
TRAPIST

Quantification of a Port's Market

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Identity of the Research Project

- TRAPIST: Tools and Routines to Assist Ports and Improve Shipping
 - Co-funded by CEC under the Competitive and Sustainable Growth Programme
 - 2-years Duration
 - Strong Industrial Presence (5 ports)
 - Focus on Small and Medium Ports (SMP)

WP02: Quantification of a Port's Market

- Objectives - Results
 - The development of a routine that quantifies the potential of the market (Primary Objective)
 - The development of a validation methodology (Side-Result)
- NTUA (WP Leader)
- Use of ThPA as reference - port

Work-plan

1. Literature Review and Current Practices Analysis
2. Development of a Validation Mechanism that compares methodologies
3. Statistics and Flow Data Availability and Analysis
4. Determination of Regional Distributions
5. Estimation of the Impact of Transit Cargoes, Imbalances, External Changes (Enlargement)

Work-plan (Continued)

1. Qualitative Supplement to the Quantitative Information of the previous Package
2. Imbalances of Unitized Cargoes and Mitigation Proposals
3. Routine Formulation
4. Test-Run of the Routine by APB
 - Suggested routines based on generalized cost approach incorporating transportation data

Final Deliverable

- A report of publishable standard that:
 - Summarizes the findings and the results
 - Summarizes the suggested routines and approaches
 - Disseminates the results and conveys further the goals and ideas of TRAPIST
- An MS-Excel application (open-source) for the routine

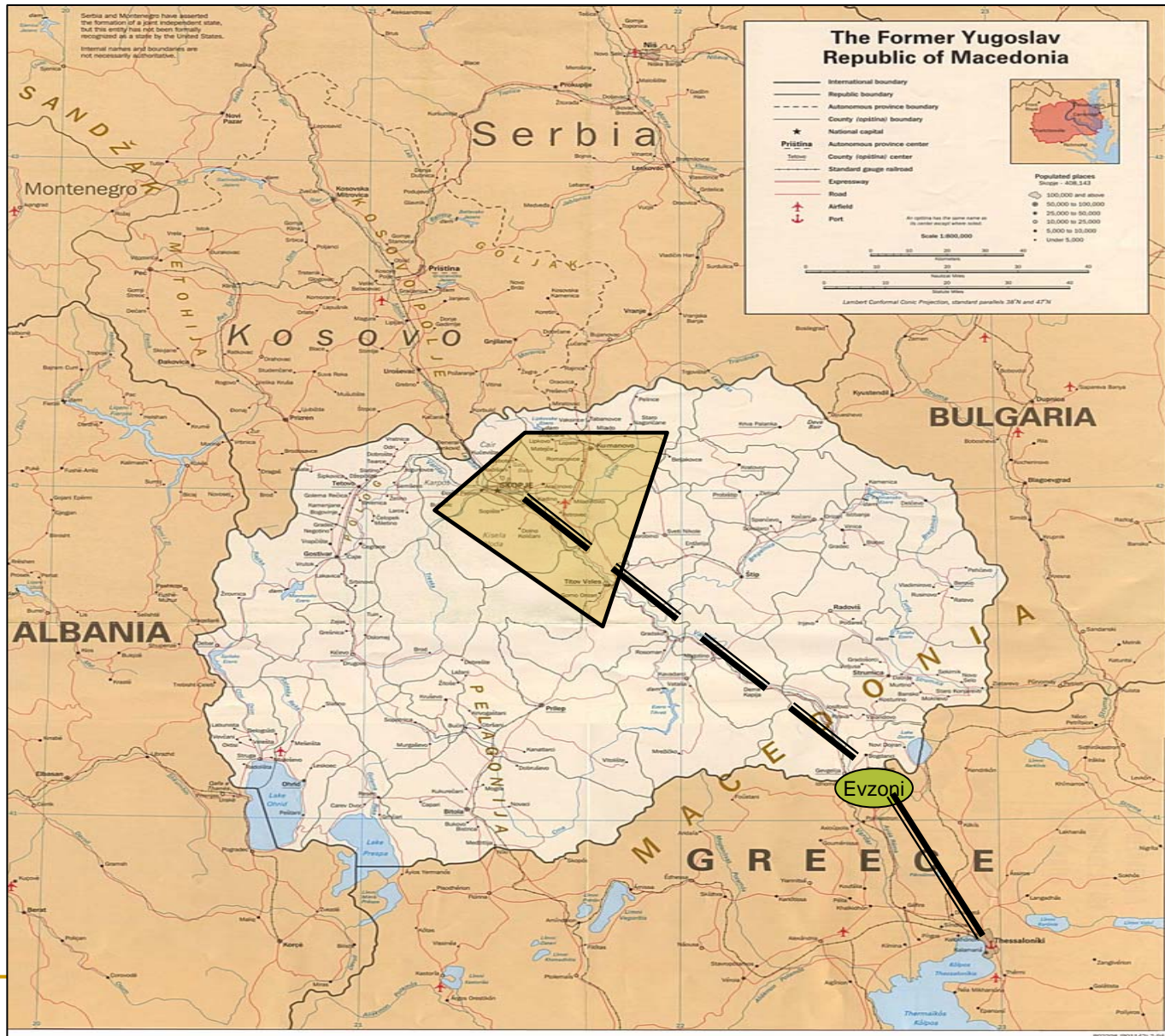
Notes

- The Port of Thessaloniki (ThPA) has been used in ALL deliverables as Reference-Port
- The location of ThPA enabled the NTUA team to deal with several 'hot' issues for SMP (enlargement, third countries, transit movements, local conditions, imbalances)
- Data availability and accuracy is the main obstacle in the design (transport, regional economic, etc)
- Officers of the Port of Bilbao (APB) commended all deliverables adding professional and operational realism to the outcome

Thessaloniki Port Authority (ThPA)



Former Yugoslav Republic of Macedonia



Existing Market and Potential Market

Niche Markets

Currently Served Market

Potential Market

Landbridge



Some Traffic Data (ThPA)

- Bulk and General Cargo Statistics (see table -tons)
- Handling of ~250,000 TEU pa
- ~ 50% of the revenues from the Bulk + General Cargo Traffic
- Actual Gateway to the Balkans – Landbridge - KFOR

	2000	2001	
Total	3,342,137	3,142,477	-6.0%
Local Industries	1,345,554	1,202,325	-10.6%
	40.3%	38.3%	
Industries in FYROM	513,135	352,628	-31.3%
	15.4%	11.2%	
Subtotal Industries	1,858,689	1,554,953	-16.3%
	55.6%	49.5%	
Rest	1,483,448	1,587,524	7.0%
	44.4%	50.5%	

Results From the Research

- Trade and traffic statistics can provide enough information to support marketing decisions.
 - national –aggregate- character
 - no information on the main routes trades follow
 - Production and consumption statistics are available
 - issue of format
 - Trade and traffic statistics alone cannot provide a clear picture of the regional trade

Results (Continued)

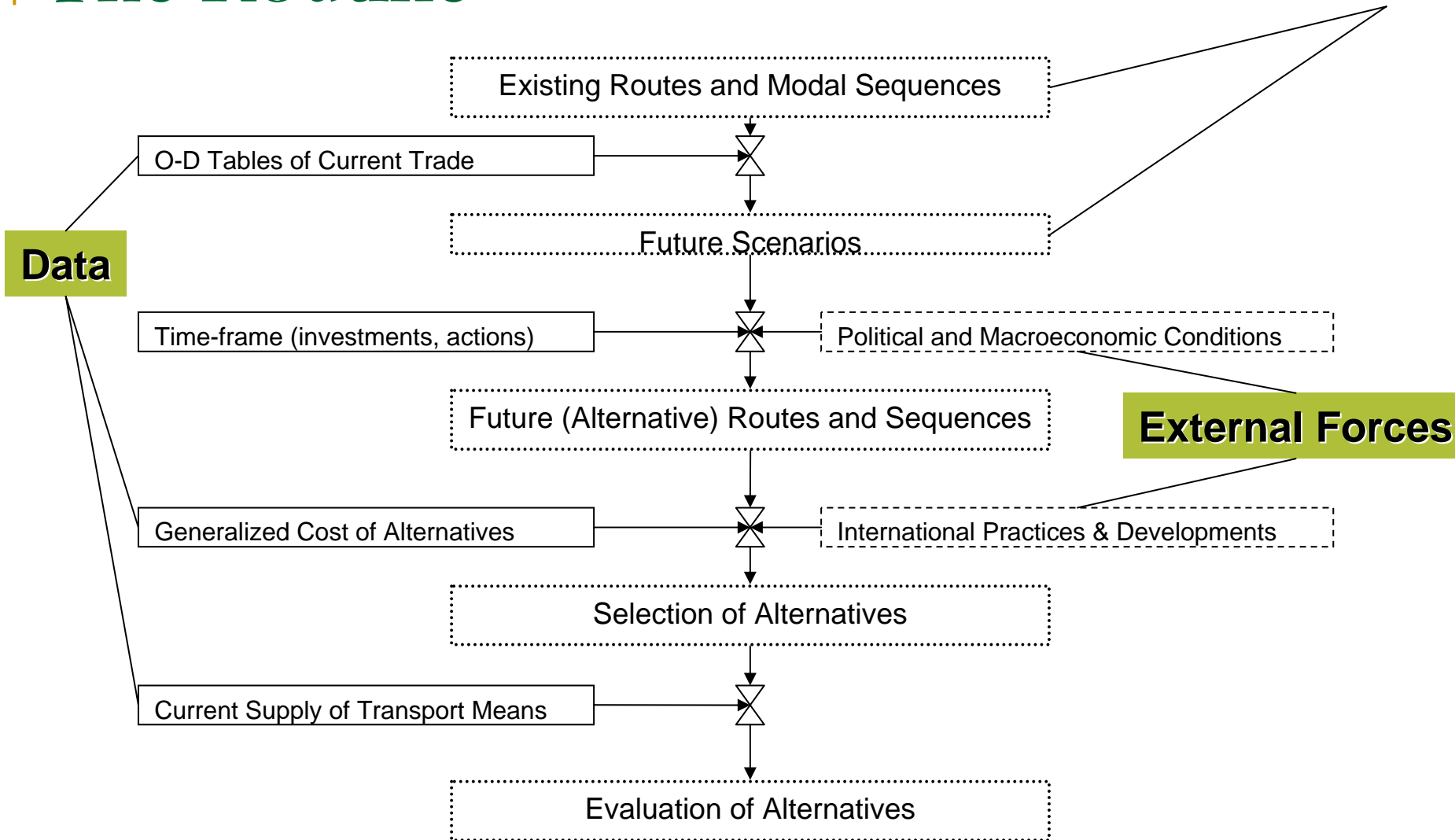
- There is a wealth of macroeconomic information over the regions
 - harmonized format and structure enabling comparisons and decisions
 - traffic through a port is merely dependent on the macroeconomic situation of the region the port serves; this is the case for ports servicing a specific hinterland as a gateway.
 - macroeconomic data have a better time-endurance
 - Not always can macroeconomic factors be correlated to traffic (see the case of Thessaloniki, where aggregate national figures where 'regionalized' by using the population as common factor)

Results (Continued)

- Regarding transit data there is a mixed picture:
 - It is noticeable that not all states in the EU have had interest in transit movements in the past, though there is a changing tide
 - Even if there was a pan-European O-D table for the trade per commodity and per mode it would not fully address the issue of transit movements, as the routes followed by cargoes are not reported.
 - It is expected that in the coming years there would be an official picture of transit movements in the EU. This would be so only if appropriate mechanisms for collecting such data are in place, which is not currently the case, especially for small-to-medium ports.

The Routine

Implementation Steps



Outcome

- Evaluation of Alternatives
- Scenario Analysis (What-If approach)
- Estimation of the market potential
- Quantified Results



Required Data and Sources

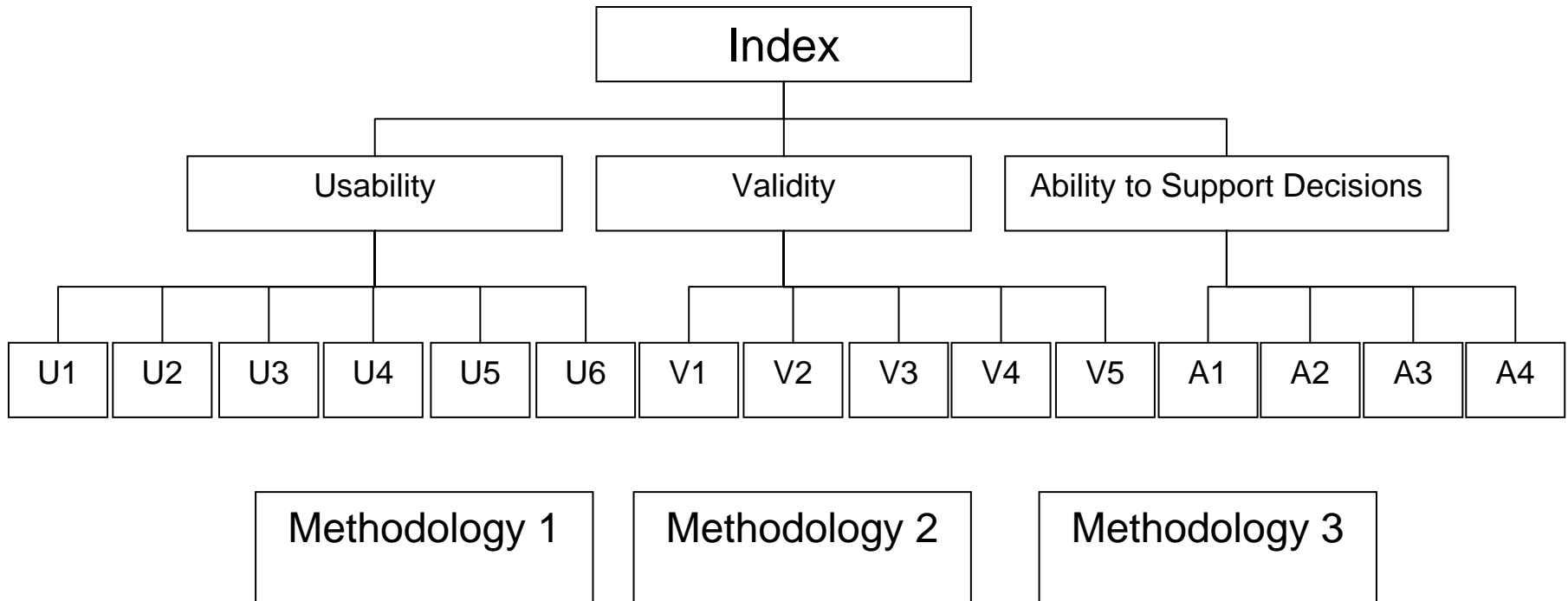
■ Traffic Data

- Flow (import / export / transit): *Local Statistics / Shippers / Forwarders*
- Value of Time: (*studies, approximations*)

■ Transportation Data

- Distances
- Cost per Klm
- Time (or average speed)
- *Carriers - Forwarders*

The Evaluation Mechanism



Evaluation Criteria - 1

■ Usability

- ❑ easiness of data collection
- ❑ use of modern technology (or automation capability)
- ❑ cost (initial or maintenance cost)
- ❑ time and effort devoted towards a result
- ❑ resources (people and level of experience)
- ❑ necessity to cooperate with other parties in order to get a result

Evaluation Criteria - 2

- **Validity**
 - revealed or stated preference
 - data input procedure
 - data manipulation
 - output
 - self-control loops
- **Ability to Support Decisions**
 - Product vs Aggregate results
 - Reliability
 - Endurance
 - Strategic vs tactical decisions

Evaluation Method

- Hierarchical Structure of the Decision
- Relative Comparisons (A against B, etc.)
- Use of the Analytical Hierarchy Process (AHP)
- Weights among criteria + Relative Comparisons based on the Fundamental Scale (0-1-3-5-7-9)
- Weights and Comparisons are reflecting the **understanding** and the **needs** of the decision-maker (i.e. of every port)
- Application with a Sensitivity Analysis: **To Be Submitted in a Scientific Journal!**

Conclusions

- Ports are the weak link in the sea-land intermodal chain, therefore it is necessary to incorporate transport and logistics elements in their cargo-throughput forecasting
- There is an issue with the data availability and integrity, as well as on their usability on a national and European level!
- The proposed routine is based on the generalized cost approach, and can be customized in such a way to address 'local' problems (market quantification + scenario analysis)

Conclusions (Continued)

- The Evaluation Mechanism is capable Decision-Making tool, useful for the selection of a methodology to invest in
- The Work-Package successfully delivers a tool for Small and Medium ports with a ‘universal’ application (it is more a pattern rather than a model)
- The research produced conclusions and recommendation for further action to policy-makers at various levels



Thank You!