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- Goes well beyond R&D in high-tech sectors
- Products, processes, organisational and marketing methods **new to the firm**
- Firms need to adopt, adapt and advance towards the technological frontier



# WBG-EBRD-EIB MENA Enterprise Survey (ES) (2013-15)

- Firm-level survey with the objective to gain an understanding of firms' perception of the environment in which they operate
- Representative sample, stratified by sector, size and region (5+ employees, manufacturing and services)

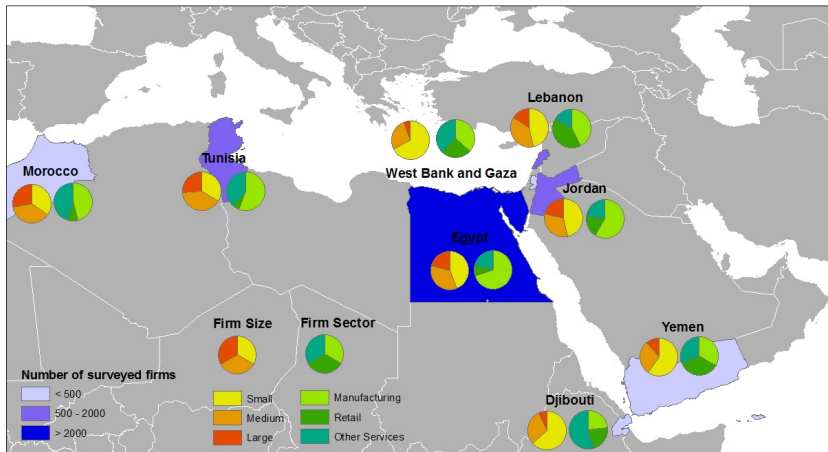


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- Representative sample, stratified by sector, size and region (5+ employees, manufacturing and services)
- Approximately 6,500 face-to-face interviews with top managers of registered firms in 9 economies, of which almost 5,500 in South Med economies (excl. Israel)
- Comparable data are available for 30 economies in Europe and Central Asia (ECA) → EBRD-WB BEEPS



# MENA ES characteristics



# Measurement of innovation in MENA ES

- Main questionnaire:
  - Yes/no questions on whether their firm has introduced any new or significantly improved products, processes, organisational or marketing methods or spent on R&D in the last three years
  - Cards containing examples of innovative products, processes, organisational or marketing methods to foster a common understanding of what innovation is (some differences by sector)





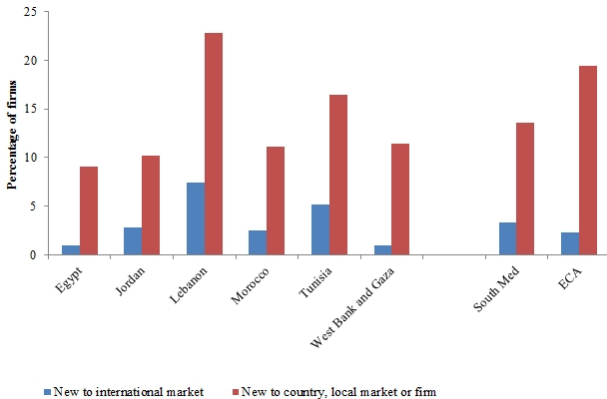
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- Innovation Module:
  - More detailed questions, including description of the main product or process innovation



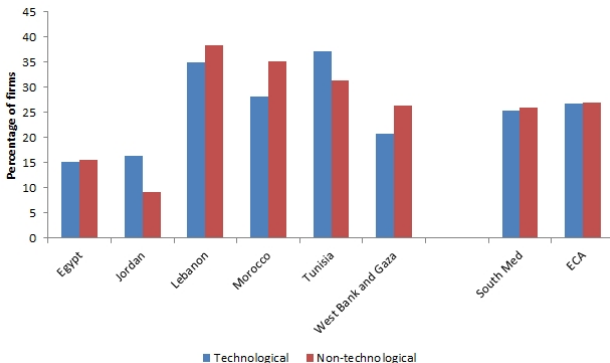
# Most innovations are not ground-breaking

- The adoption (and adaptation) of existing products and processes is particularly important for emerging markets and developing economies - including those in South Med



# South Med firms engage in all types of innovation

- Firms in less developed economies may find it easier to innovate by adapting existing products to local conditions or upgrading machinery and equipment



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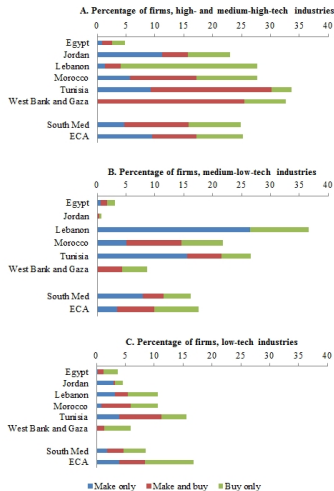


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- Acquisition of knowledge does not always lead to successful innovation and vice versa

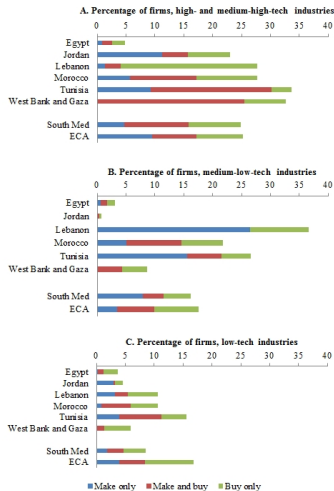


# South Med's low-tech sectors are less likely to acquire knowledge than their ECA peers



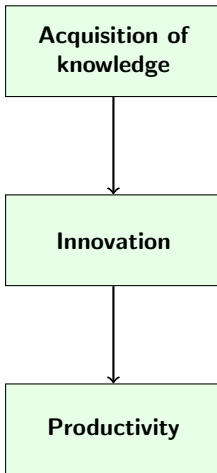
# South Med's low-tech sectors are less likely to acquire knowledge than their ECA peers

- South Med compares favorably to ECA in higher-tech and medium-low-tech manufacturing sectors, but lags statistically significantly behind in low-tech sectors
- Differences due to exposure to the international market, participation in global value chains (GVCs)





# CDM Model: What are the determinants of innovation and does it pay off?





# Suitably skilled workforce

## Firm-specific human capital matters

Firms that

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## Formal level of education does not appear to play a role

- Exception: formal level of manager's education matters for the decision to acquire knowledge



# Access to knowledge and information

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## More likely to engage in innovative activities

- Manufacturers that both export and import (and possibly participate in GVCs): acquire knowledge, technological innovation
- Firms with at least 10 percent foreign ownership: acquire knowledge, technological innovation
- Firms that use email to communicate with their clients or suppliers: technological and non-technological innovation

# Access to finance

## Banks

- might not be willing or able to fund innovative firms at the technological frontier, but they might fund firms that innovate by imitation
- provide firms with working capital or short-term loans, which can free up internal resources that the firms can use to finance innovation



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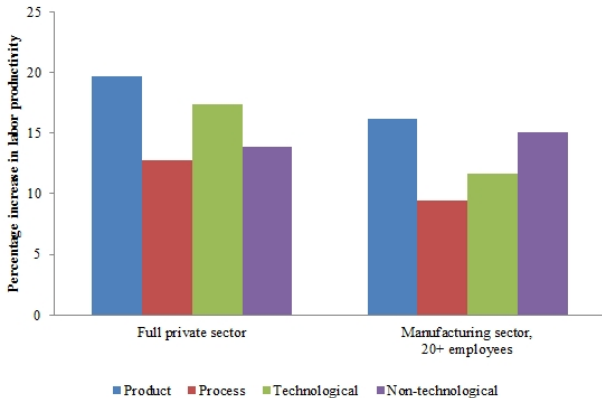
Firms with a loan or a line of credit are more likely to introduce new products, processes or both





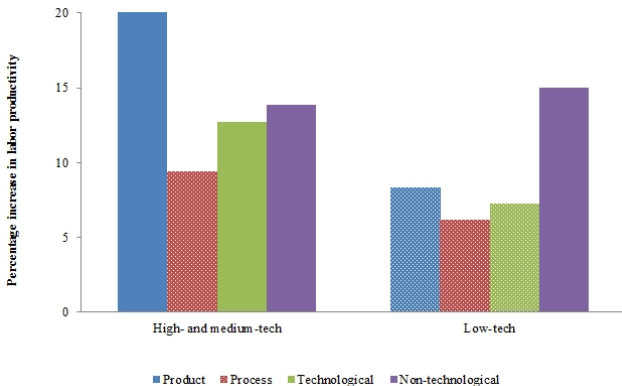
# Productivity pay-offs

- All types of innovation are associated with higher labour productivity in both the full private sector and in particular in the manufacturing sector with more than 20 employees



# Productivity pay-offs by technological intensity

- High-tech manufacturing firms benefit most from product innovation, while low-tech manufacturing firms benefit most from non-technological innovation



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- 2 Government should facilitate improvements in the skills of the workforce
- 3 Restrictions to firm entry and exit as well as restrictions that give incumbent firms undue advantage should be removed





# Breakdown of interviews in MENA ES

	<b>Completed</b>	<i>Manufacturing</i>	<i>Services</i>	<i>Innovation</i>
Djibouti	266	64	202	143
Egypt	2897	2055	842	1709
Israel	483	222	261	228
Jordan	573	380	193	328
Lebanon	561	243	318	358
Morocco	407	209	198	242
Tunisia	592	331	261	430
West Bank and Gaza	434	163	271	177
Yemen	353	128	225	198
<b>Total</b>	<b>6566</b>	<b>3795</b>	<b>2771</b>	<b>3813</b>
<b>South Med</b>	<b>5947</b>	<b>3603</b>	<b>2344</b>	<b>3472</b>
<b>South Med excl. Israel</b>	<b>5464</b>	<b>3381</b>	<b>2083</b>	<b>3244</b>

