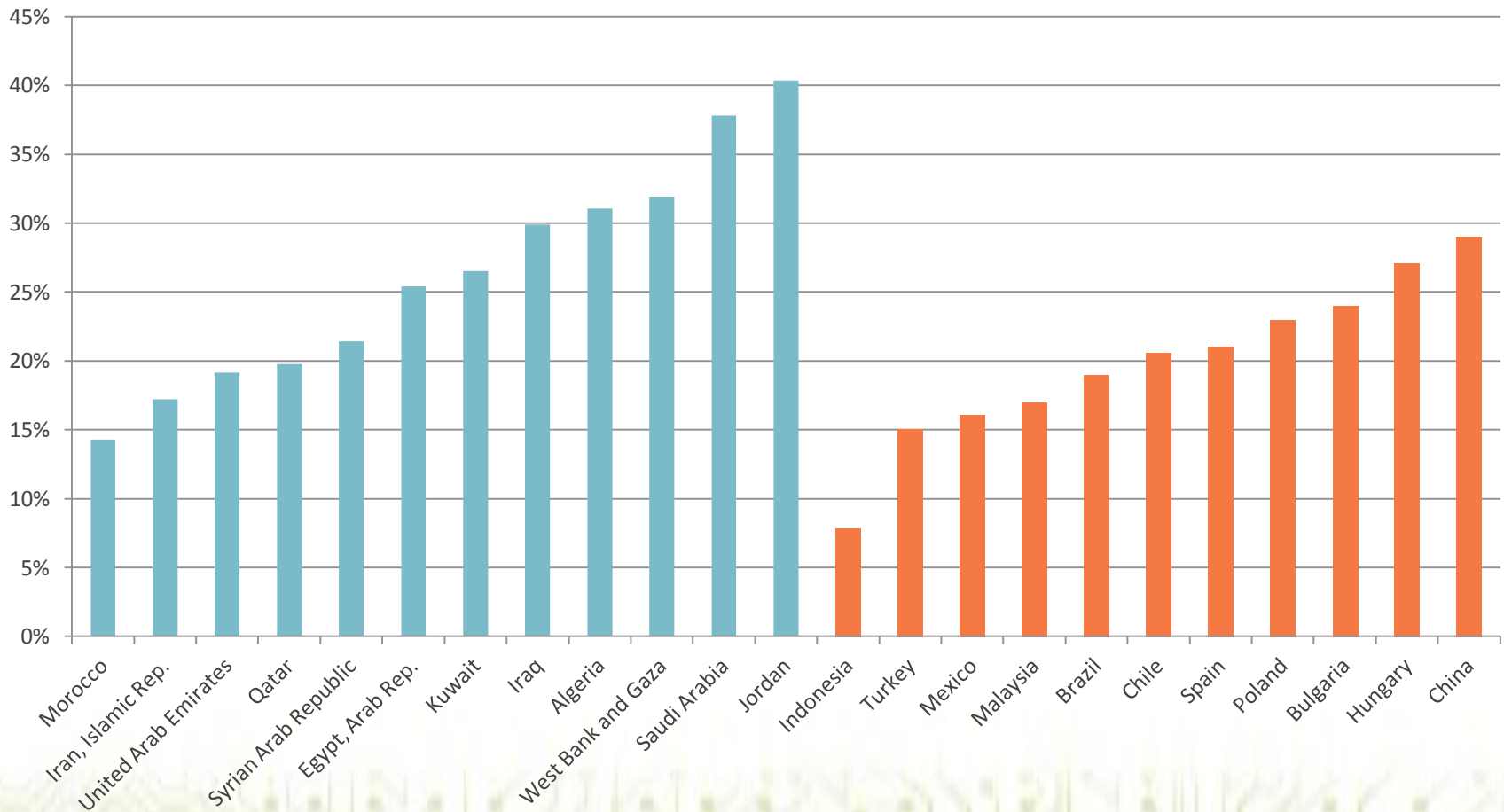
Sub Region	CGR Employment	KE/Job Elasticity
GCC	5.00	1.3-0.2
Non GCC	3.09	0.9-0.4
Total	3.40	0.7





# Employment shares: MENA and comparators (average in 2000s)

Public sector (%)







# Women's participation in a comparative perspective, 2012



Source: Knowledge Assessment Methodology ([www.worldbank.org/kam](http://www.worldbank.org/kam), World Bank 2012a).



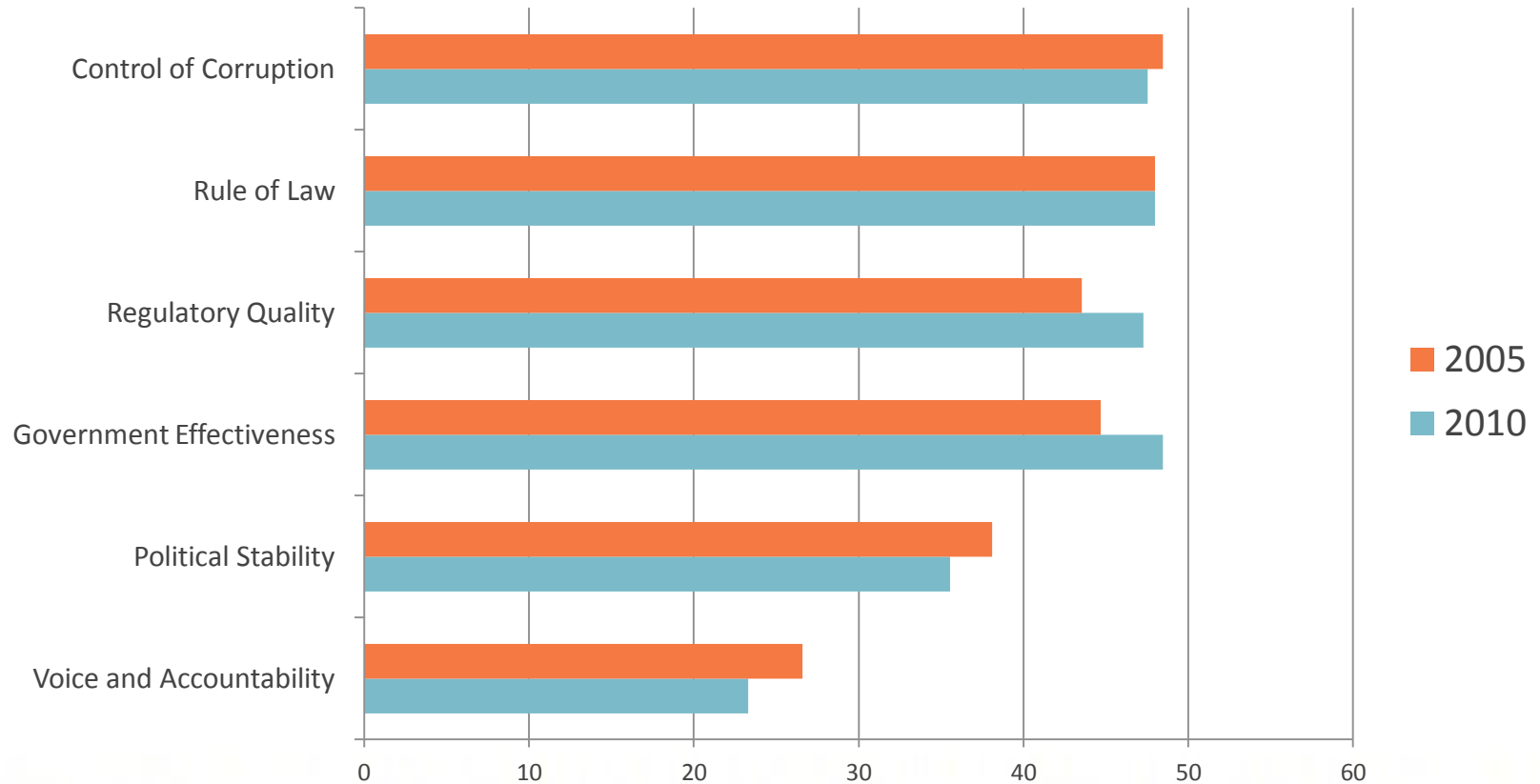
Pillar I

# ECONOMIC AND INSTITUTIONAL REGIME





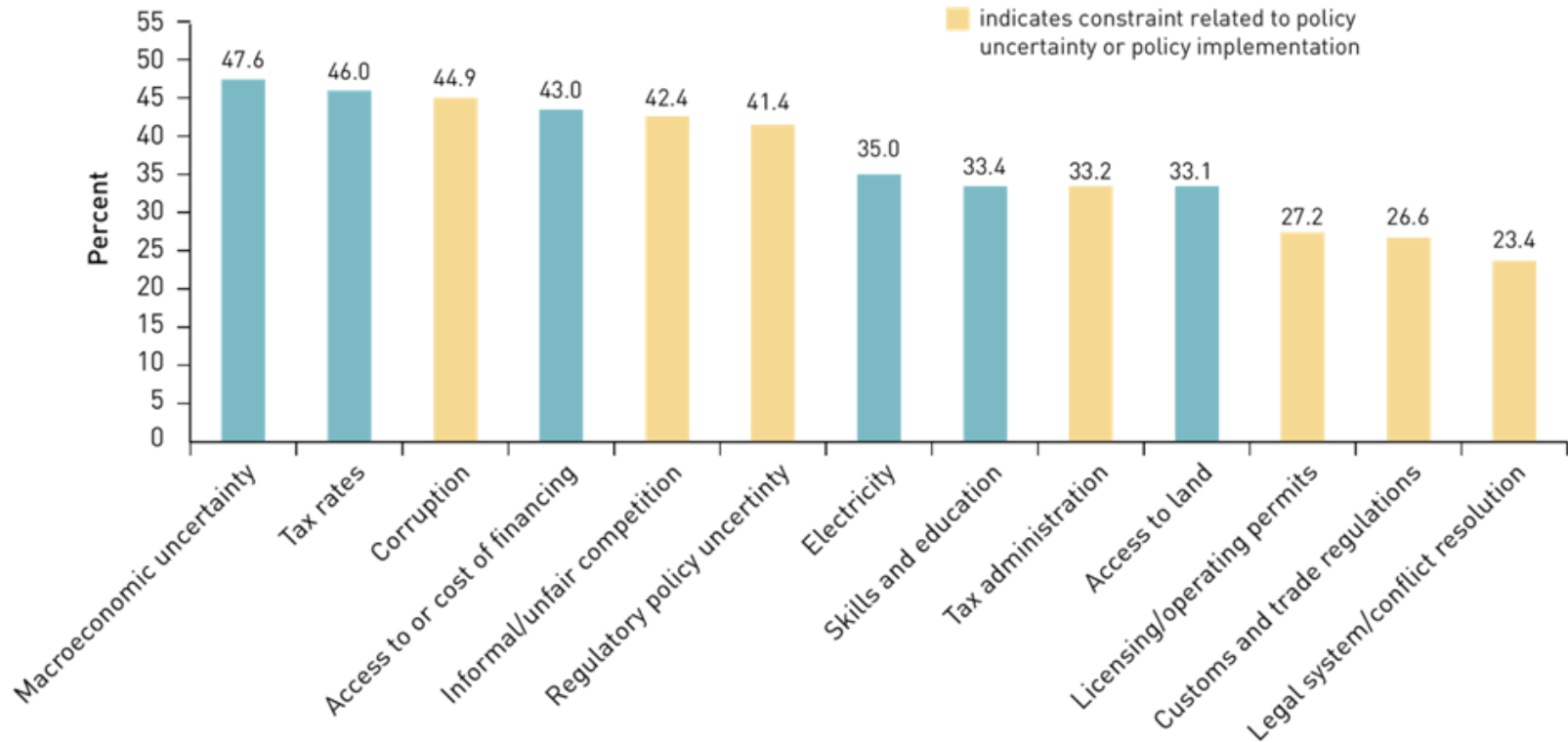
# MENA governance rankings: 2010 and 2005





# Leading constraints on MENA firms

Simple average of percentage of firms in a given country ranking a constraint as “major or severe”



Source: World Bank 2009a.





# Improve governance and business climate

- ◆ Strengthen government effectiveness
- ◆ Foster a business-friendly climate and encourage entrepreneurship
- ◆ Develop a fair and competitive private sector
- ◆ Establish and enforce rule of law
- ◆ Facilitate trade and foreign investment
- ◆ Reform labor markets to facilitate mobility



Pillar II

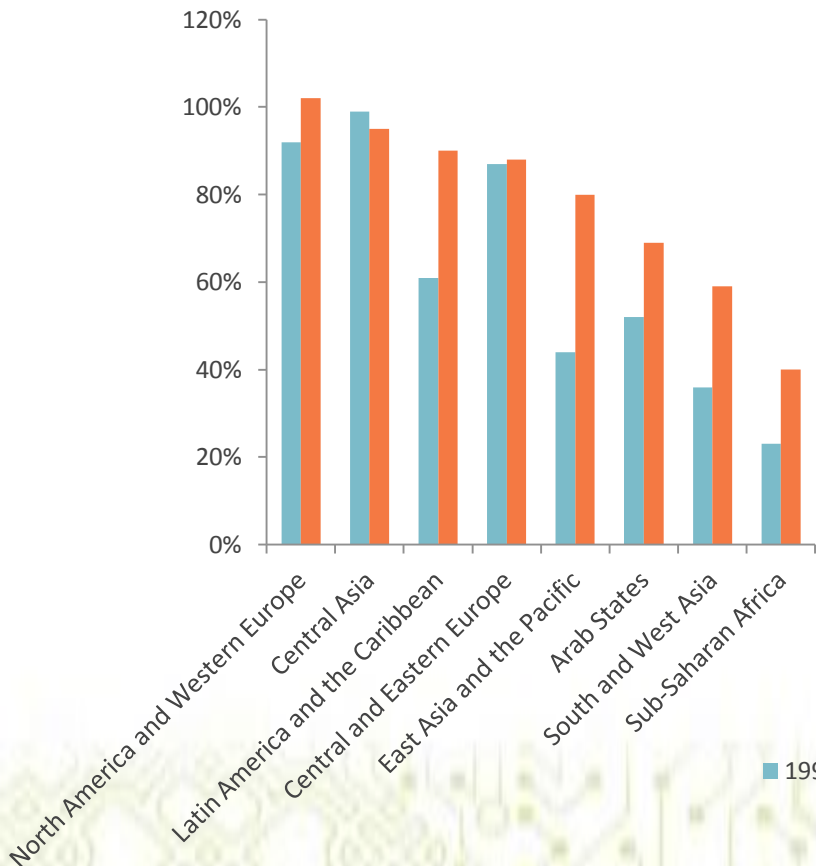
# EDUCATION



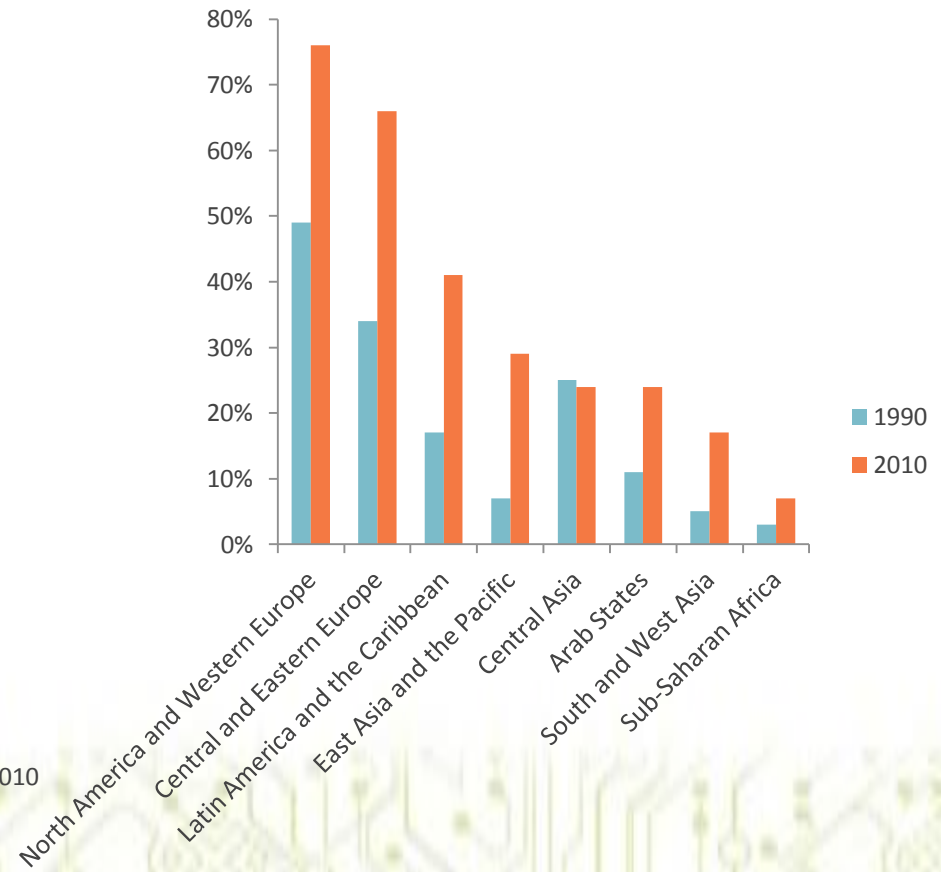


# Secondary and tertiary gross enrolment rates, 1990 and 2010

## Secondary gross enrolment rates, 1990 and 2010

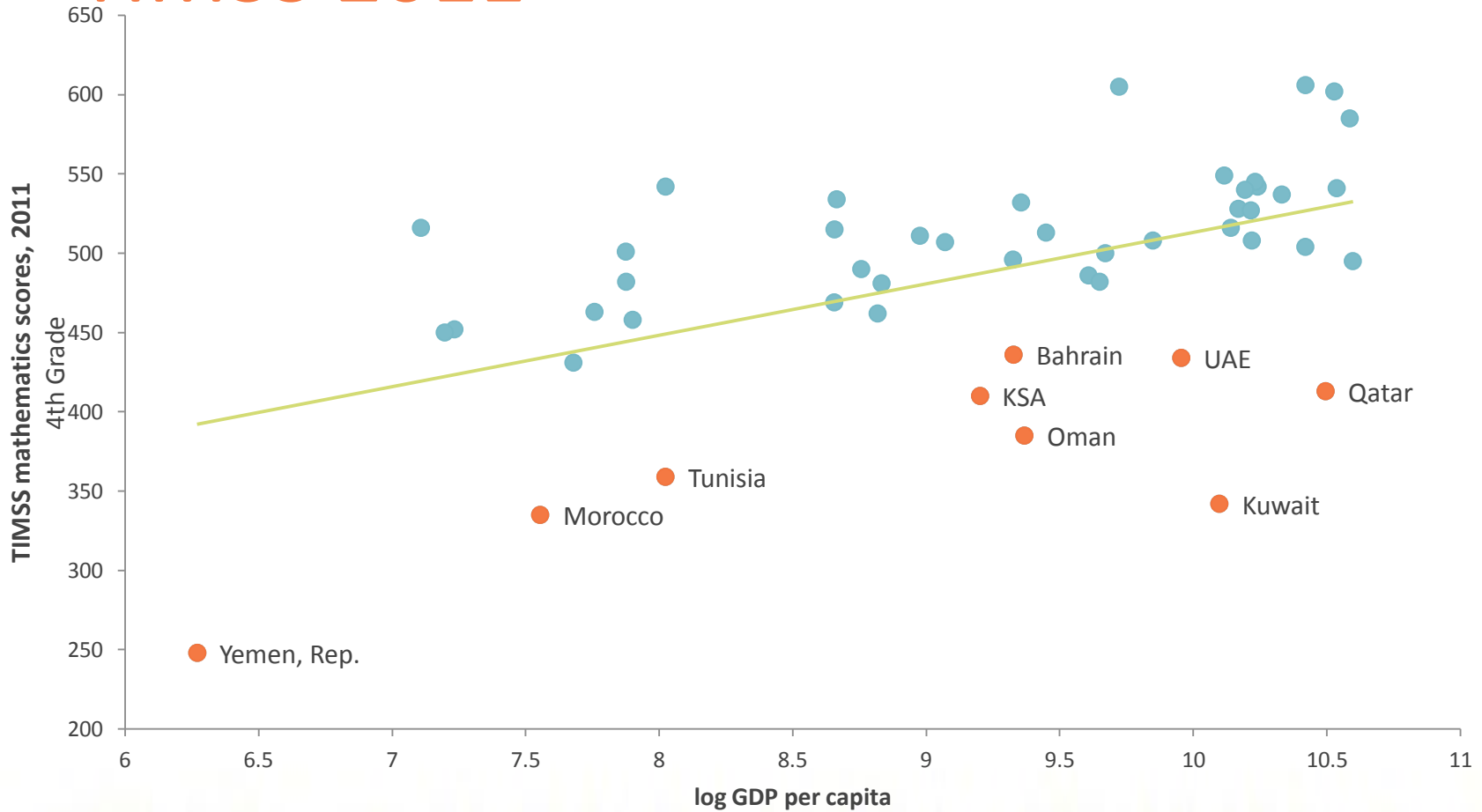


## Tertiary gross enrolment rates, 1990 and 2010





# Results on international tests: TIMSS 2011







# Provide more and better education

- ◆ Invest in early childhood development and learning ability
- ◆ Improve basic education and develop professional education
- ◆ Develop new skills and competencies for the KE
- ◆ Encourage S&T in higher education
- ◆ Align accountability, financing, and performance incentives to produce better learning outcomes
- ◆ Participate in international tests and school and university networks



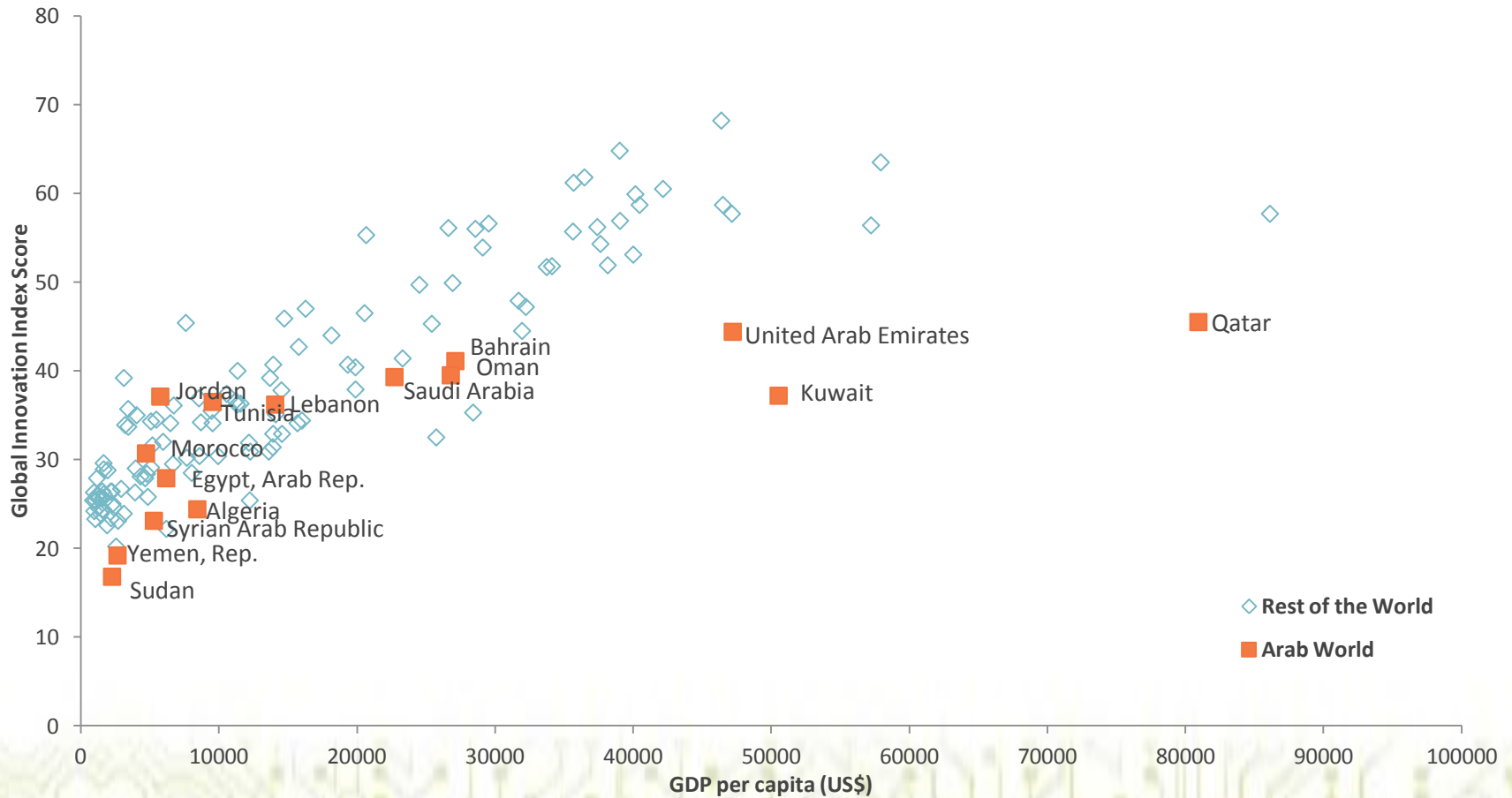
Pillar III

# INNOVATION





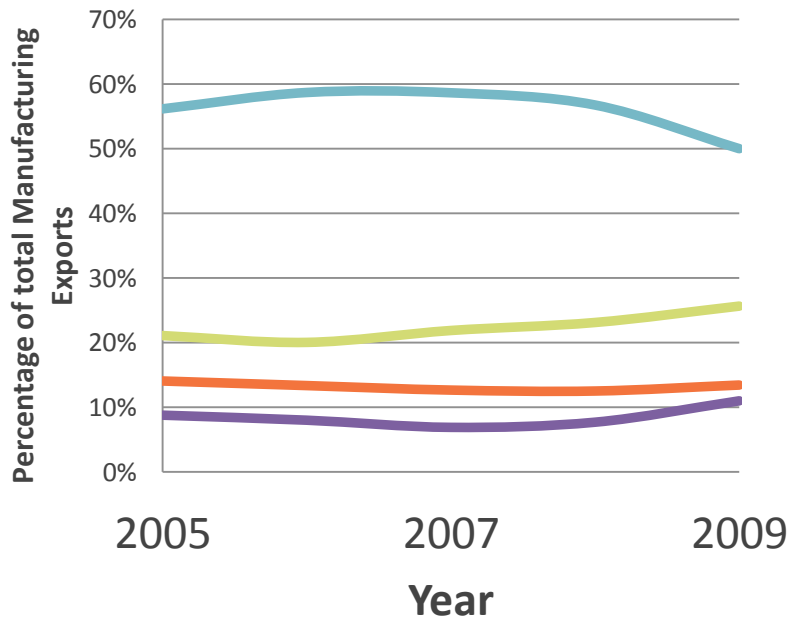
# Innovation performance and GDP per capita



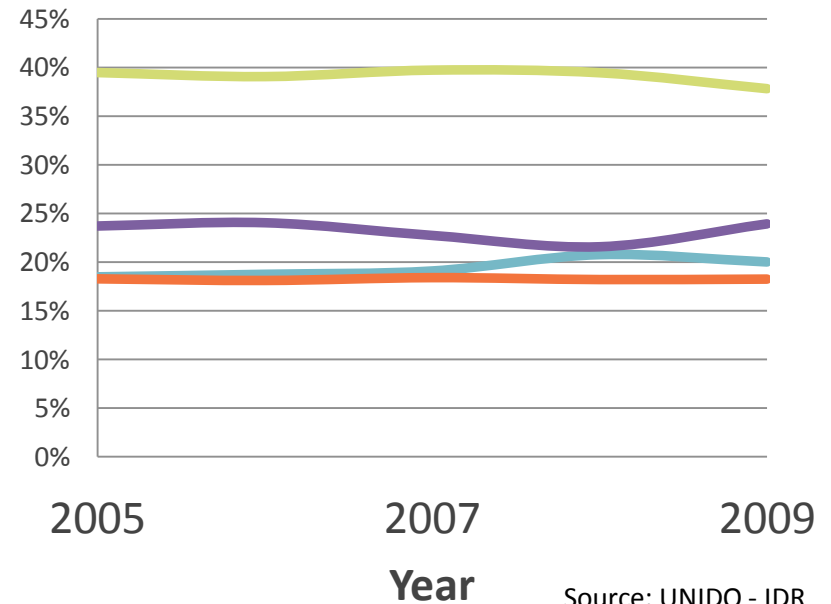


# Modest technology performances

**Total exports by technology category in MENA  
(2005-2009)**



**Total exports by technology category in the World -  
MENA excluded  
(2005-2009)**



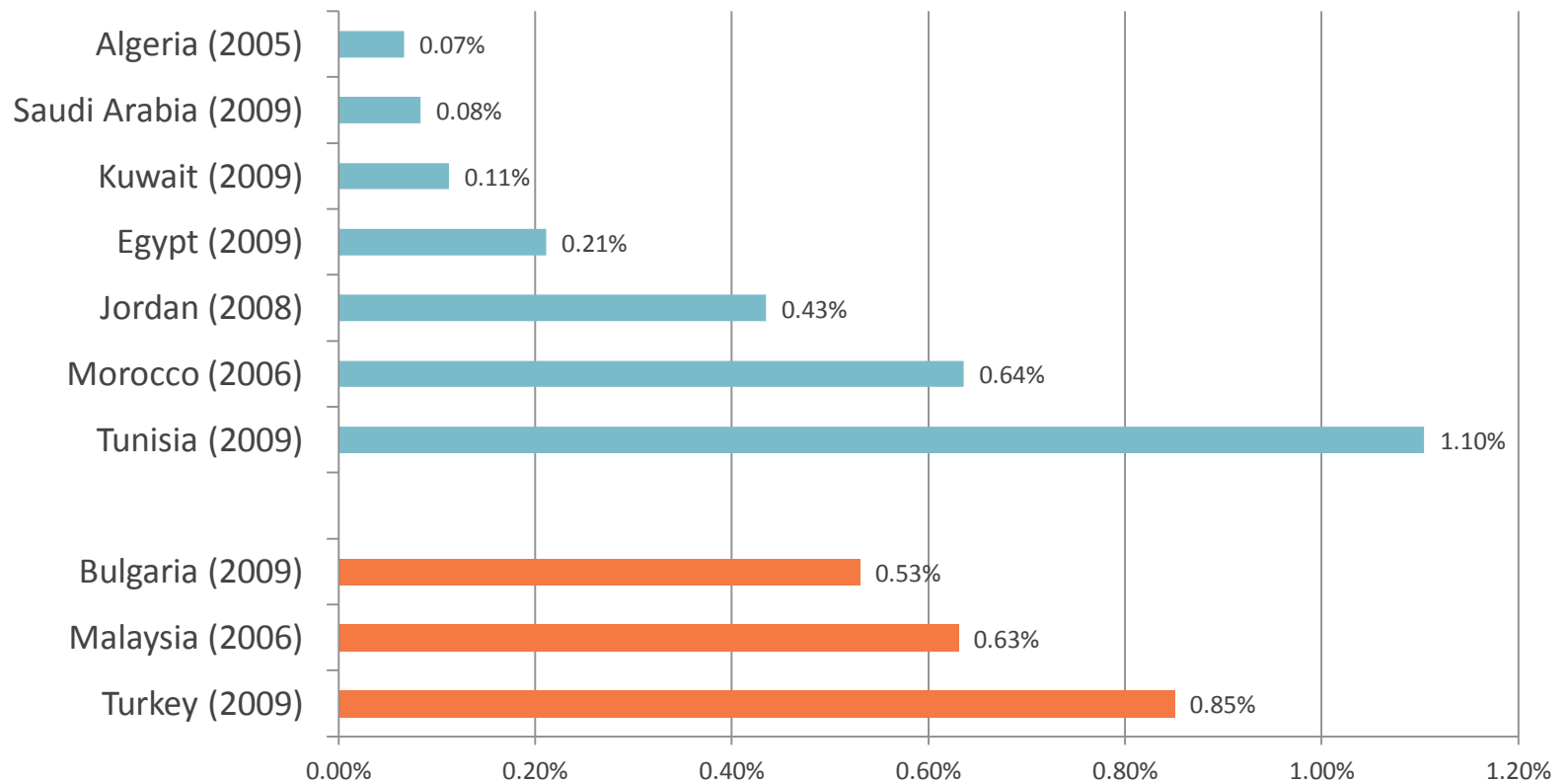
Source: UNIDO - IDR

- Resource-based exports
- Medium-technology exports
- Low-technology exports
- High-technology exports



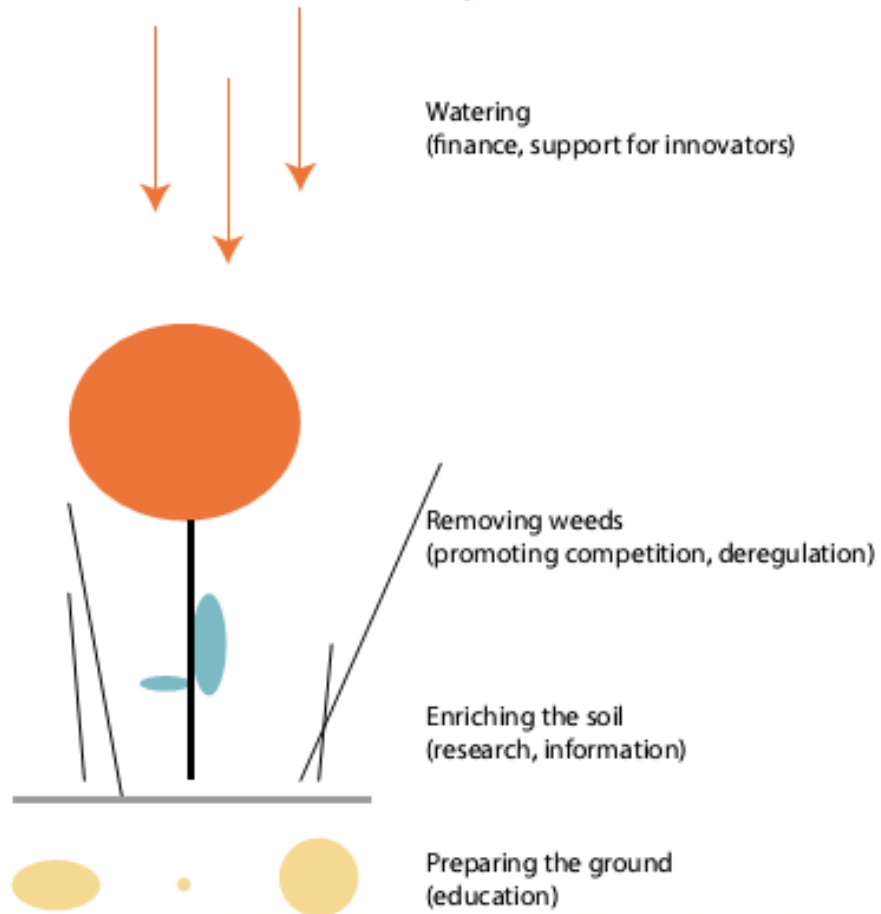


# GERD in selected Arab countries compared to other countries





# Innovation Policy as Gardening





# Stimulate technological innovation and upgrading

- ◆ Innovation policy is more than S&T policy
- ◆ Provide technical, commercial, legal, and financial support for innovators
- ◆ Put research structures in service of economy and society (funding mechanisms)
- ◆ Tap global knowledge and technology
- ◆ Educate youth for entrepreneurship and innovation in secondary schools
- ◆ Stimulate change through international joint projects



Pillar IV

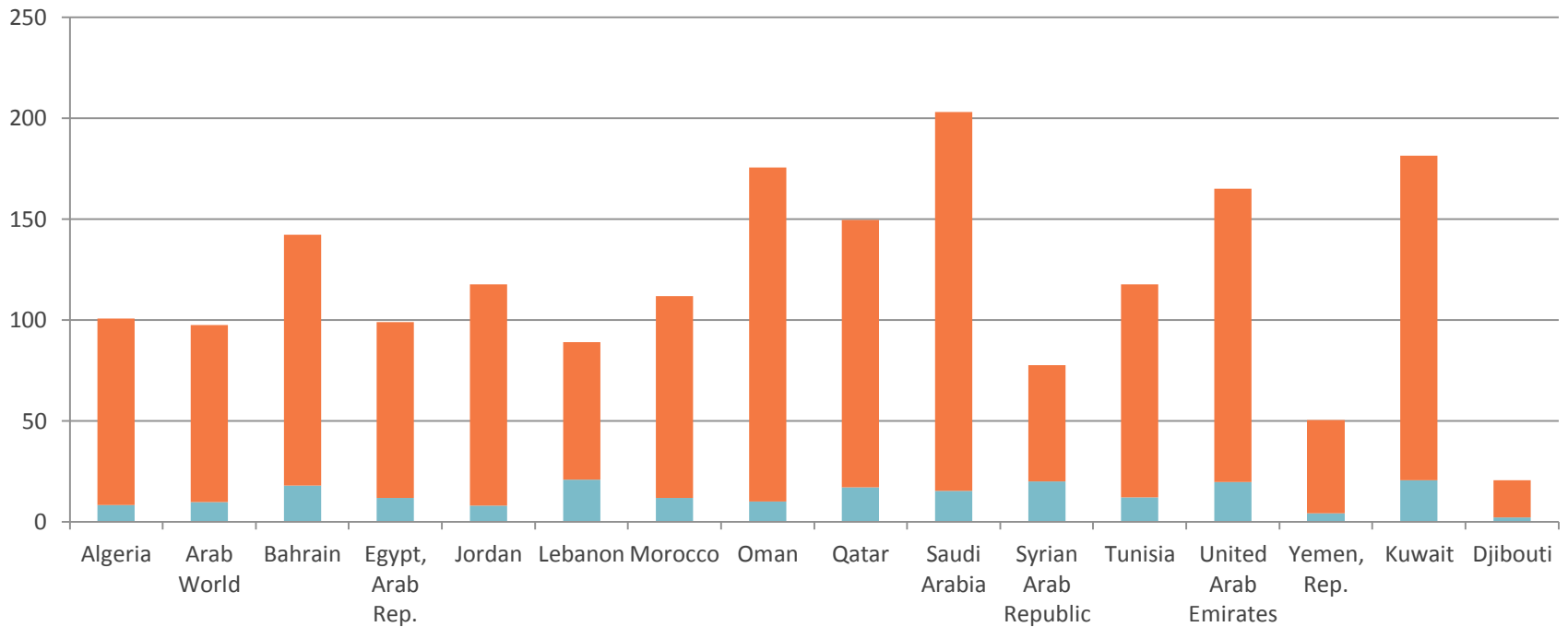
# INFORMATION AND COMMUNICATION TECHNOLOGY







# Mobile and fixed-line telephone penetration in the Arab world, 2010



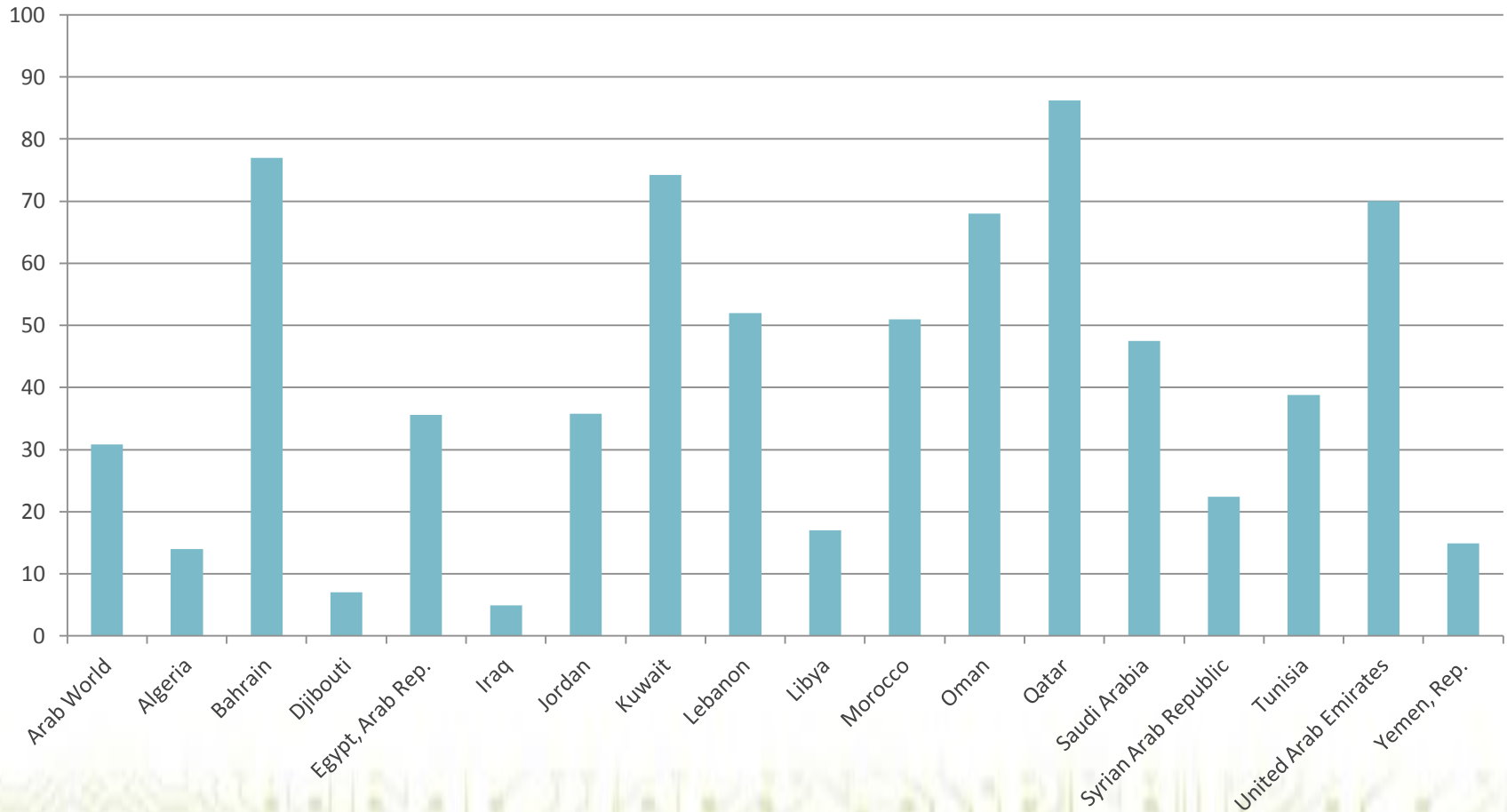
■ Mobile cellular subscriptions (per 100 people), 2010

■ Telephone lines (per 100 people), 2010



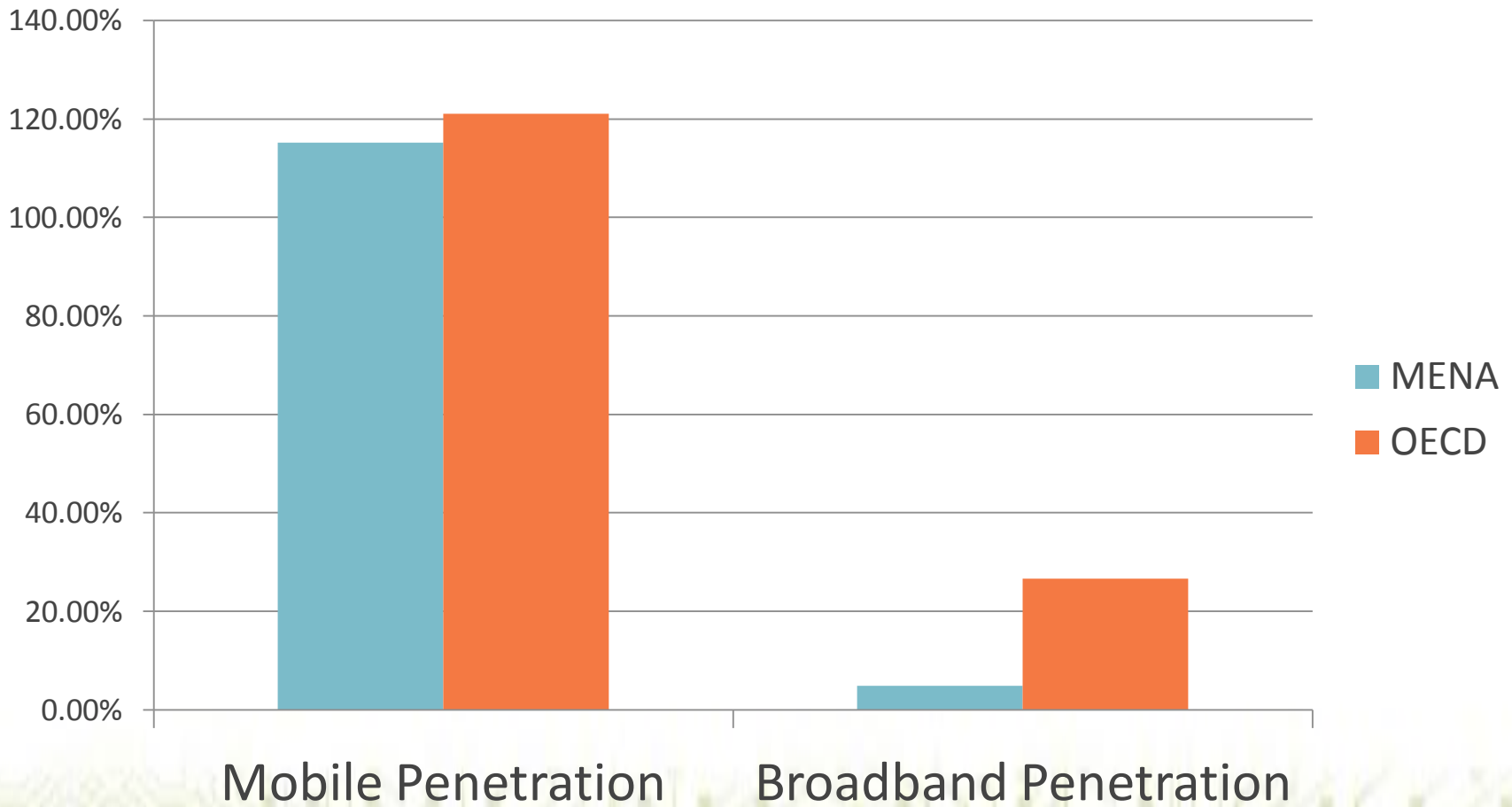


# Internet Users in the Arab World (per 100 persons)





# Regional comparison of mobile and broadband penetration (%)





# Develop an information society

- ◆ Increase broadband penetration
- ◆ Strengthen competition in ICT markets
- ◆ Make more effective use of ICT applications, including for delivery of government services
- ◆ Improve workers' IT skills
- ◆ Develop content in Arabic
- ◆ Enhance regional cooperation to build an information society that benefits all

# DIVERSIFICATION AND LOCAL AND REGIONAL DEVELOPMENT





# Promote growth in new and established sectors

- ◆ Promising niches in new knowledge-based sectors: ICT industries, but also medical and health tourism, creative industries (book, music, and film industries), green energy...
- ◆ Opportunities in established sectors: agribusiness and food processing, chemicals, textiles...
- ◆ Industries with high-tech content may be attractive for some countries: automobiles and aeronautical components
- ◆ Need for packages of actions: training, investments, R&D, international joint ventures....





# Develop dynamic sites and locales

- ◆ Region has invested in a number of S&T parks, but they do not work as innovation spots ...
- ◆ Development of cities, established or new, can be an important source of innovation and high-skill jobs
- ◆ Knowledge and innovation can help to diversify economic activities in rural areas through integrated projects (training, R&D, trade, land reforms, etc).
- ◆ Key role of foreign investors, international R&D networks, trade and exports channels, etc.



# HOW TO IMPLEMENT A KNOWLEDGE- AND INNOVATION-DRIVEN STRATEGY?







# How to implement a knowledge and innovation-driven strategy?

## Lessons from success stories around the world

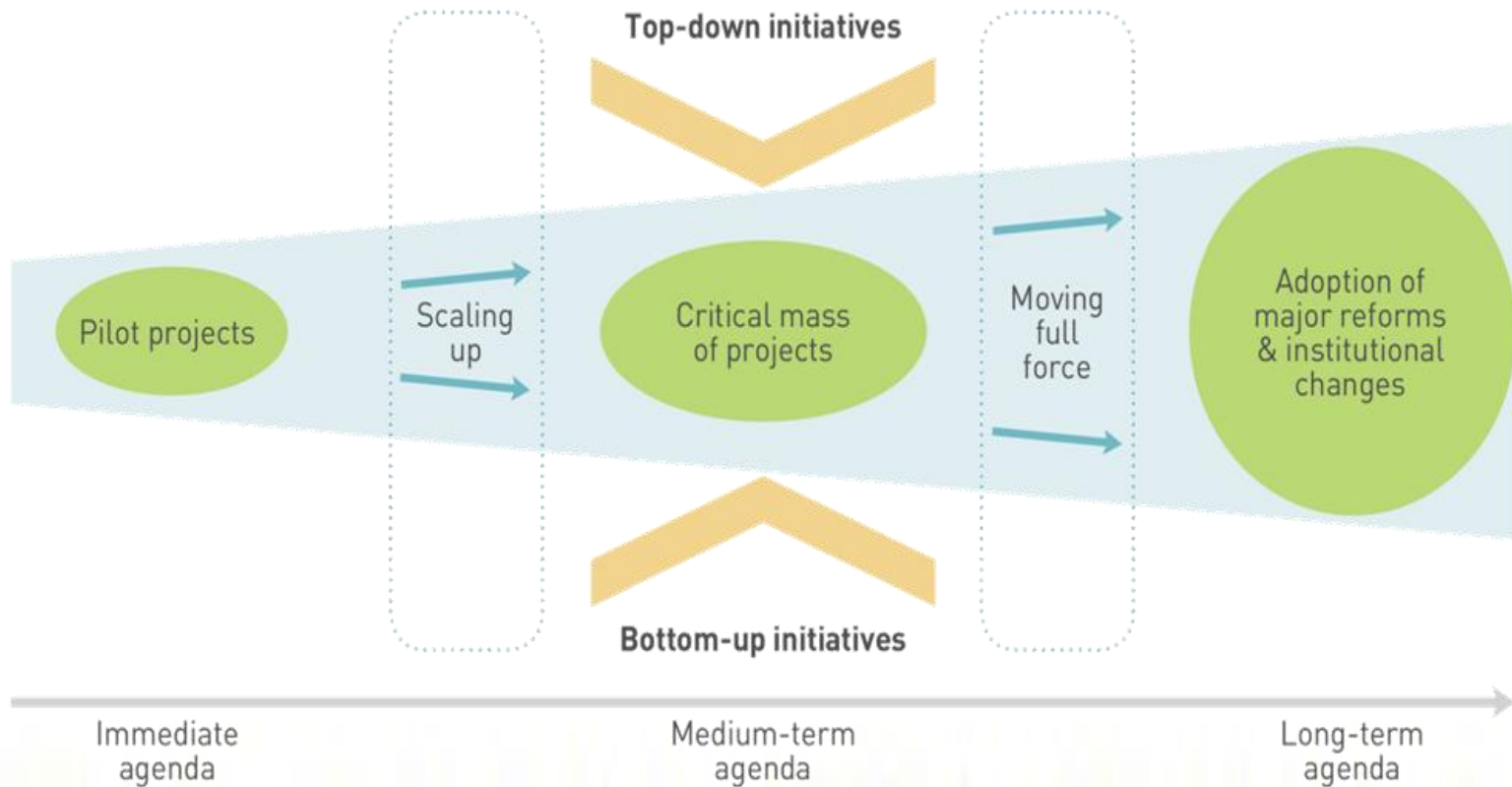
- ◆ Adapt the model to country specificities, development level, and government capabilities....but
- ◆ Move with ambition and speed
- ◆ Coordinate policies at highest level of government as a KE strategy is a cross-cutting one
- ◆ Mobilize population through a participatory approach, including members of the diaspora
- ◆ Engineer change from micro initiatives to macro changes





# How to implement a knowledge- and innovation-driven strategy?

## A pragmatic agenda: From micro reforms to major changes



Source: World Bank 2007a.





# Need for greater integration in the Arab world and the Mediterranean

- ◆ Key role of professional networks, joint projects, transfer of technologies and competences
- ◆ Common investments to create critical mass
- ◆ Emulate the experience of countries that have taken a leadership role
- ◆ Take advantage of complementarities
- ◆ Cross-regional networks of change agents.



# Main messages

- ◆ Need for new development strategies based on innovation and knowledge
- ◆ National Vision, top level coordination, bottom up participation
- ◆ Deepen and expand reforms in key policy fields: Education, Innovation system, ICT and Business environment
- ◆ Focus on low hanging fruits: high yield reforms and sectors and sites with rapid growth potential
- ◆ Integration in the Arab world and the Mediterranean.



**Thank You!**  
**Merci!**

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