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Modal Shift for an Environmental Lift

A taxonomy of modal shift policy in Europe

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OBJECTIVE AND BACKGROUND

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OBJECTIVE

What potential does modal shift have to contribute to the fulfilment of the Swedish climate and environmental objectives? Including the desired reduction of CO2, NOx, SOx, PM2.5 and noise.

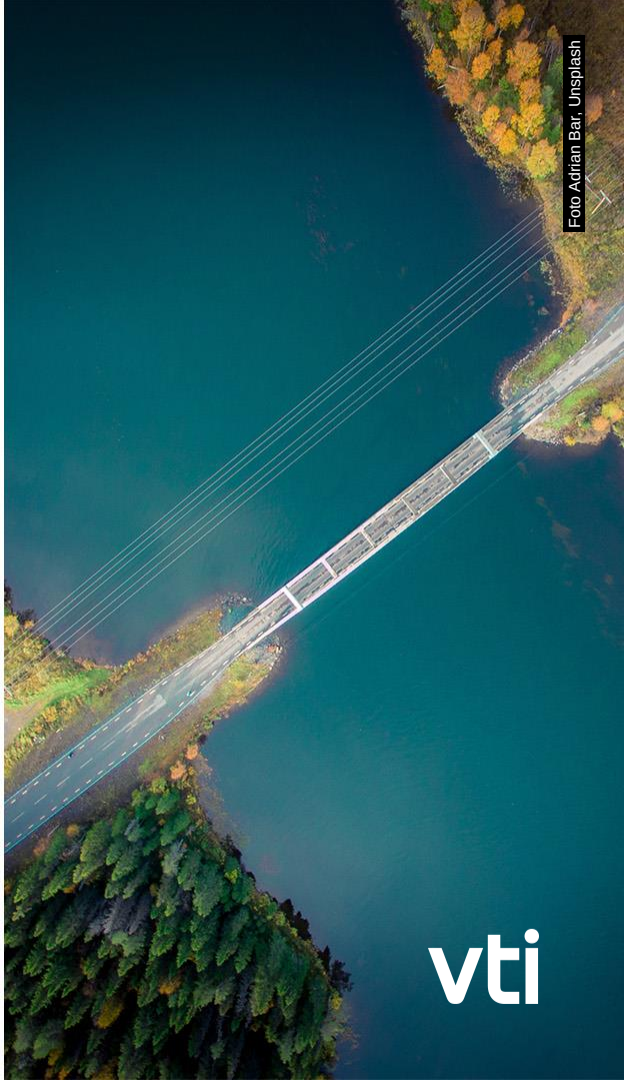
Which are the most effective policies to achieve a modal shift?

1. Which policy instruments have the goal to shift goods from road to less environmentally damaging modes?
2. Which policies would be most effective in a Swedish context?

This study

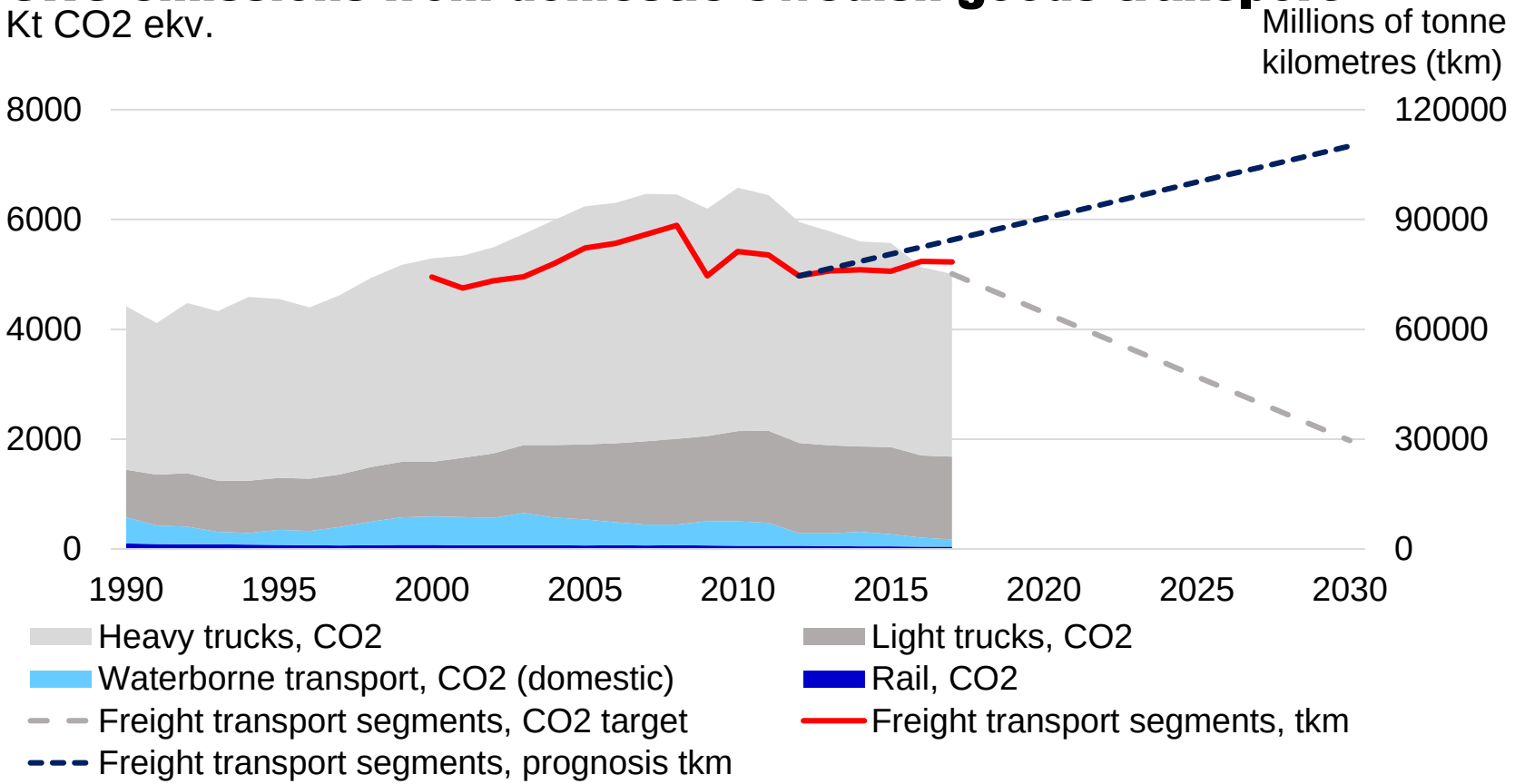
3. Climate and environmental effects

Next study



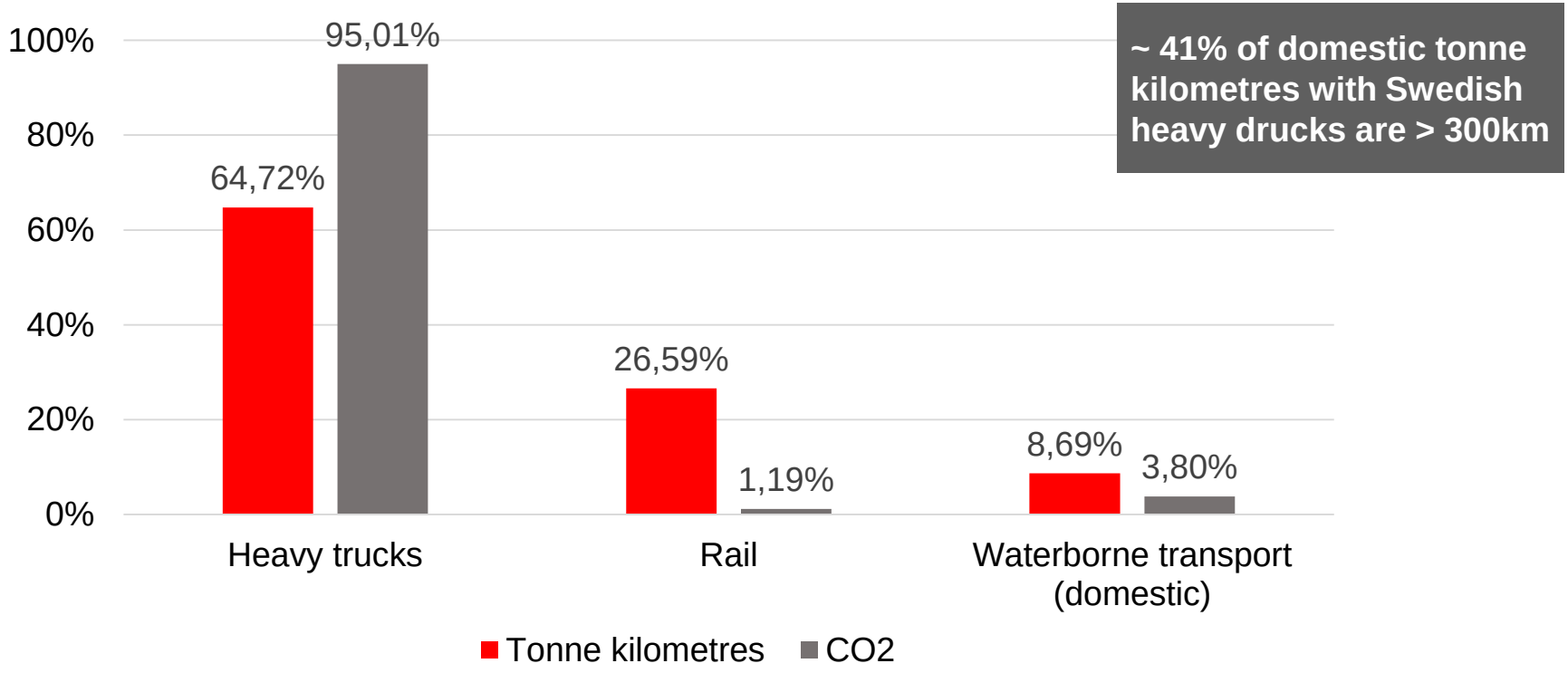
Why care about a modal shift?

GHG-emissions from domestic Swedish goods transport



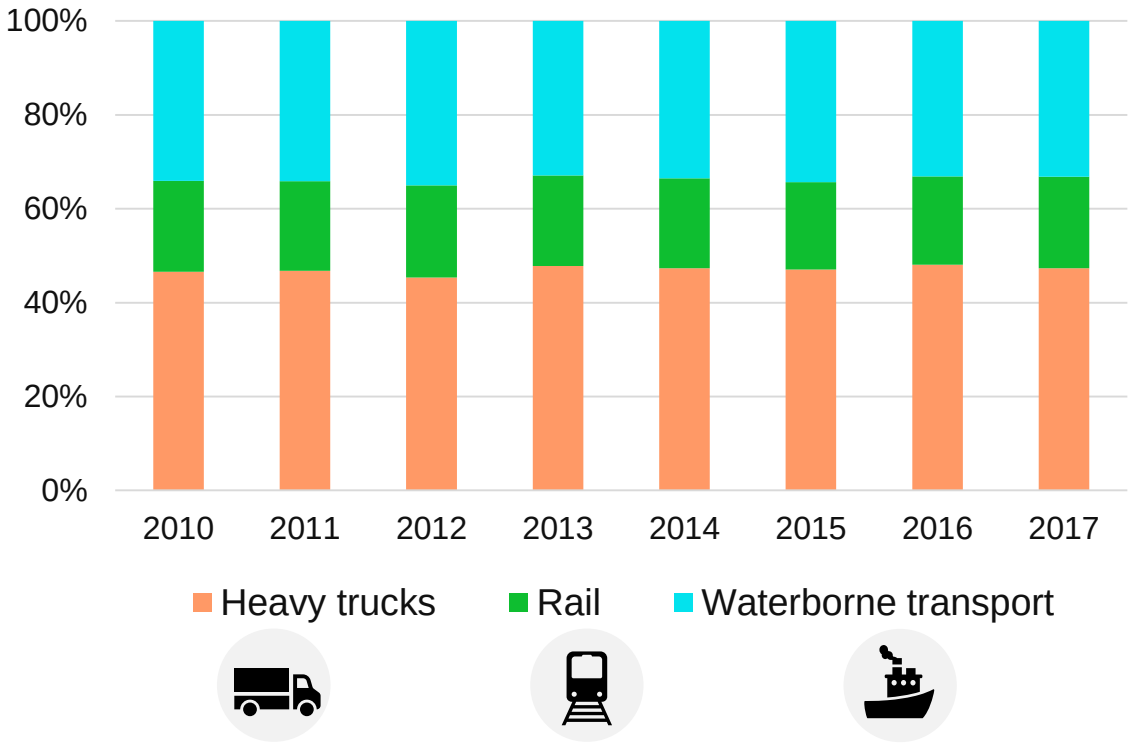
Why care about a modal shift?

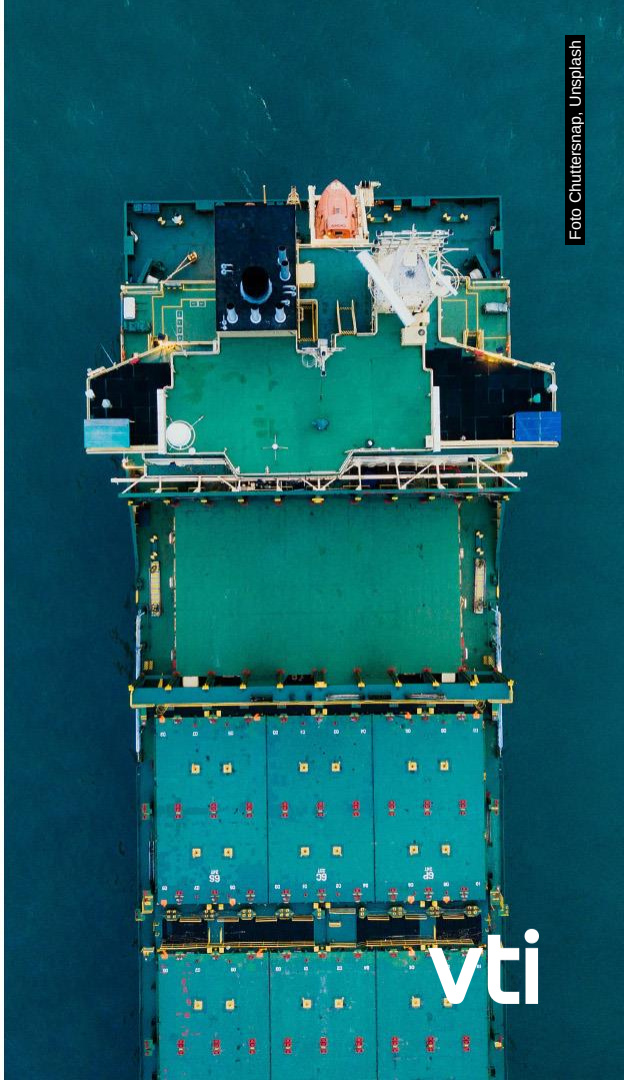
Tonne kilometres and GHG-emissions by mode, 2017



~ 41% of domestic tonne kilometres with Swedish heavy drucks are > 300km

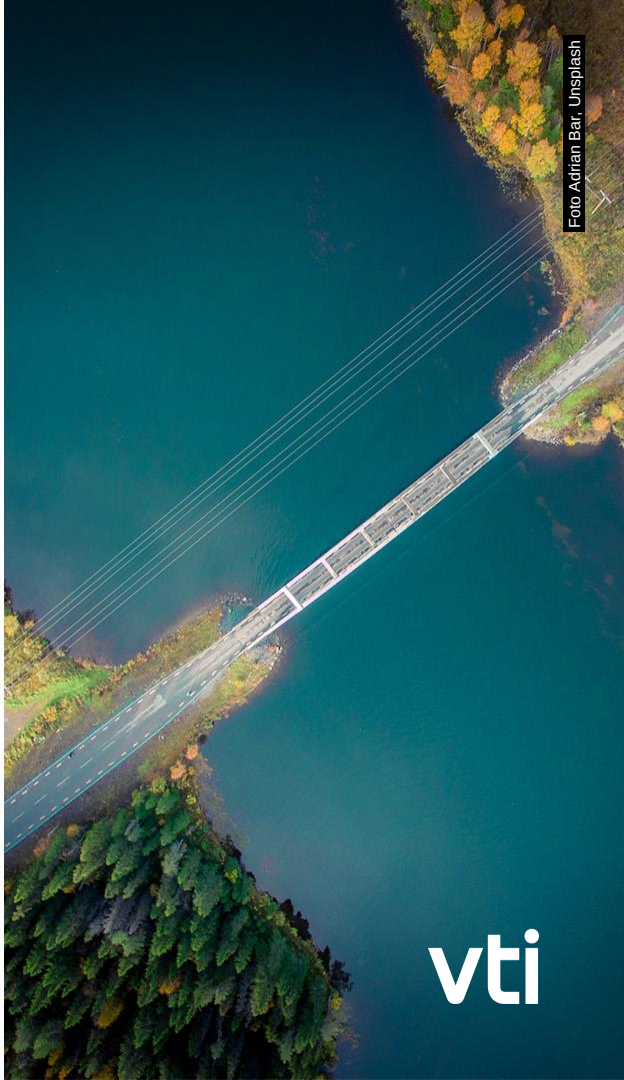
MODAL SPLIT OVER TIME IN SWEDEN
(SHARE OF TONNE KILOMETRES)





WHAT HAVE WE DONE IN THE PROJECT SO FAR?

- Literature review
- Workshop
- Database
- Analysing policies



BARRIERS TO MODAL SHIFT

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Barriers to modal shift

Rail

Reliability

Poorly maintained infrastructure

Capacity limits

Water

Prices / Costs in ports

Ineffectiveness in ports

In general

Flexibility

Coordination

Low demand-side interest

Ineffective regulation

Tax and fee disincentives

Lead times

MODE CHOICE

Most important factors when choosing mode:

Costs / prices

Reliability / Precision

Flexibility

Lead time

Other important factors:

Simplicity

Habits

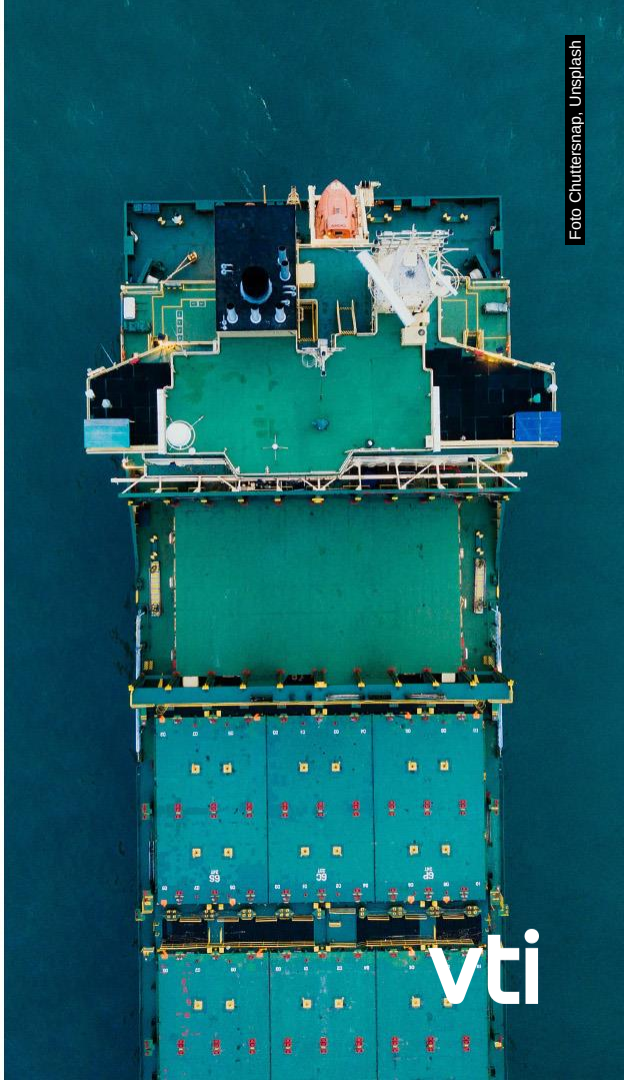
Environment

Other comments:

Generally freight forwarders or producers that purchase transport services.

You do not “choose” transport mode but rather request a transport service.

Firms do not reconsider their choices very often.



TAXONOMY OF POLICY INSTRUMENTS

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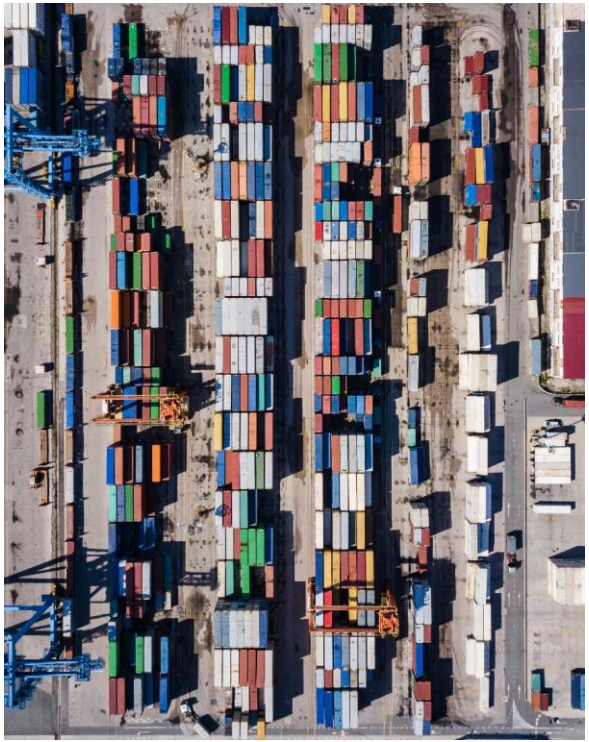
Data collection

Past, present and planned policies in Europe

Several categories including:

- Type of policy
- Geographical level
- Targeted mode
- Results of policy
- Effectiveness of policy



Some examples of policy instruments

Administrative

Legislations

Environmental classifications

Technical requirements

Economic

Taxes

Subsidies

Informative

Information campaigns

Eco-labelling

Research

Technique testing

Development

Infrastructure

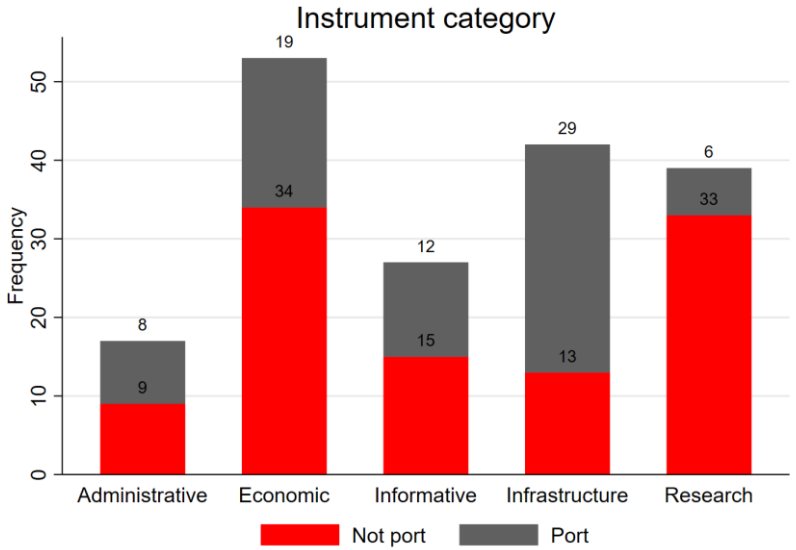
Maintenance

Infrastructure investments

Taxonomy of policy instruments

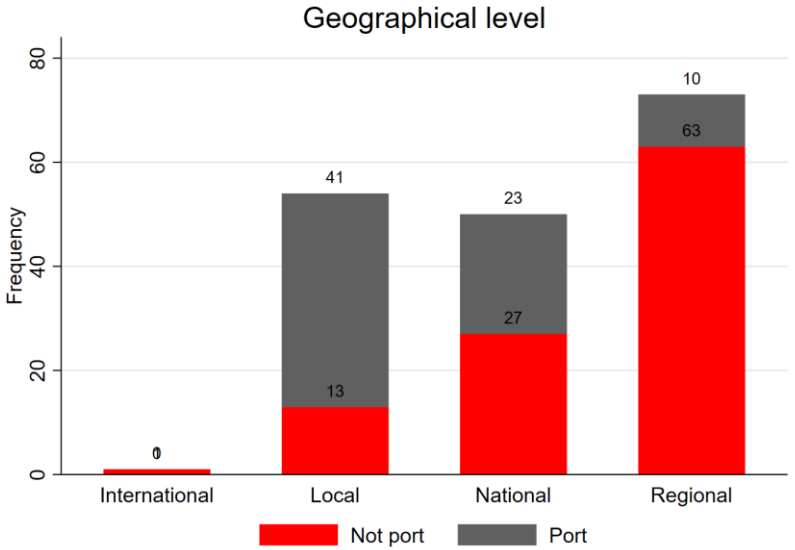
Majority EU-grants and local port infrastructure measures

Economic policy mostly grants



Many local port initiatives

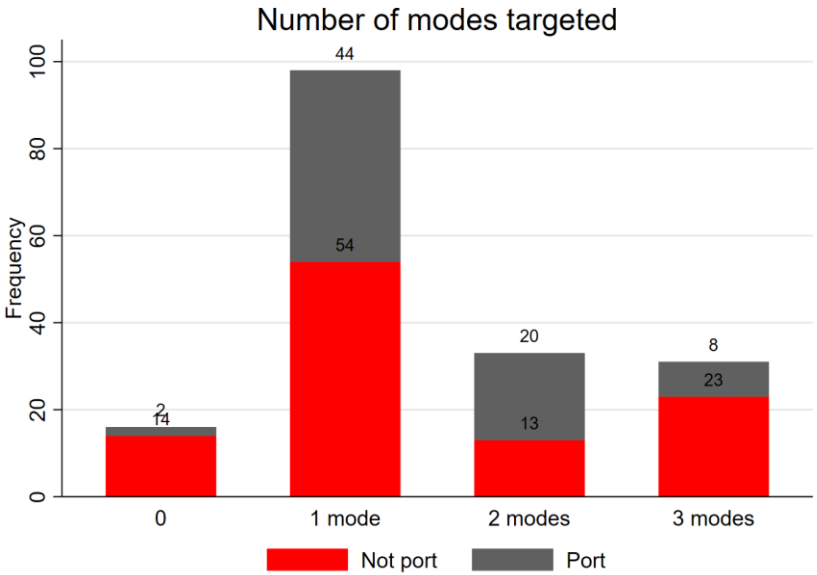
Other policies usually national or regional (EU)



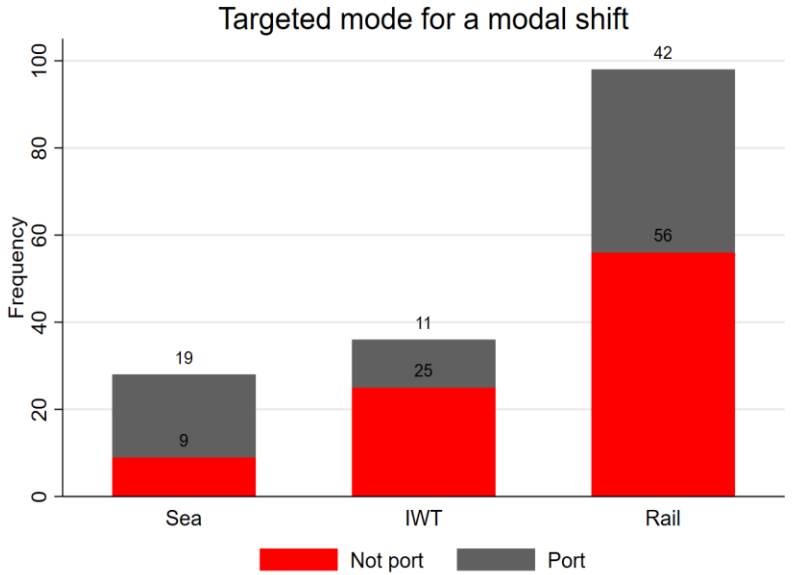
N = 178

Taxonomy of policy instruments

The majority of policies only target one mode



Most policies target a shift to rail.



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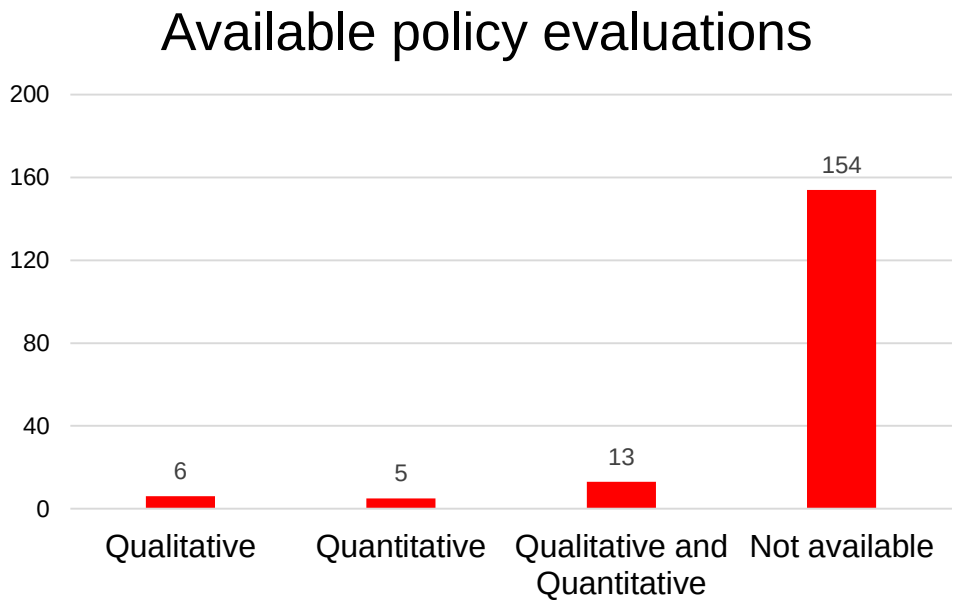
Taxonomy of policy instruments

Lack of quantified targets

Lack of evaluations

Available evaluations mainly concern economic policies at national or EU level

→Key data unavailable



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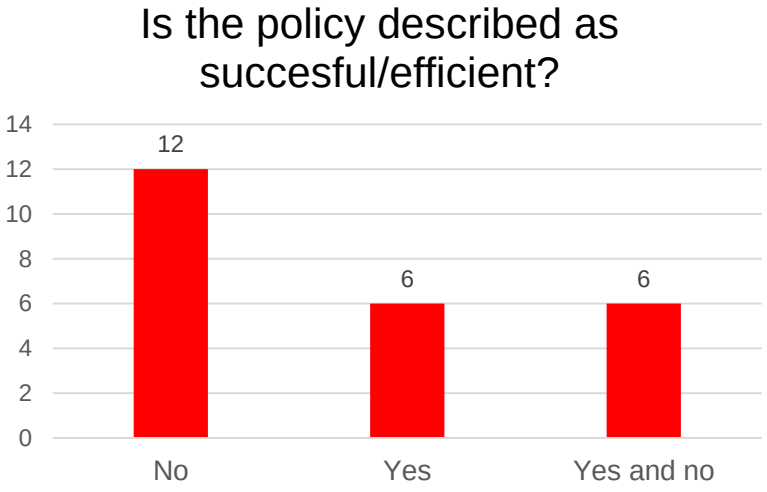
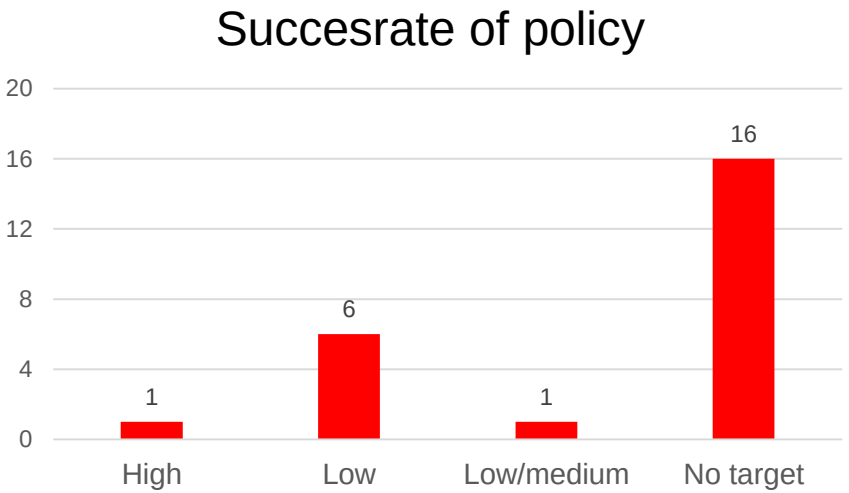
Taxonomy of policy instruments

Most evaluation reports do not classify the evaluated policy as succesful/efficient



Among succesful policies are different types of eco bonus systems and grants

Lack of applications common factor for failure



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CONCLUSIONS AND FURTHER RESEARCH

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CONCLUSIONS

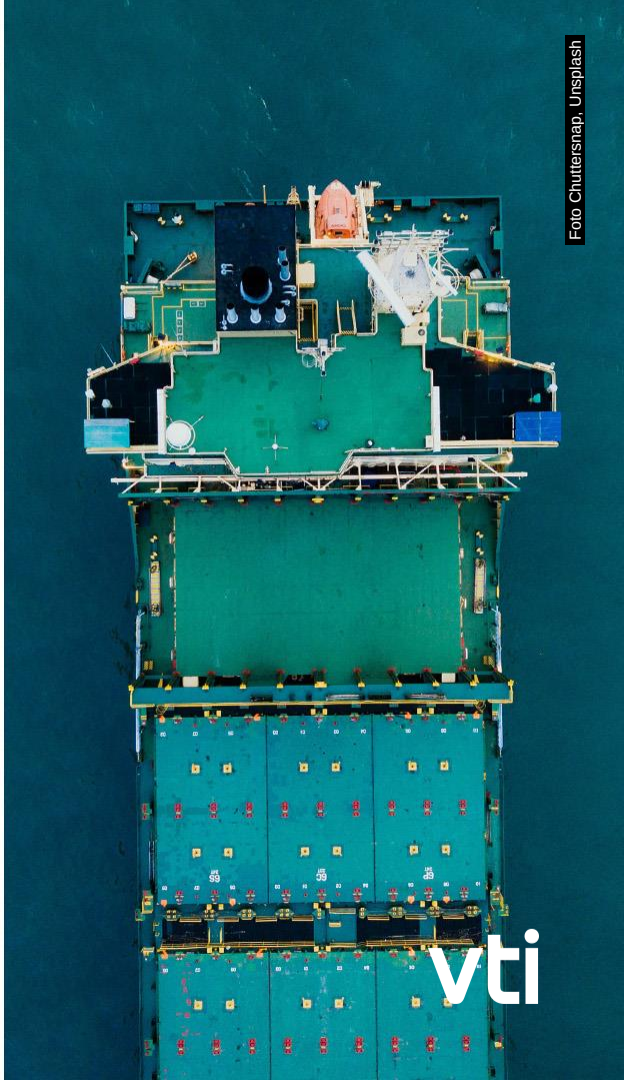
Most policy instruments are economic, but all decision factors matter → Need for policy mix

Reliability, badly maintained infrastructure and capacity limits are main barriers for a modal shift to rail → Support to infrastructure investments.

High costs and ineffectiveness in ports are main barriers for a modal shift to waterborne transports. → Target the costs in ports.

Few ex post-analysis of policies and a lack of quantified targets.

Lack of interest is an important explanatory variable for failure.

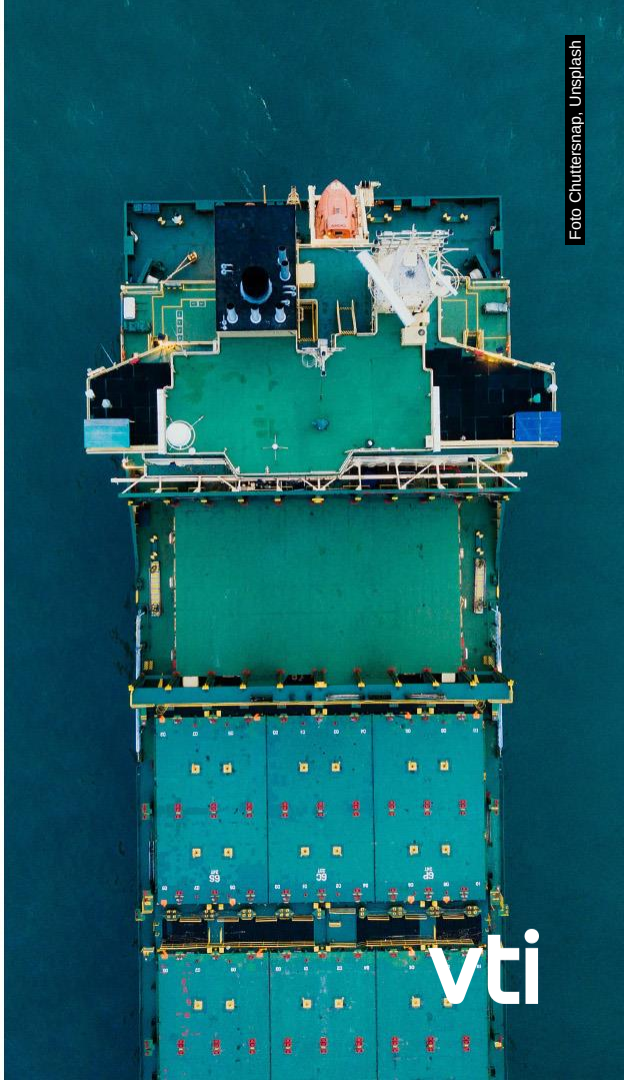


FURTHER STUDIES

Continue analysis of effective policies

Environmental effects from policy scenarios

Recommendation for most effective policy mix



Thank you very much!

Any comments or questions?

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