

ASECAP -“47th ASECAP DAYS Study & Information Days ”

29-31 May 2019/WestIn Business Hotel Costa Navarino, Messinia, Greece



WIDER SOCIOECONOMIC EFFECTS OF INVESTMENTS IN MOTORWAYS

Dimitrios J. DIMITRIOU

Planning, Management & Economics in Transport
Dr./Professor Assc, Dept. of Economics, DUTh, Greece



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UNIVERSITY
OF THRACE



Dimitriou holds Doctorate in Transport demand forecasting; MSc in Infrastructures Environmental Planning; MSc in Transport Planning & Management; and Diploma (equivalent to 4 years BA & 1 year MSc) in Civil Engineering (sector of transportation).

He is Professor Associate in quantitative modelling for managing transport infrastructure in Dept. of Economics, Democritus University of Thrace and he contributes in other Universities in Greece and Europe. He provides dedicated courses and research in subjects of transport economics, decision making and risk assessment.

He has published over 200 papers in referred journals, scientific and professional editions, international conferences and he has elected in executive positions in professional associations and committees of expert.

He has extended experience (25 years) in field of transportation, delivered many projects in planning, operation, management, business development, investment appraisal and transport economics. He is the Chairman of the BoD in Athens International Airport (since 2016). He occupied many executive positions and he provided advisory in Transport Authorities, Enterprises and Investors for investments in large projects.

In 2017/18 awarded for the Professional Achievements by the British Council and he has elected in prestigious positions in professional associations and forums.

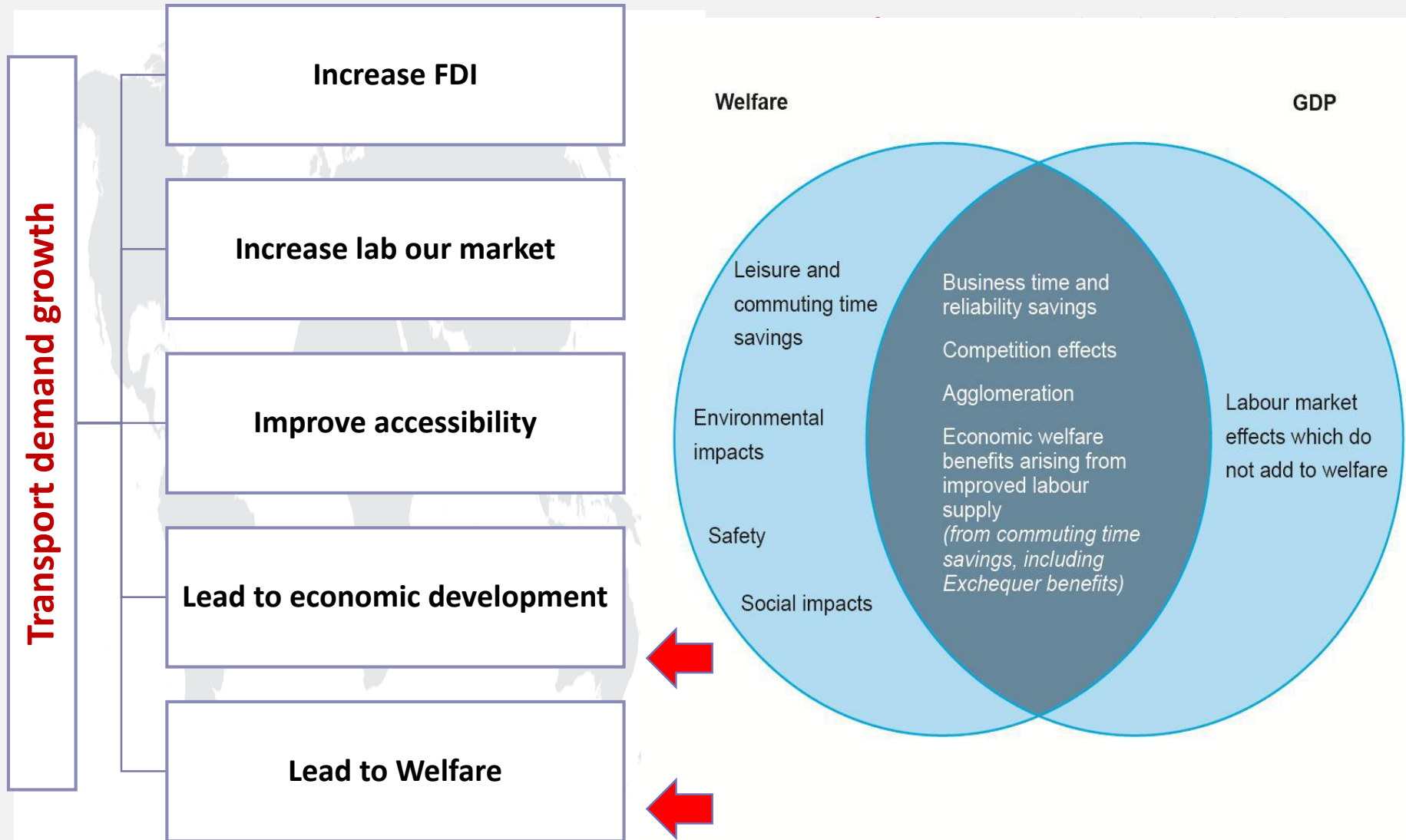


- Key variables of transport demand growth
- Transport trends and prospects
- Transport economic footprint and decision making
- Needs, objectives and methodology framework to estimate transport infrastructure economic effects
- Types, outputs and mechanism of economic development impact
- Highlights on economic contribution of motorways in Greece
- Conclusions



Transport services integration socioeconomic footprint

Dimitriou 2107; INTECH: Mobility, Tourism & Travel Behavior



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Transport sector key business planning variables

Dimitriou, UNECE; 2018

Dimitriou et al.2017, IJESRT, 6(1)

➤ Strategy

- New market development
- Regulation / protection vs deregulation
- Funding – capitals leverage
- Socioeconomic impact

Dimitriou et al., 2018; Transportation procedia

➤ Planning

- New business (routes, destinations, etc)
- Business viability (risk sharing, incentives)
- Intellectual property (new business)
- Benefits return to society (CSR)

Dimitriou, 2017; Mobility as a service, UNECE, Geneva

Dimitriou, 2016; Infrastructure Governance, OECD

➤ Competitiveness

- Regulatory framework
- Monitoring/Review performance
- Analysis of the competition
- Provide information to users/market

Dimitriou, 2018; New Skills, Economist, Athens

➤ Innovation

- New Products - services
- IT – ITS – SMART Business
- Artificial Intelligence – machine learning
- Research (SU)

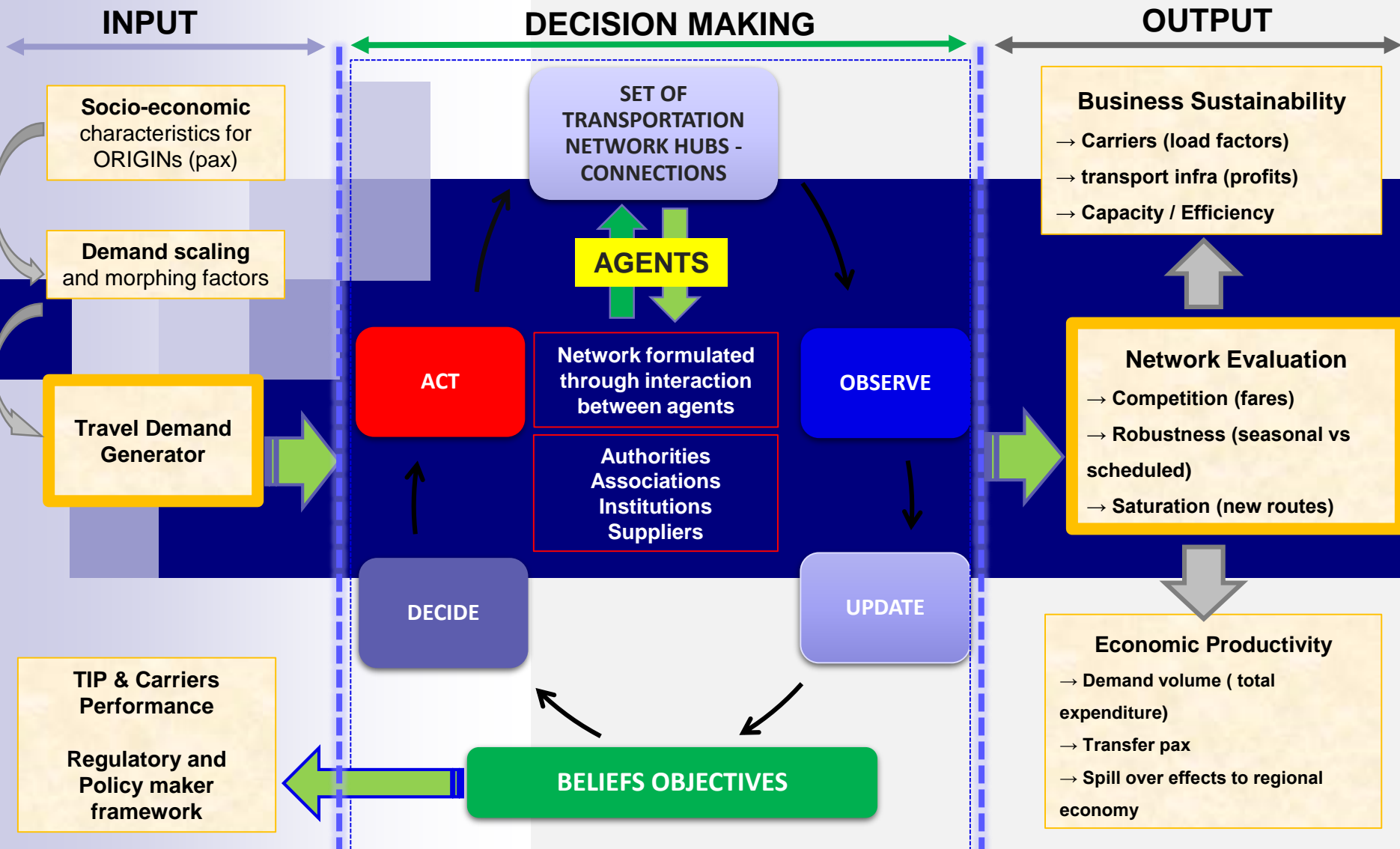


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DM TAXONOMY FOR TRANSPORT INFRA PERFORMANCE (TIP)

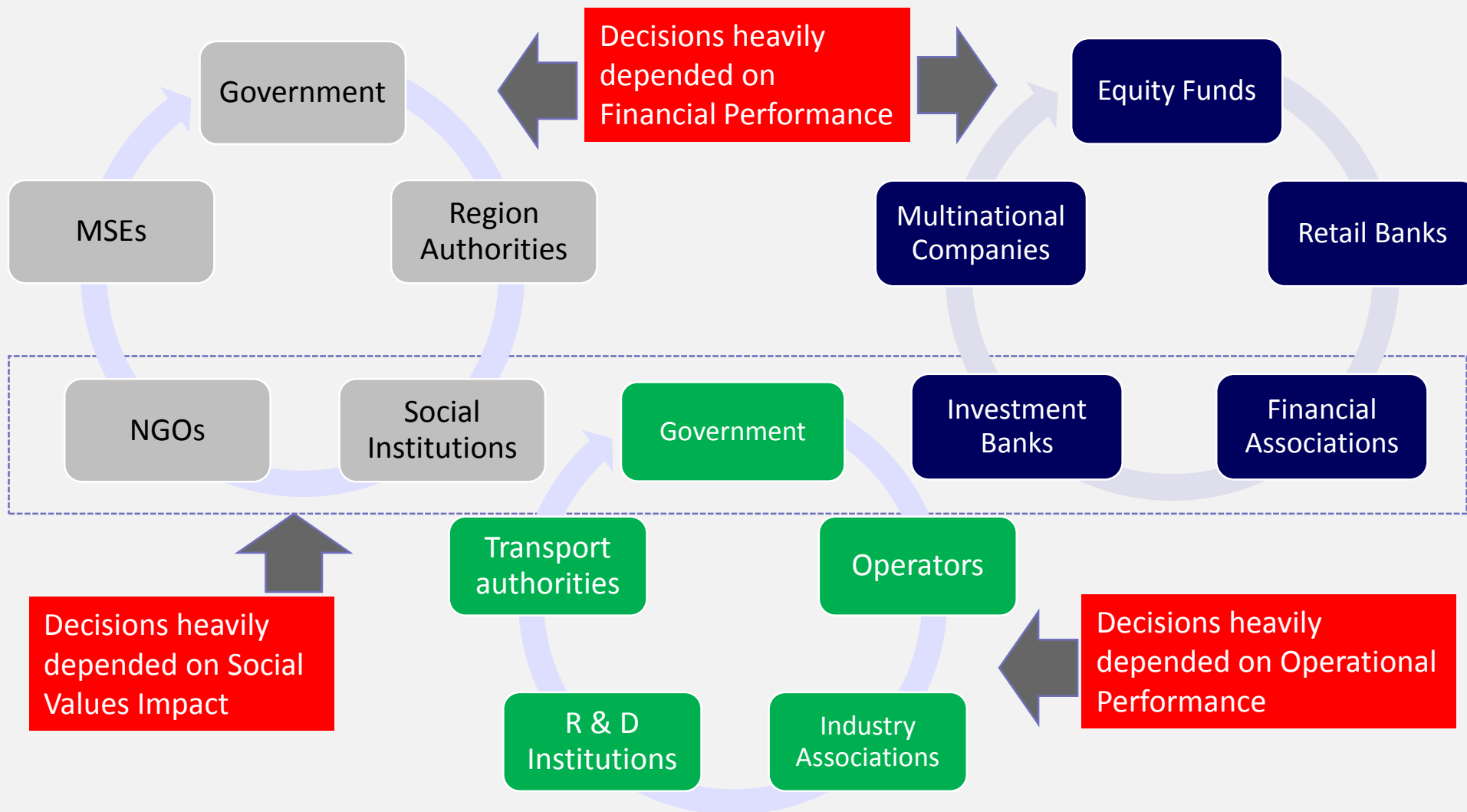


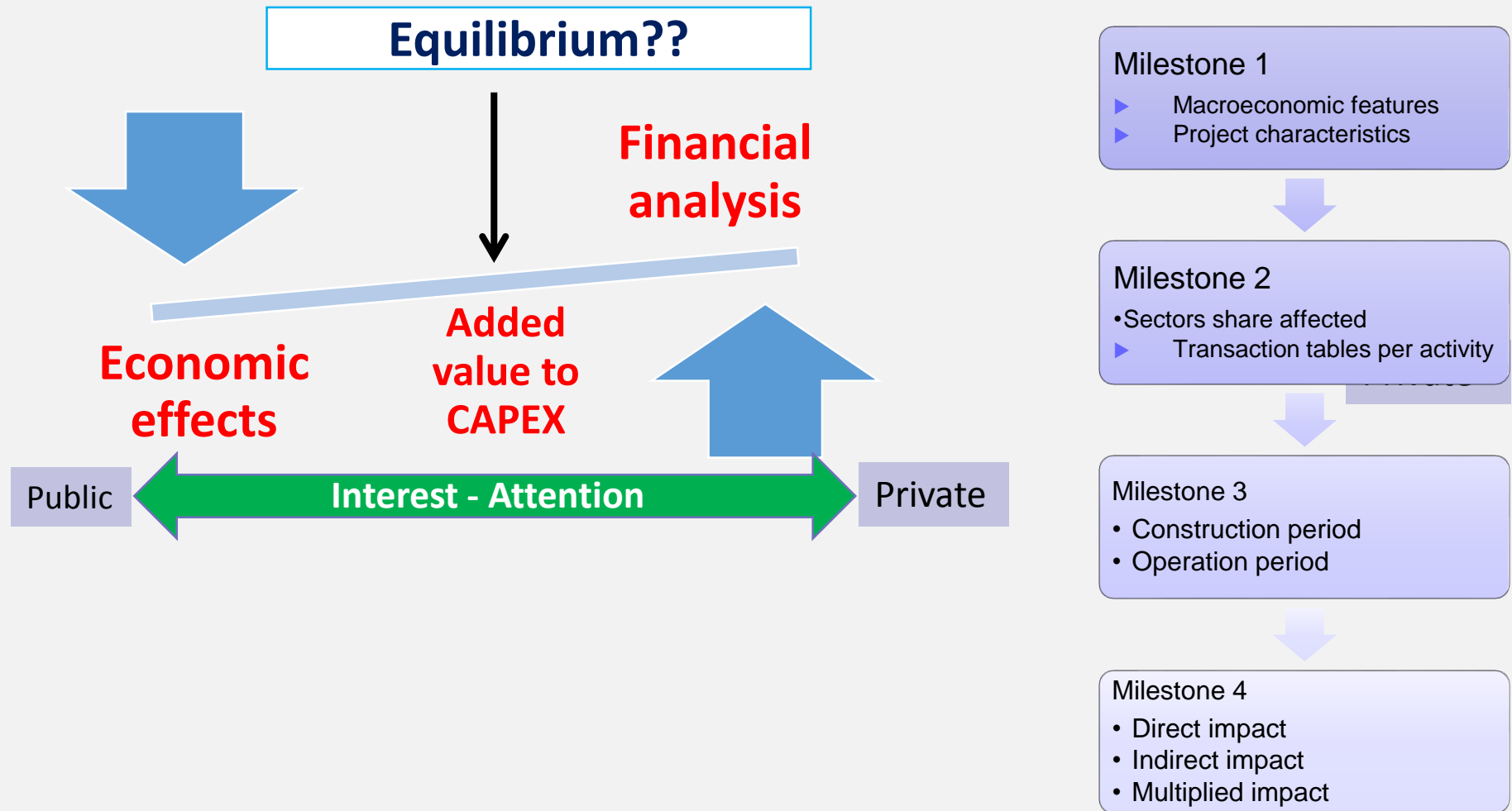
Dimitriou D., (2017). Quantitative evaluation taxonomy for transport infrastructure projects, IJRSM, 4(3), 34-40.

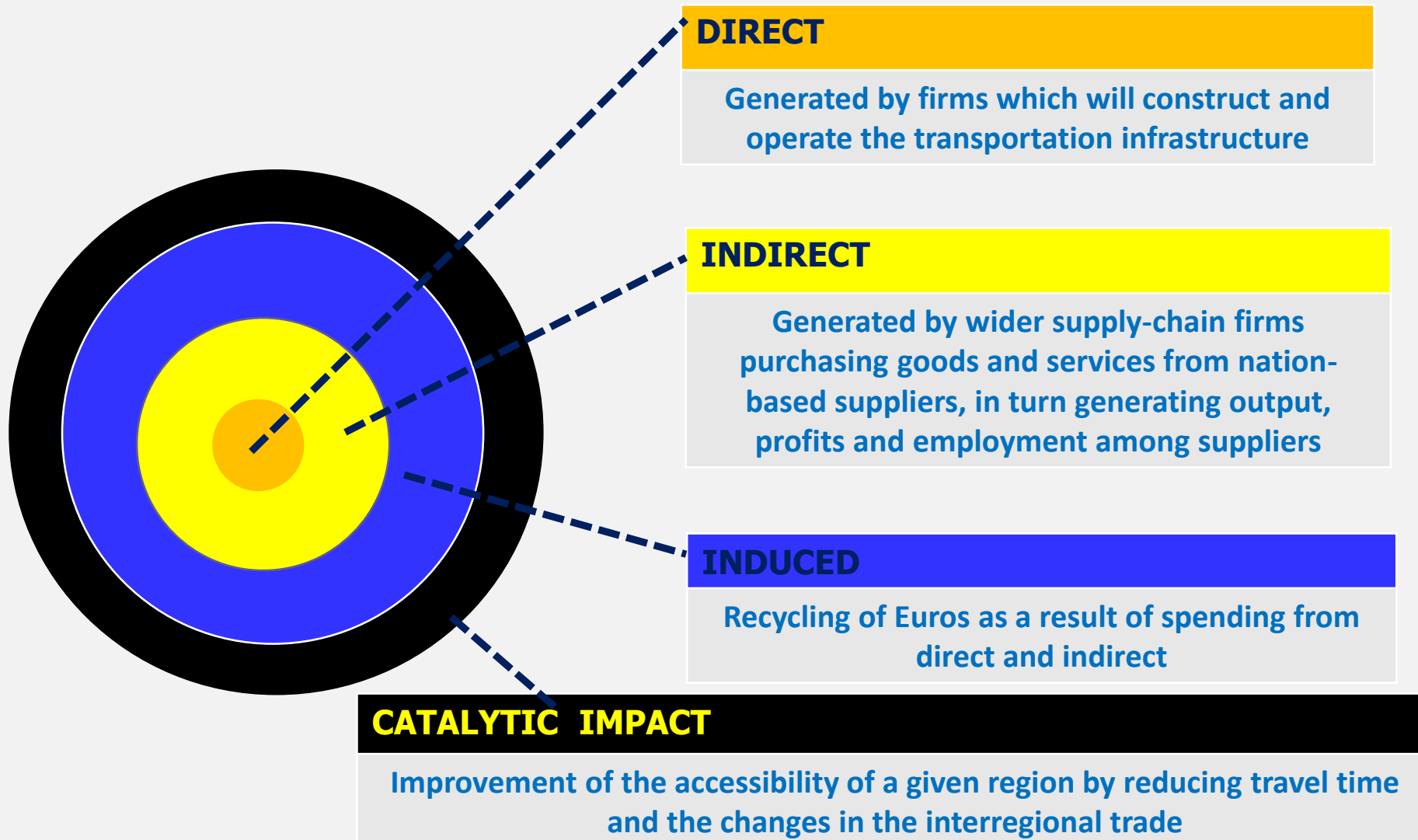
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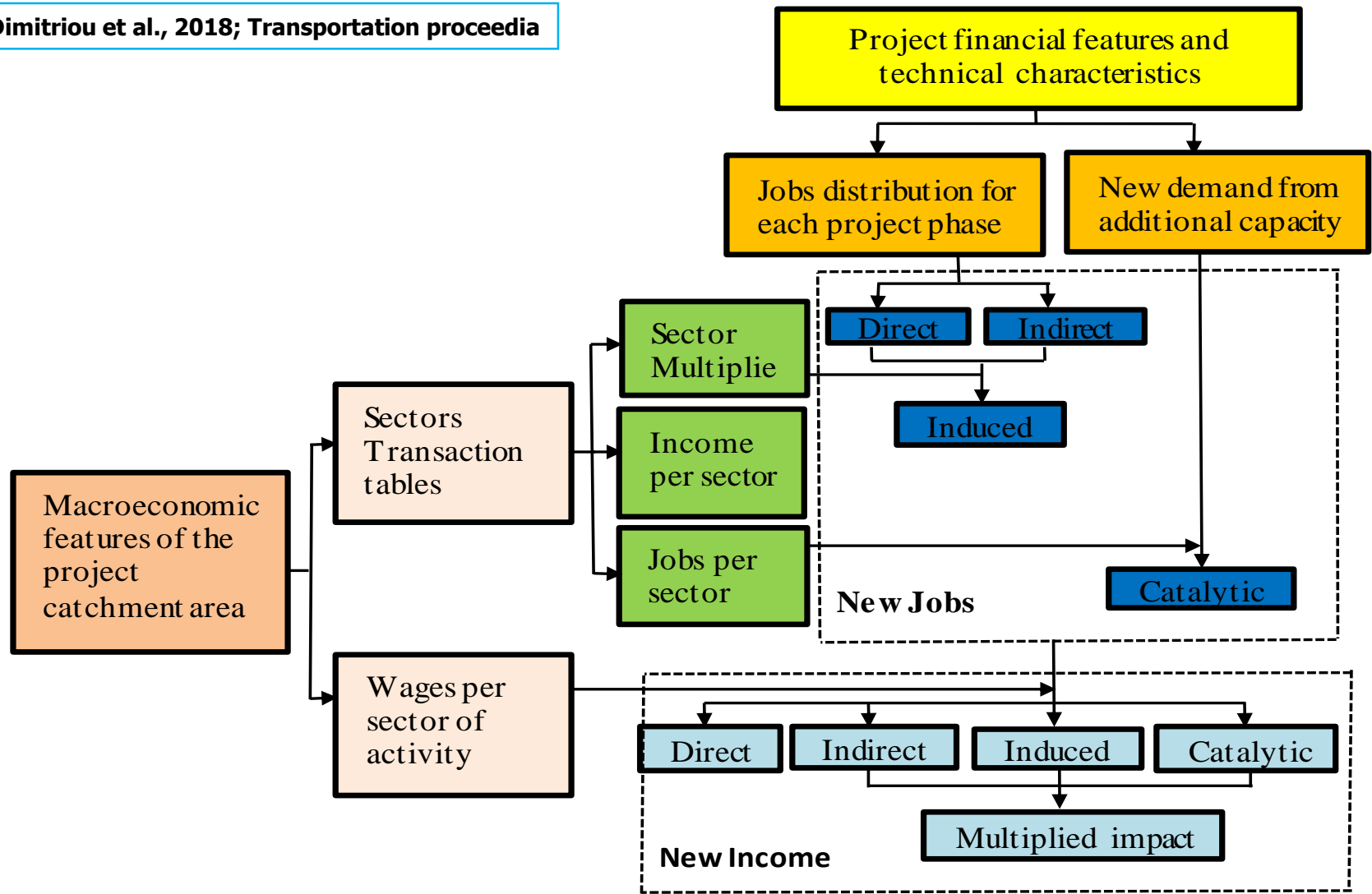




Methodology framework

Dimitriou et al.2015, IJAE,47(40)

Dimitriou et al., 2018; Transportation procedia



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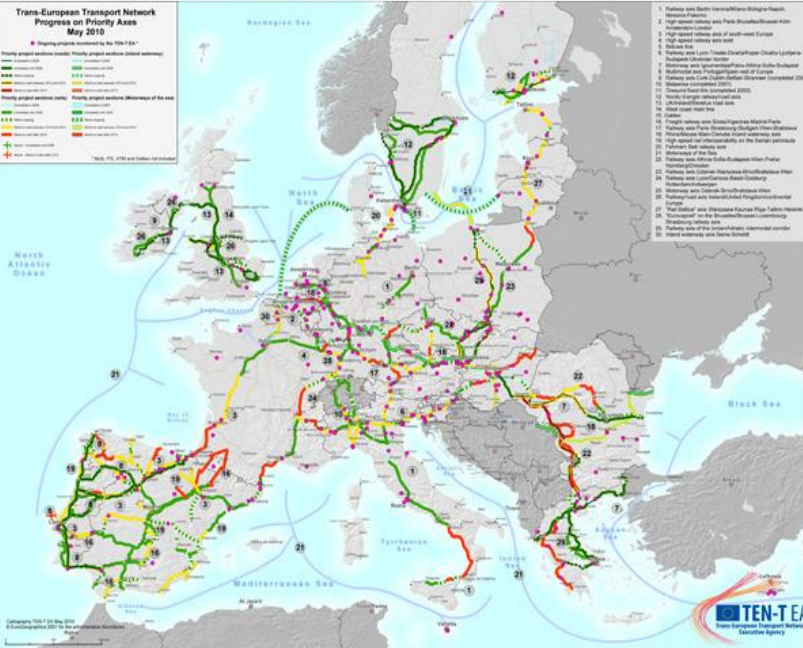


Concession motorways in Greece- Overview of the project

Dimitriou, 2019; submitted for publication

- The motorways are part of the priority projects of the TEN-T network, which connect Greece to the rest of the EU.

TRANS-EUROPEAN TRANSPORT NETWORK



CONCESSION MOTORWAYS	Length to be constructed	Length to be upgraded	Length to be operated
M1: IONIA ODOS	196	172	360
M2: AEGEAN MOTORWAY	25	205	230
M3: OLYMPIA ODOS	284	82	366
M4: CENTRAL GREECE MOTORWAY (E65)	175	-	232



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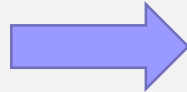


Construction period shared in 3 different periods

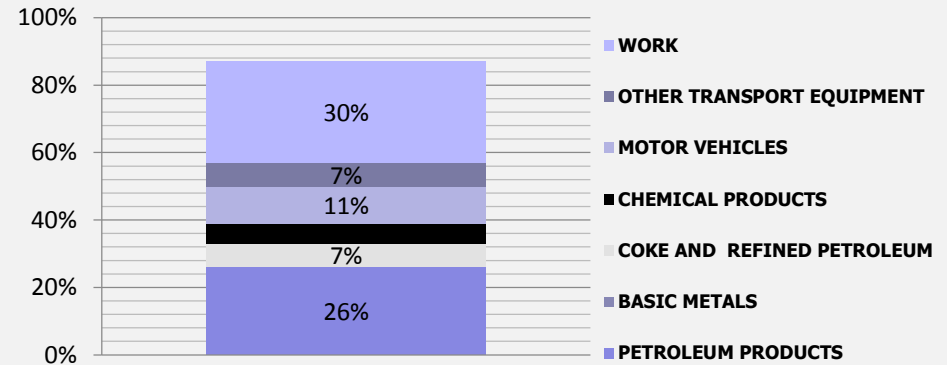
Budget Profile



Motorway concessions	Cost (Bio euro)
IONIA ODOS –M1	1.00
AEGEAN MOTORWAY-M2	0.95
OLYMPIA ODOS-M3	1.40
CENTRAL GREECE(E65)-M4	1.37
Total	4.71



Sectors share



SECTORS SHARE IN CONSTRUCTION PERIOD



Motorway concessions	Construction period (T1) (employees per year)	
	Direct	Indirect
IONIA ODOS –M1	3,500	2,500
AEGEAN MOTORWAY-M2	3,500	2,500
OLYMPIA ODOS-M3	5,000	3,000
CENTRAL GREECE(E65)-M4	4,000	3,000
Total	16,000	11,000



1	CPA_A01	
.....		
4	CPA_B	Coke and refined petroleum products
5	CPA_C10-C12	Chemicals and chemical products
8	CPA_C17	Other non-metallic mineral products
9	CPA_C18	Basic metals
.....		
14	CPA_C23	Motor vehicles, trailers and semi-trailers
15	CPA_C24	Other transport equipment
.....		
21	CPA_C30	Constructions and construction works
.....		
35	CPA_H53	Financial services, except insurance and pension funding
41	CPA_K64	Architectural and engineering services; technical testing and analysis services
.....		
65	CPA_U	

Dimitriou, 2019; submitted for publication

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Cumulative (3 years) socioeconomic footprint

Construction (last 3 years)

Direct and indirect
1231.6 Mio income

113,000 Jobs



Multiplied & Spill over:
1128.7 Mio income

Operation (last 3 years)

Direct and indirect
116 Mio income

9,600 Jobs

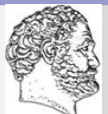


Multiplied: 102.4 Mio income

Spill over: 1,030.5 Mio income

Dimitriou, 2019; submitted for publication

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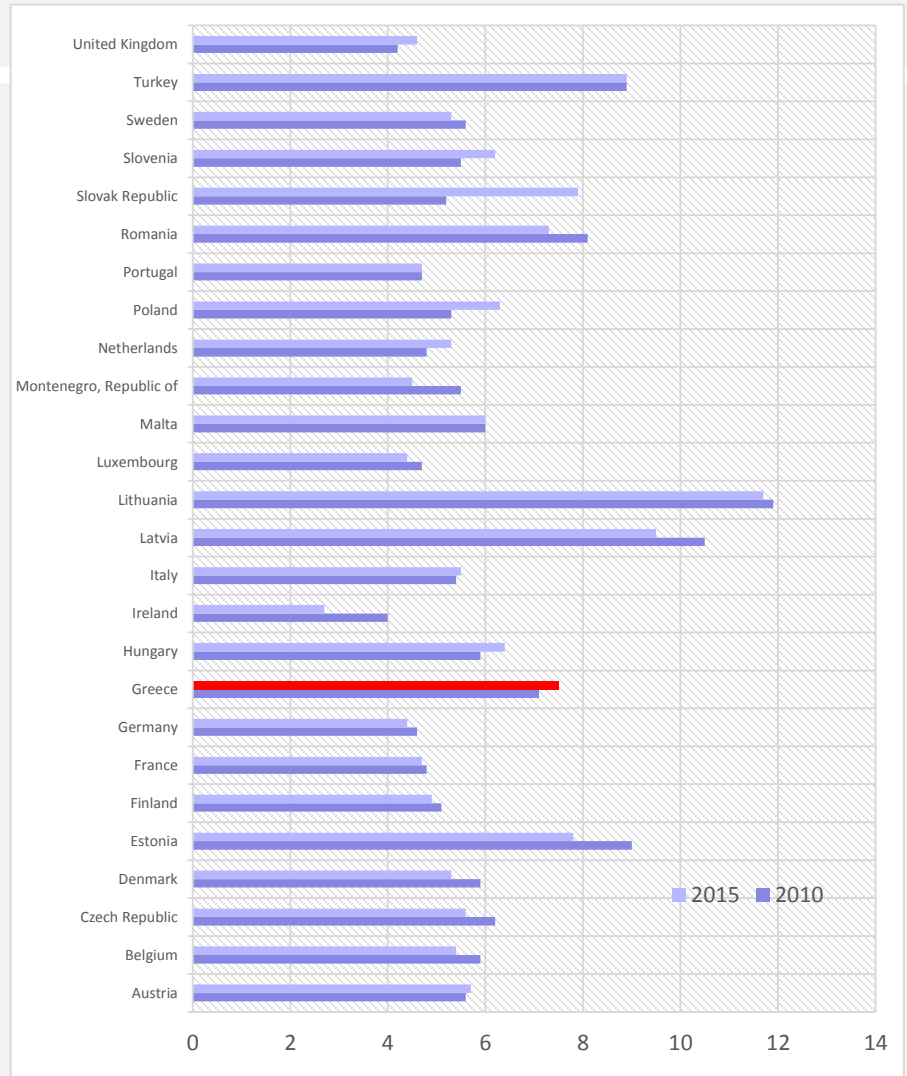
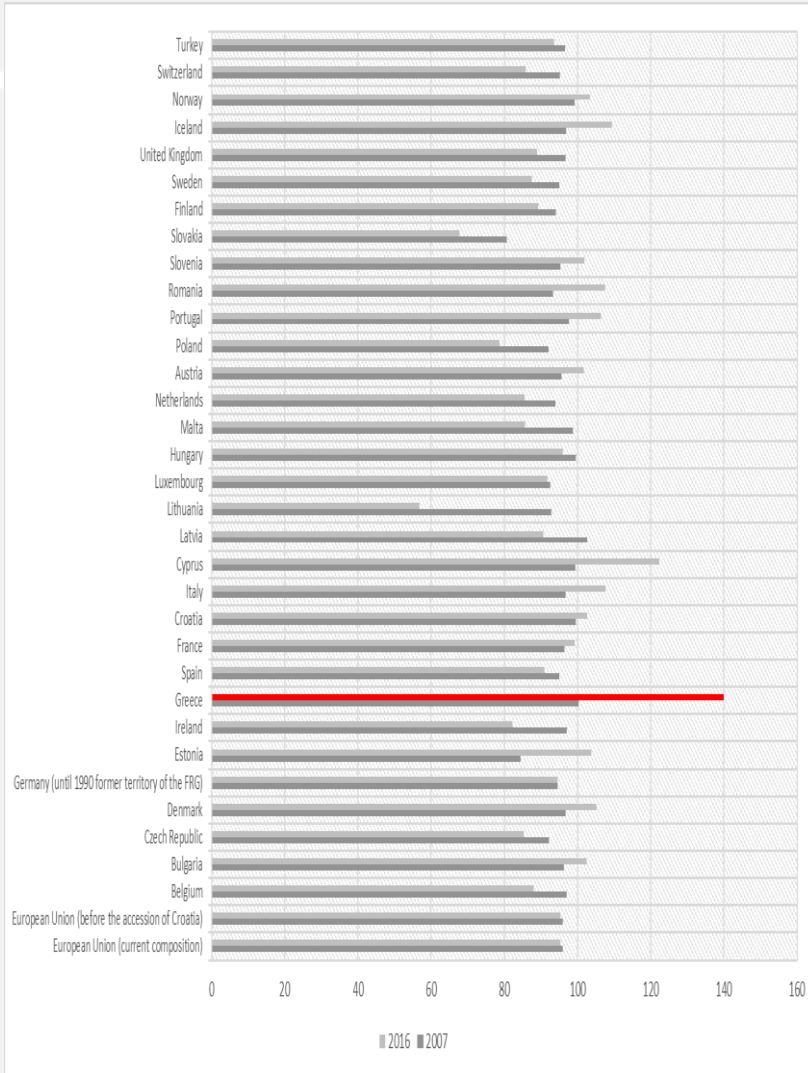


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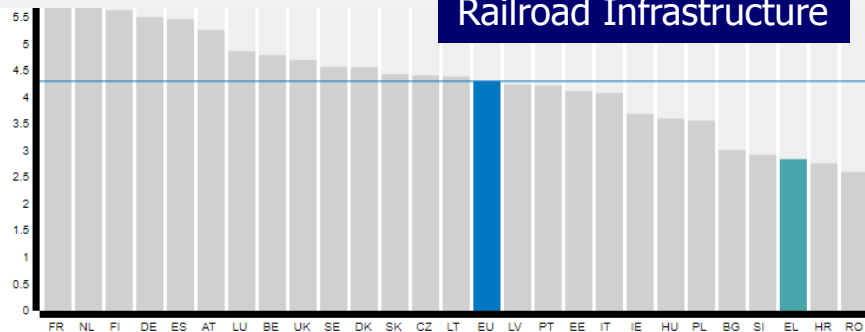
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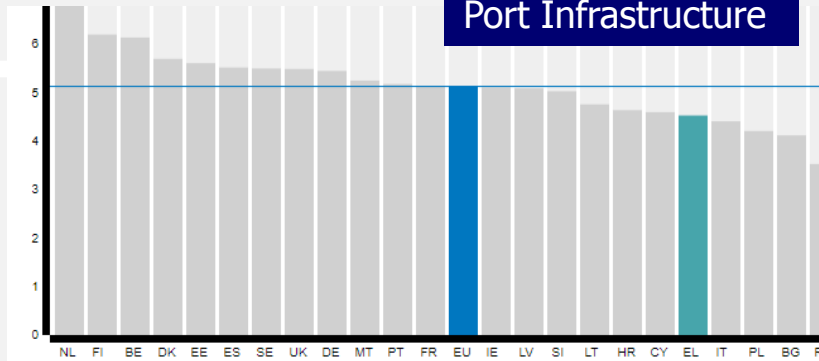




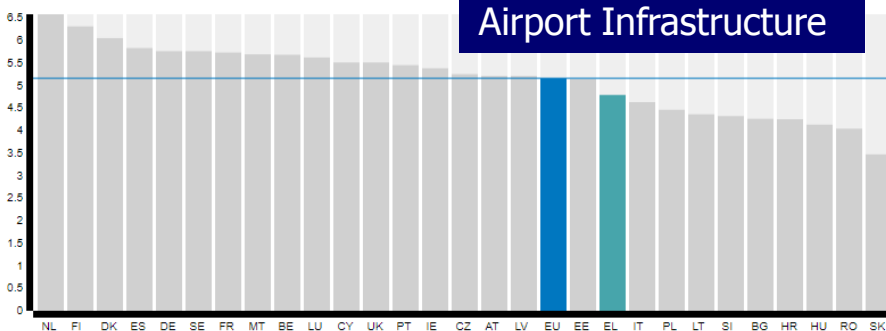
Railroad Infrastructure



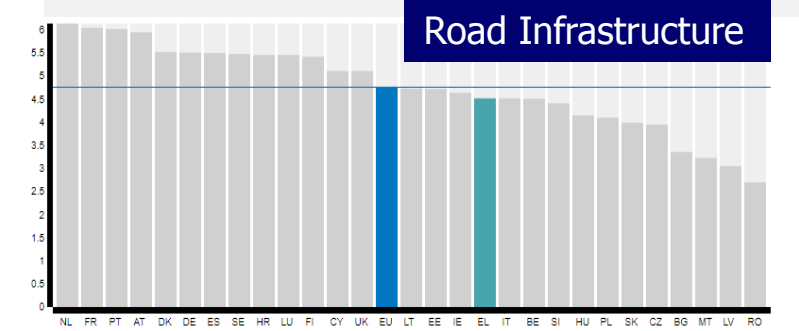
Port Infrastructure



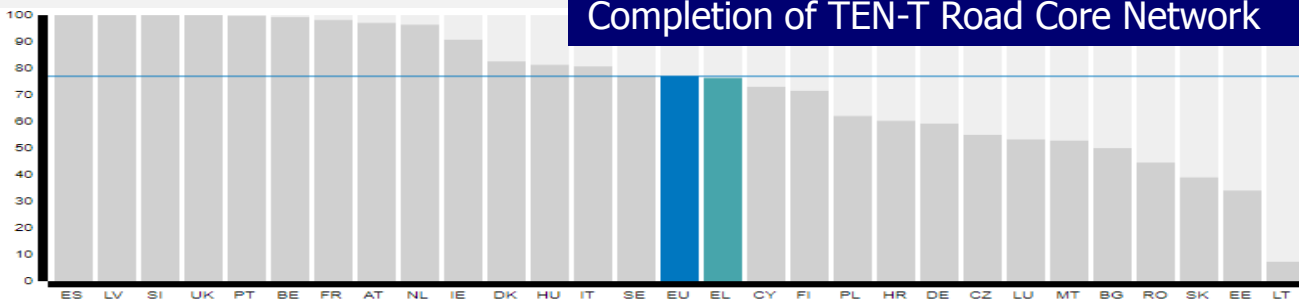
Airport Infrastructure



Road Infrastructure

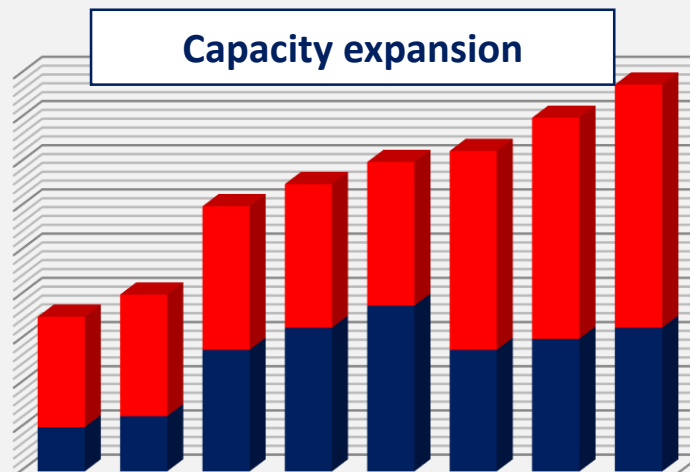
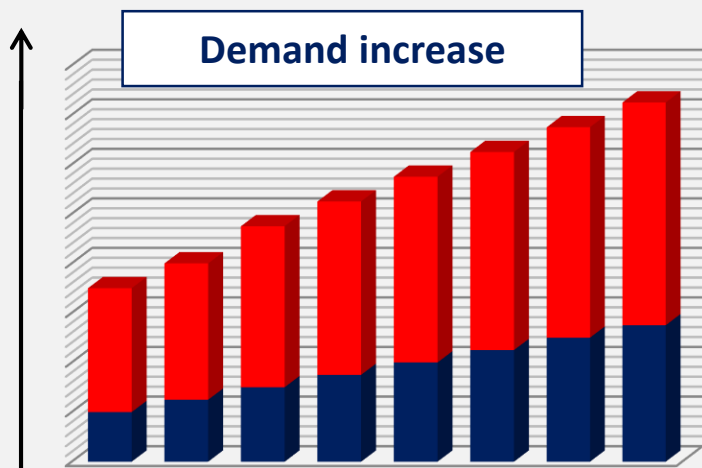


Completion of TEN-T Road Core Network

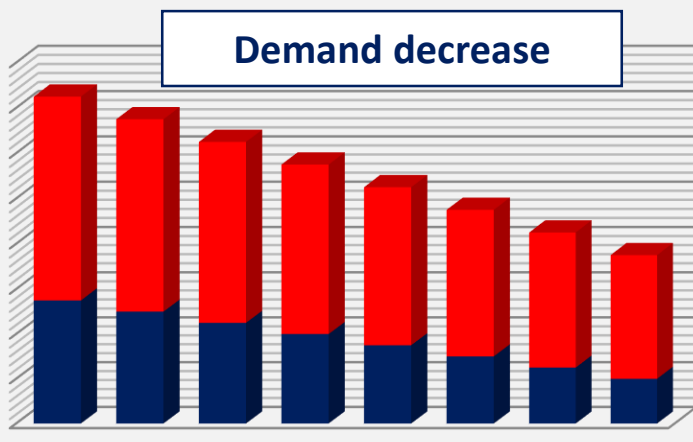


Typical variation for different phases of Mega Transport Infrastructure development

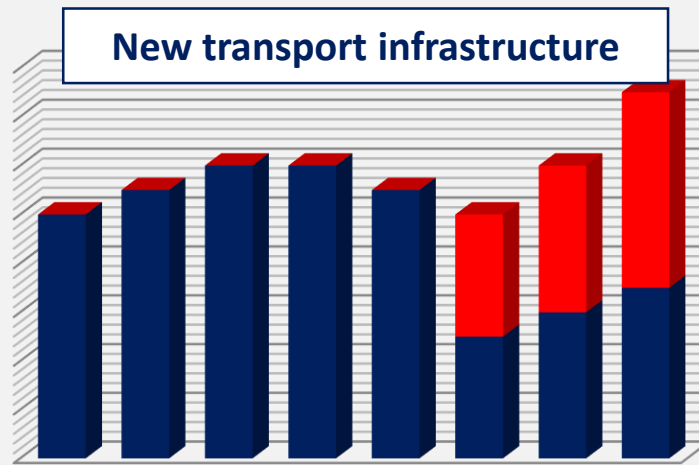
Transport infrastructure /GDP



Typical operation



Investments in new transport infrastructure



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Concluding remarks

- ❖ The results suggest that investment in large transportation infrastructure spurs economic growth and generates employment directly through the actual construction, operation and maintenance of the project but also through indirect and induced multiplier effects across the economy
- ❖ The results show a strong relationship between economic infrastructure investment and sectors of construction, industries including energy and trade
- ❖ The estimated results provide a strong evidence of the existence of long run cointegrating relationship among infrastructure investment ,economic growth, and unemployment reduction
- ❖ The results indicate that for the motorways concession project the economic impacts are highly cyclical with significant short-term employment during construction phases that disappears once the project is in operation.



Concluding remarks

- Why to estimate impacts in national/regional economy?
 - ✓ Estimate the overall contribution in an economic system (regional – national scale)
 - ✓ Estimate the economic impacts on other economic sectors
 - ✓ Provide essential economic and social outputs for a variety of stakeholders involved in decision process (such as Government; authorities; NGOs, etc.)
 - ✓ Monitoring the productivity and the efficiency of air transports in economies

- How significant are the transport industry impacts in Greek economy?
 - ✓ Quick and HIGH impacts in unemployment and business growth
 - ✓ Income multiplier $\div 4$ (construction period) $\div 2$ (operation period)
 - ✓ Act as un FDI providing additional impact to the poorest region of the country
 - ✓ GDP contribution very high



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Thank you

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