



Thinking Ahead  
for the Mediterranean

## WP 8 - Scenario building and impact assessment

# Scenarios for Economic and EU-MED Cooperation in 2030

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# Research Line

- Looking beyond the turmoil, our research aimed at re-defining the agenda for sustainable economic growth
- Main thesis: Synergies between cooperation and drivers of sustainable growth can maximize potential
- Cooperation and market integration bringing investment in infrastructure and human capital and combined with stability, better governance and institutional reform, can induce increasing productivity, competitiveness and employment
- We built this synergy mechanism in a detailed computable general equilibrium model (GEM-E3-MEDPRO) and we quantified contrasted economic scenarios

# The model

- General equilibrium modeling: GEM-E3-MEDPRO
- New detailed database for the 11 SEM countries that goes beyond GTAP and was made available
- The model covers multiple sectors and is global
  - 19 countries/regions, including the 11 SEM countries, the EU and rest of world regions (all linked through endogenous bilateral trade)
  - 23 economic sectors of activity
  - Fully detailed social accounting matrices
  - Detailed bilateral trade modeling
  - Dynamic, investment driven, general equilibrium projections up to 2030

# New built-in mechanisms

1. Factor productivities improve driven by investment in infrastructure and human capital
2. Infrastructures modeled: electricity, telecommunications, transport, water/sanitation
3. Risk premium influencing investment reduces as a result of better governance and institutional reforms
4. Interest rates decrease as a result of financial system integration
5. Trade liberalization removing tariff and non tariff barriers enable efficiency and reduce costs
6. Labor participation increases (e.g. female labor) and demographic trends moderate driven by societal changes accompanying growth
7. New growth is simulated while maintaining sustainability for public budget and trade balance by SEM country

# The scenarios

- As defined in Ayadi and Sessa (2011)
  - QI or Reference: Continuation of past trends in the SEM countries and in Euro-Mediterranean policies
  - QII: Sustainable development under an enhanced “EU-SEM” cooperation
  - QIII: Sustainable development of MED countries under diversified cooperation
  - QN: Sustainable development under enhanced multi-lateral cooperation and global opening
  - QIV: The SEM region under threats
- The parameterization of the above scenarios has relied on the studies carried out in MEDPRO project by the different partners on various sectors and topics

# The Reference scenario (QI)

- Assuming continuation of past trends, QI involves investment in infrastructure, some degree of trade opening and institutional improvements
- It shows sustained economic growth up to 2030
- But it fails to exploit the full growth potential of the SEM region, as it does not include enhanced cooperation, market integration and acceleration of reforms
- Past weaknesses remain, including slow efficiency and productivity improvement pace, excessive dependence on hydrocarbon revenues in some countries and lack of integration among sectors of activity
- The Reference scenario projects a more optimistic growth pattern for Israel and Turkey, in contrast with projections for the rest of the SEM countries which do not overcome weaknesses

	Avg. annual growth rate 2010-2030 (%)		
	GDP	Population	GDP/capita
Algeria	3.03	1.23	1.81
Egypt	4.69	1.50	3.13
Israel	4.03	1.33	2.48
Jordan	4.65	2.05	2.90
Lebanon	3.08	0.77	2.45
Libya	4.13	1.12	2.85
Morocco	4.06	0.96	3.11
Palestine	4.24	2.87	1.28
Syria	3.97	1.90	2.27
Tunisia	4.78	0.84	3.83
Turkey	4.09	0.94	3.06
SEMC	4.05	1.28	2.74
Rest of the Arab World	4.17	1.24	2.89
EU27	1.54	0.20	1.34
Emerging Asian economies	7.06	0.79	6.22
Rest of the World	2.59	1.30	1.19
World	3.35	1.01	2.30

# Tapping into Potential

Percentage change of cumulative GDP (up to 2030) by driver in the SEM-EU Cooperation case (QII)	Algeria	Egypt	Israel	Jordan	Lebanon	Libya	Morocco	Syria	Tunisia	Turkey	SEMC
Electricity	1.42	2.70	0.24	0.95	0.64	1.03	0.90	0.81	1.19	0.24	<b>0.73</b>
Human capital	0.81	1.65	0.18	0.60	1.75	1.32	1.20	0.78	1.50	0.71	<b>0.85</b>
Telecommunications	0.07	0.14	0.01	0.12	0.14	0.02	0.05	0.13	0.05	0.02	<b>0.04</b>
Transport	3.81	1.17	0.52	1.71	1.29	4.59	2.81	0.97	2.02	1.24	<b>1.64</b>
Water and sanitation	0.07	0.55	0.00	0.47	0.17	0.18	0.11	0.09	0.04	0.06	<b>0.12</b>
All infrastructures	6.37	5.96	0.89	3.43	3.58	7.08	4.92	2.60	4.59	2.13	<b>3.26</b>
Labour force changes	1.58	0.23	0.53	0.97	0.39	0.11	0.69	1.14	0.75	0.29	<b>0.49</b>
Governance and institutions	4.63	2.67	0.40	1.79	3.47	4.61	2.17	1.18	3.76	1.66	<b>2.16</b>
Trade liberalization	1.77	0.80	0.20	1.65	1.60	2.54	1.11	0.57	3.20	0.21	<b>0.71</b>
<b>All drivers together</b>	<b>16.77</b>	<b>9.99</b>	<b>2.01</b>	<b>8.15</b>	<b>9.45</b>	<b>16.26</b>	<b>9.14</b>	<b>5.66</b>	<b>13.02</b>	<b>4.36</b>	<b>7.03</b>

# Cooperation pays-off and delivers win-win

Cumulative changes up to 2030 in bn\$(2007) relative to the Reference scenario	SEMC			EU		BRICs	
	QII	QIII	QN	QII	QN	QIII	QN
Additional cumulative investment	1072	701	1072				
<i>Financed by</i>	<i>711</i>	<i>449</i>	<i>585</i>	<i>361</i>	<i>361</i>	<i>252</i>	<i>126</i>
Additional cumulative GDP	2896	1753	3368	1321	1493	470	189
Decomposition of GDP gains by driver							
Infrastructure	1429	844					
Labour	213	98					
Risk	944	583					
Trade	310	228					



# The two cooperation orientations have different impacts

Cumulative change of output by sector up to 2030 from Reference scenario	QII	QIII
Energy	4.0	-1.4
Chemical Products	14.8	6.9
Other energy intensive	13.7	-0.1
Electric and Other Equipment goods	29.0	1.7
Transport equipment	18.7	26.6
Rest of Industry	11.1	0.4
Textiles and Clothing	1.5	-12.8
Construction	19.5	14.6
Transport	7.7	-2.4
Communication	11.5	10
Services	5.7	2.8
Percentage change of GDP from Reference scenario	7.0%	4.3%

The cooperation with the EU (QII) exploits complementarities and induces higher gains for SEMC than the diversified cooperation case (QIII) as this involves antagonisms for certain sectors

The cooperation with the EU (QII) leads to more balanced growth of the SEMC in terms of industrial integration

# The threats scenario projects gloomy future for SEMC

Percentage changes in QIV, in cumulative terms up to 2030, from Reference scenario

	capital stock	GDP	Employment
Algeria	-10	-11.7	-2.08
Egypt	-12	-12.2	-1.15
Israel	-14	-16.6	-6.92
Jordan	-11	-16.6	-4.39
Lebanon	-14	-13.8	-3.79
Libya	-11	-12.4	-2.36
Morocco	-11	-13.8	-1.21
Syria	-11	-11.2	-2.22
Tunisia	-9	-15.0	-1.58
Turkey	-12	-11.8	-0.99
SEMC	-12	-12.7	-1.54
EU		-0.01	

## Drivers

- Capital destruction
- High risk
- Lack of investment
- Inefficient institutions
- Labor force discouragement

# Overall Conclusions

- Both Euro-Mediterranean cooperation policy and the global opening can benefit economic growth in the MED11 countries provided that they induce structural changes favouring economic stability, investment in infrastructure and in human capital and that they are supported by trade liberalisation
- In contrast, presence and escalation of regional tensions will severely affect SEMC economic growth and prosperity
- Improved governance and upgrade of infrastructure singled out as the most effective policies in enhancing the economic performance of SEM countries
- The analysis has pointed out to synergies between investment, trade integration, good governance and institutional reform

# Overall Conclusions

- Cooperation with the EU is found more attractive from the perspective of both the SEMC and the EU
- Investment in the SEM countries, in infrastructure and in production sectors, has a greater potential in the context of cooperation with the EU than in the context of global opening, because of higher complementarity
- Trade integration with the EU has also been found to exert greater positive effects as compared to the case of trade integration with other regions in the world
- The countries in the region will have to cope with significant economic and political reforms over the coming decades. In this process, cooperation policies, in particular with the EU may prove valuable, as the analysis has suggested.



# Thank you!

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# About MEDPRO



<b>Title</b>	MEDPRO – Prospective Analysis for the Mediterranean Region
<b>Description</b>	MEDPRO explores the challenges facing the countries in the South Mediterranean region in the coming decades. The project will undertake a comprehensive foresight analysis to provide a sound scientific underpinning for future policy decisions at both domestic and EU levels.
<b>Mediterranean countries covered</b>	Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine, Syria, Tunisia and Turkey
<b>Coordinator Consortium</b>	Dr. Rym Ayadi, Centre for European Policy Studies (CEPS) Centre for European Policy Studies, <b>CEPS</b> , Belgium; Center for Social and Economic Research, <b>CASE</b> , Poland; Cyprus Center for European and International Affairs, <b>CCEIA</b> , Cyprus; Fondazione Eni Enrico Mattei, <b>FEEM</b> , Italy; Forum Euro-Méditerranéen des Instituts de Sciences Economiques, <b>FEMISE</b> , France; Faculty of Economics and Political Sciences, <b>FEPS</b> , Egypt; Istituto Affari Internazionali, <b>IAI</b> , Italy; Institute of Communication and Computer Systems, <b>ICCS/NTUA</b> , Greece; Institut Europeu de la Mediterrania, <b>IEMed</b> , Spain; Institut Marocain des Relations Internationales, <b>IMRI</b> , Morocco; Istituto di Studi per l'Integrazione dei Sistemi, <b>ISIS</b> , Italy; Institut Tunisien de la Compétitivité et des Etudes Quantitatives, <b>ITCEQ</b> , Tunisia; Mediterranean Agronomic Institute of Bari, <b>MAIB</b> , Italy; Palestine Economic Policy Research Institute, <b>MAS</b> , Palestine; Netherlands Interdisciplinary Demographic Institute, <b>NIDI</b> , Netherlands; Universidad Politecnica de Madrid, <b>UPM</b> , Spain; Centre for European Economic Research, <b>ZEW</b> , Germany
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