

SafetyCube

Socio-economic costs of road crashes in Europe

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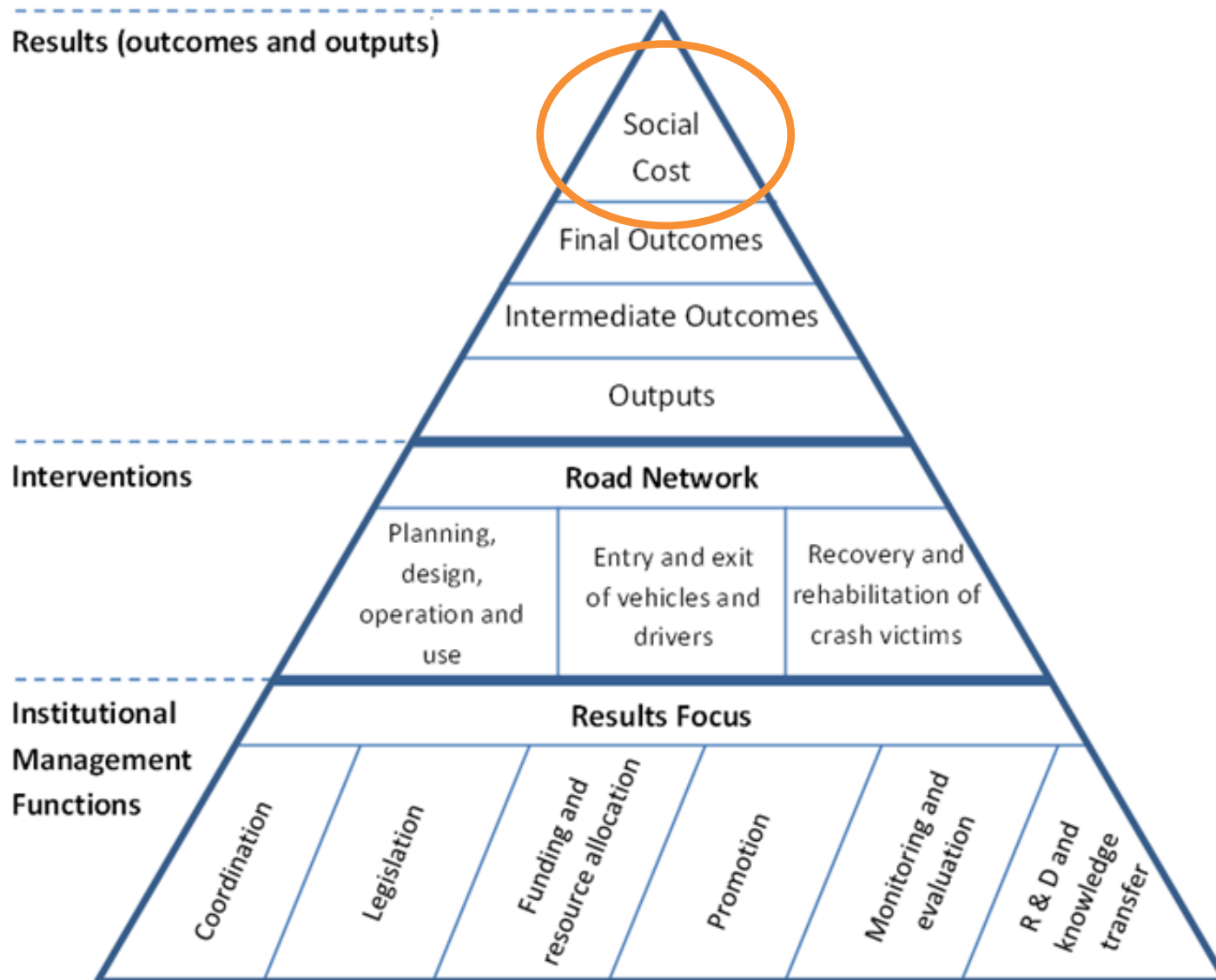
Introduction



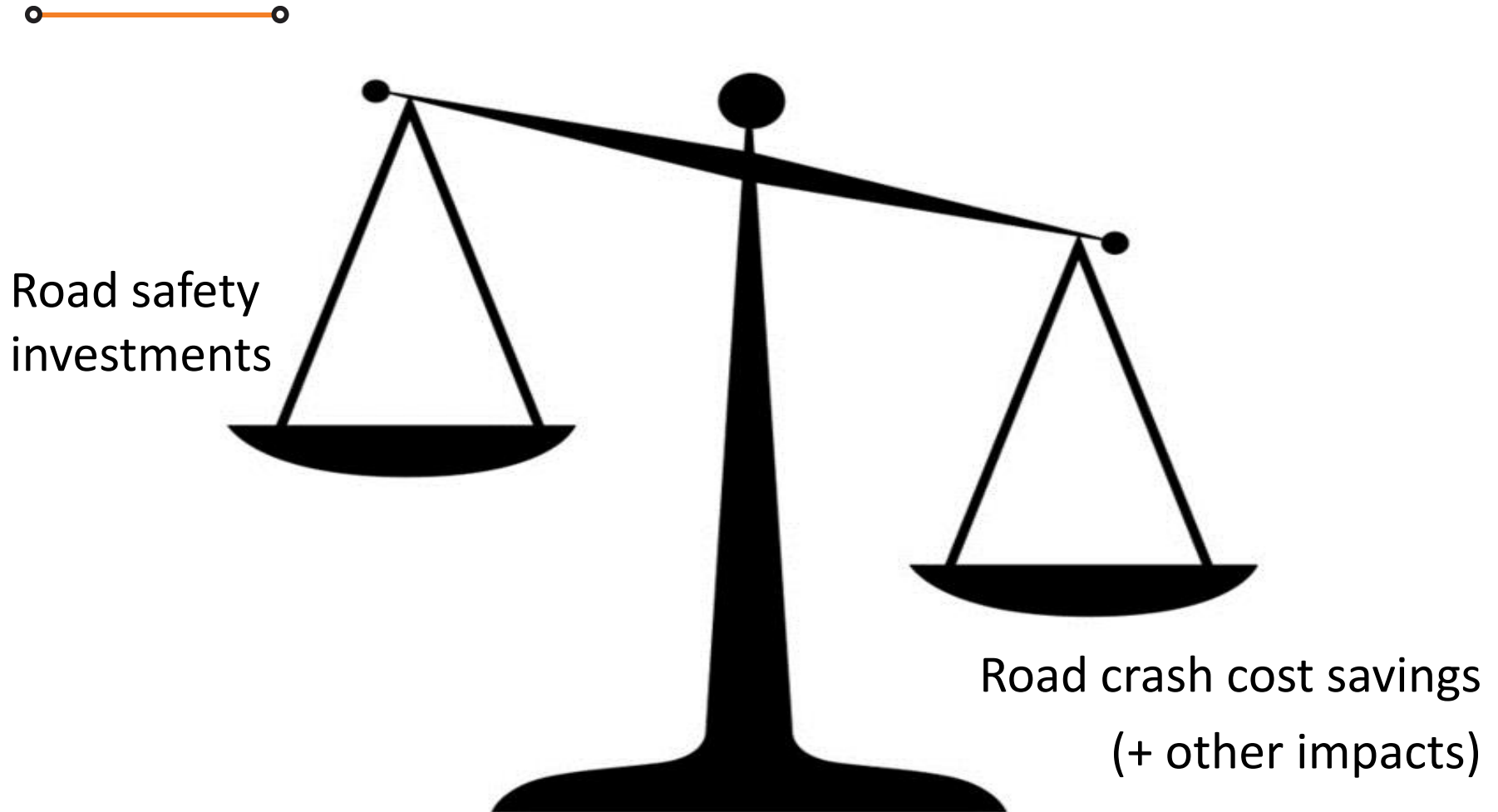
Research and consultancy, specialized in
economic analysis of road safety

- Costs of road crashes
- Economic evaluation of road safety programs
- Economic valuation of saving lives, quality of life
- Financing road safety investments
- Impact of economic development on road safety

Costs as road safety indicator



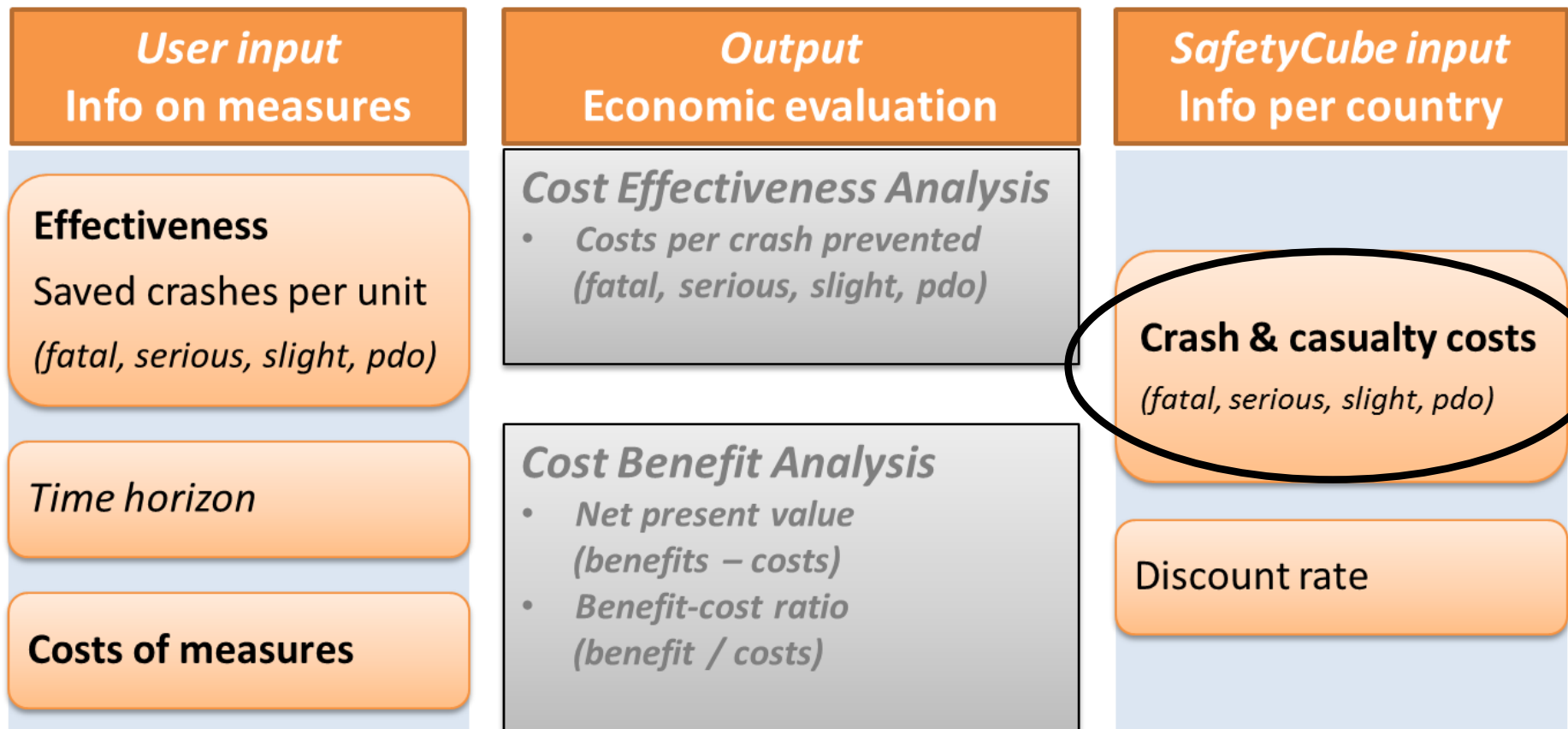
Cost-benefit analysis (CBA)



Road crash cost as input for CBA



E³-calculator



Analysis of road crash costs



1. Literature review to identify
 - *All relevant cost items*
 - *Methods*
 - *Best practices*
2. Survey among EU countries
3. Data analysis
4. Developing harmonized EU-values

The SafetyCube-InDeV cost team

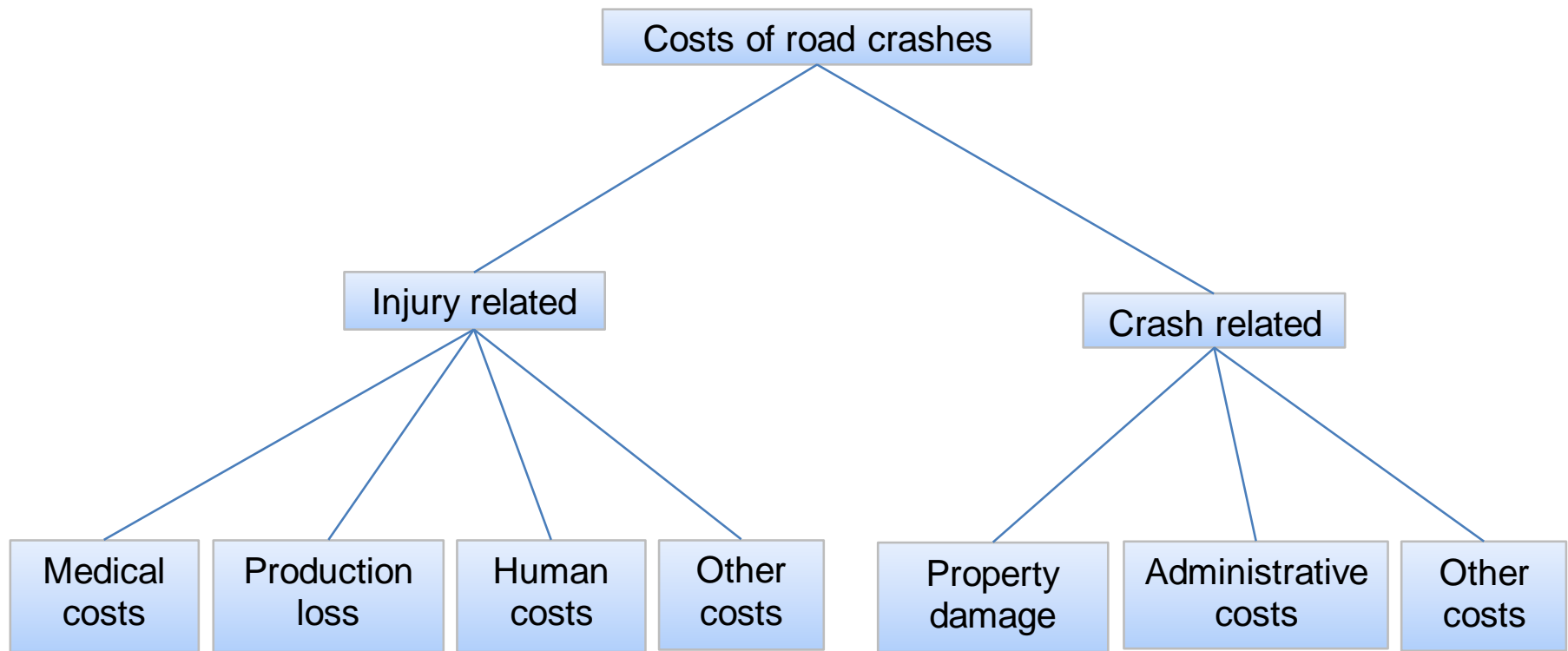


SafetyCube partners:

- SWOV
- VIAS
- KfV
- IFSTTAR
- TOI



Cost components

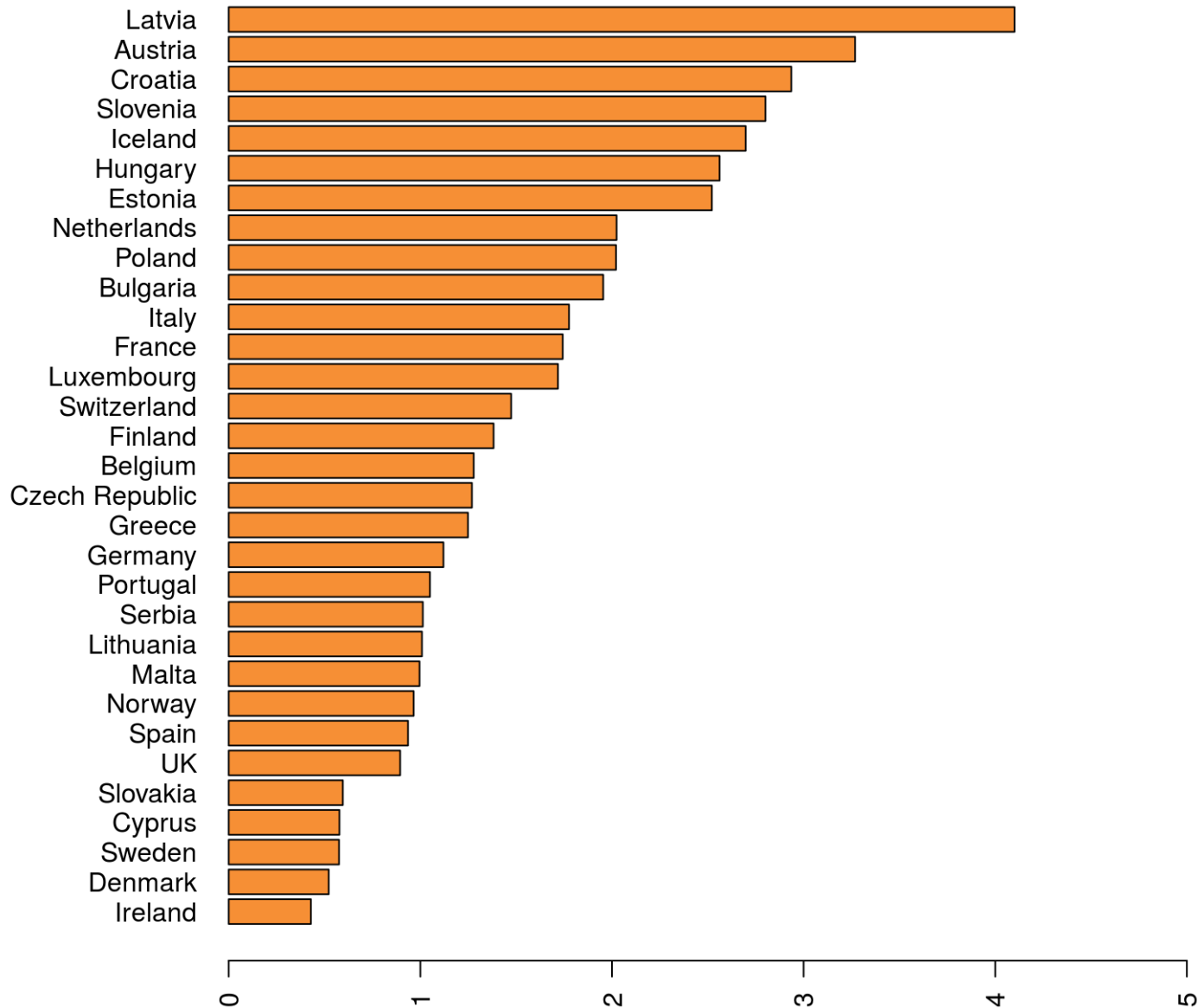


The survey

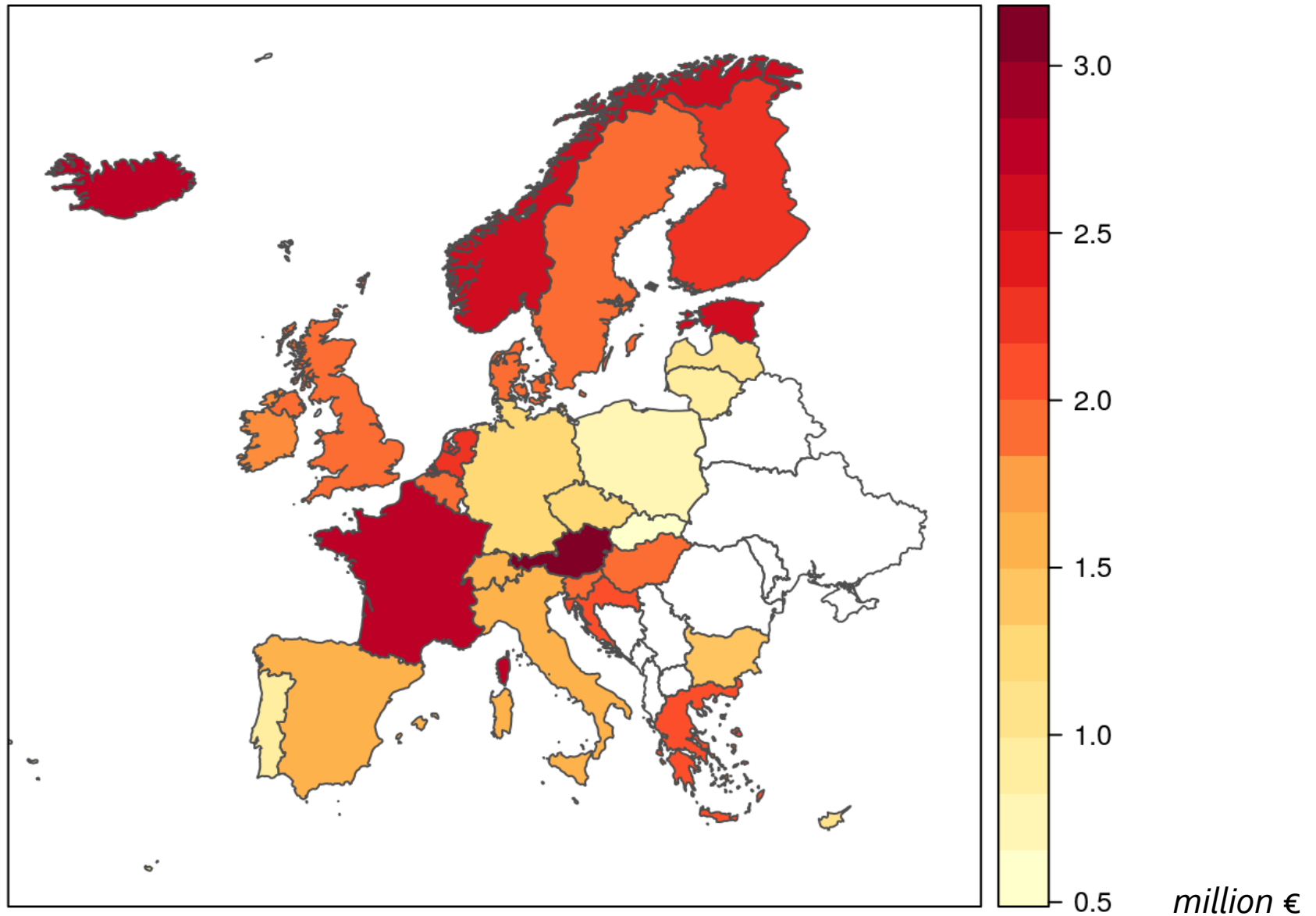


- Survey among the 28 EU member states + Iceland, Norway, Serbia and Switzerland
- Data received from 31 countries
- Issues:
 - *Which cost items included?*
 - *Method(s) per cost item*
 - *Total costs (value, % of GDP)*
 - *Distribution costs over cost items*
 - *Costs per casualty and crash*
 - *Total costs by severity level*
- Official values used by national governments

Total costs (%GDP)



Costs per fatality

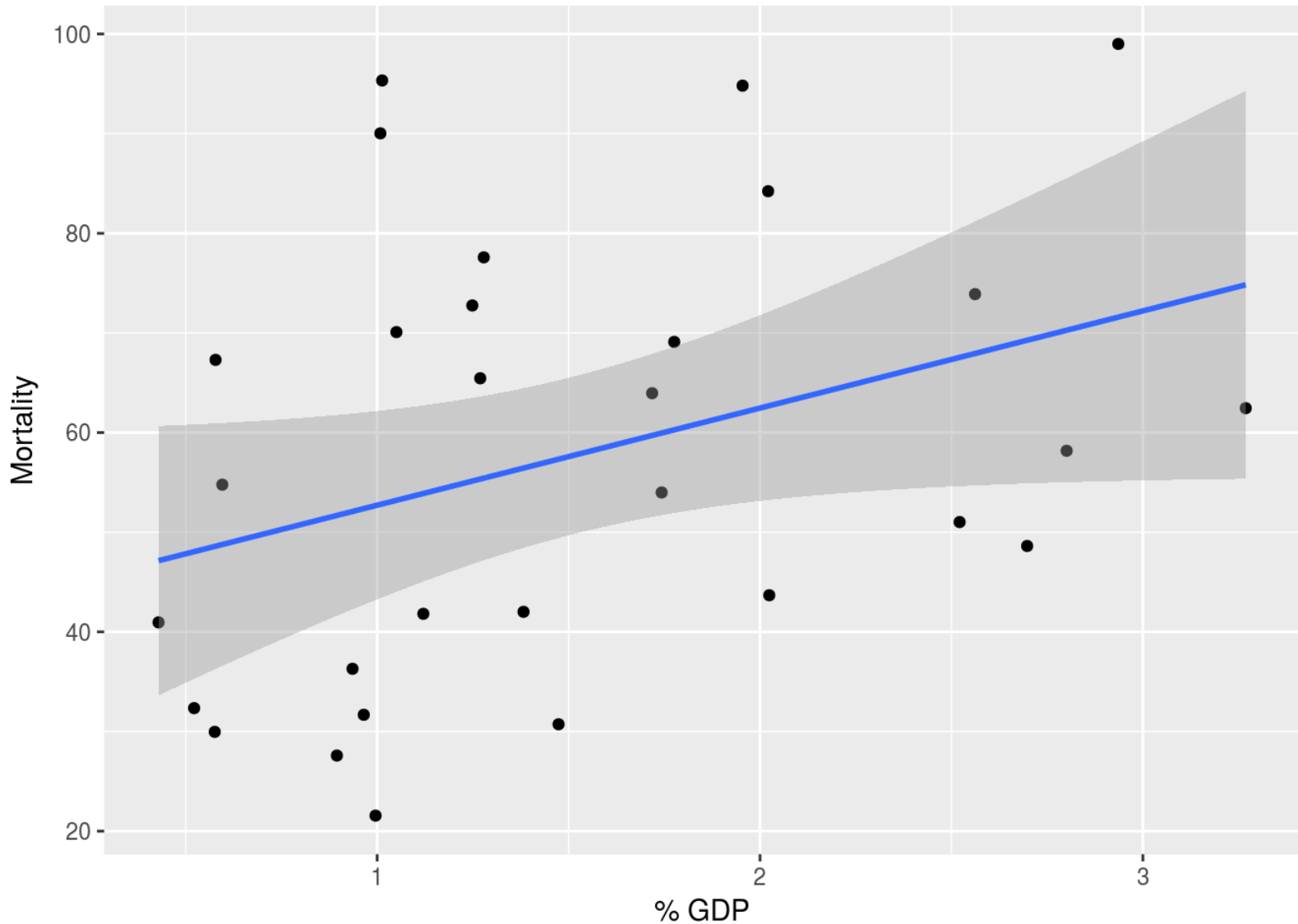


What explains the cost differences?

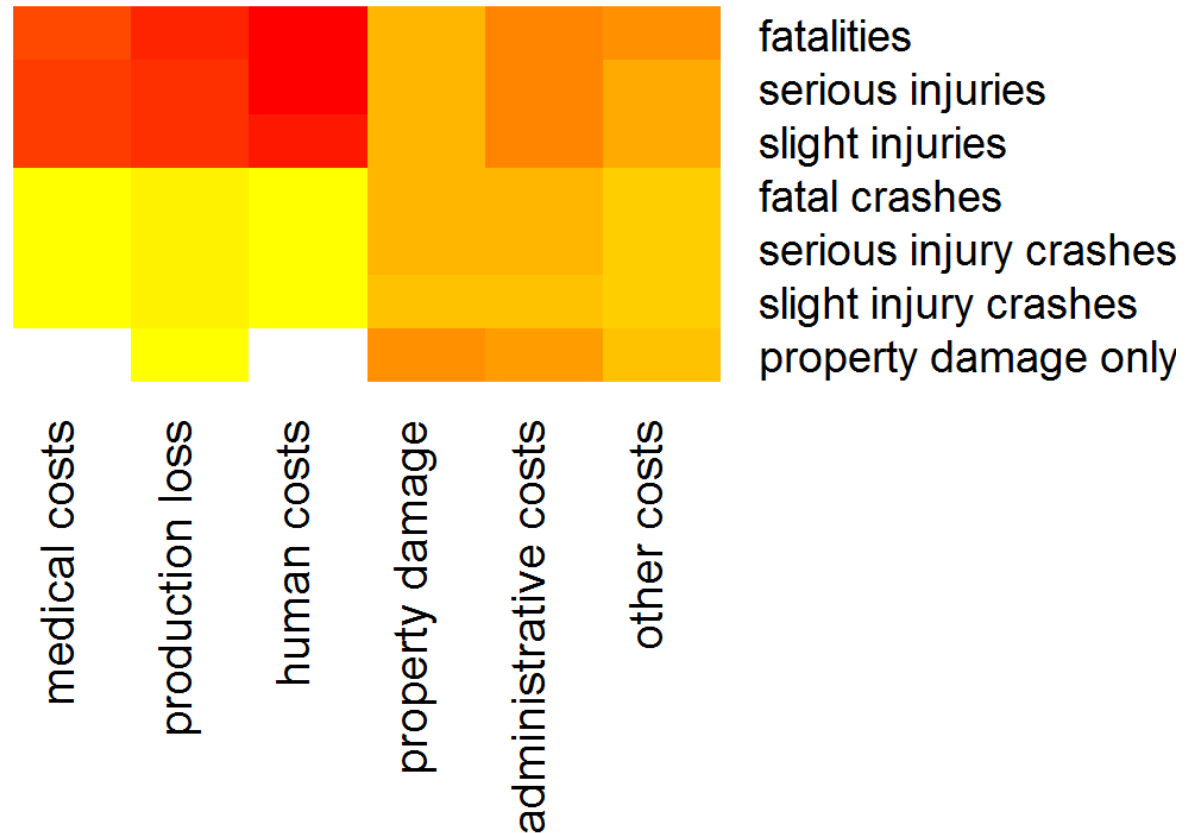
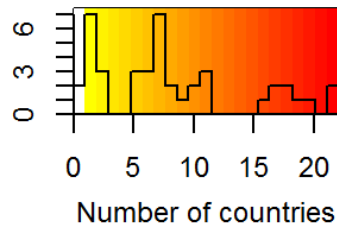


- Total costs: road safety performance (number of casualties / crashes)
- Methodological differences

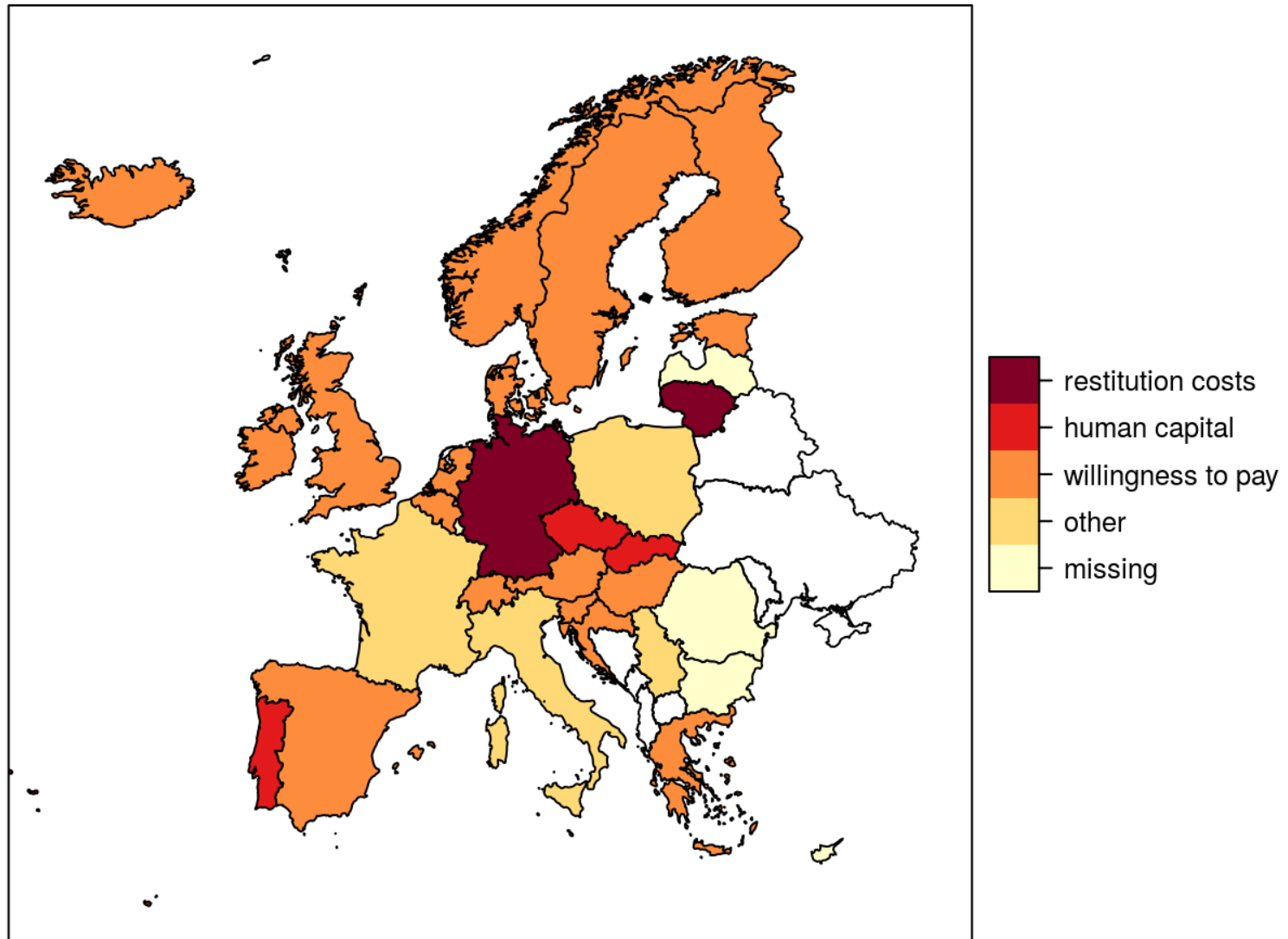
Relation mortality – total cost

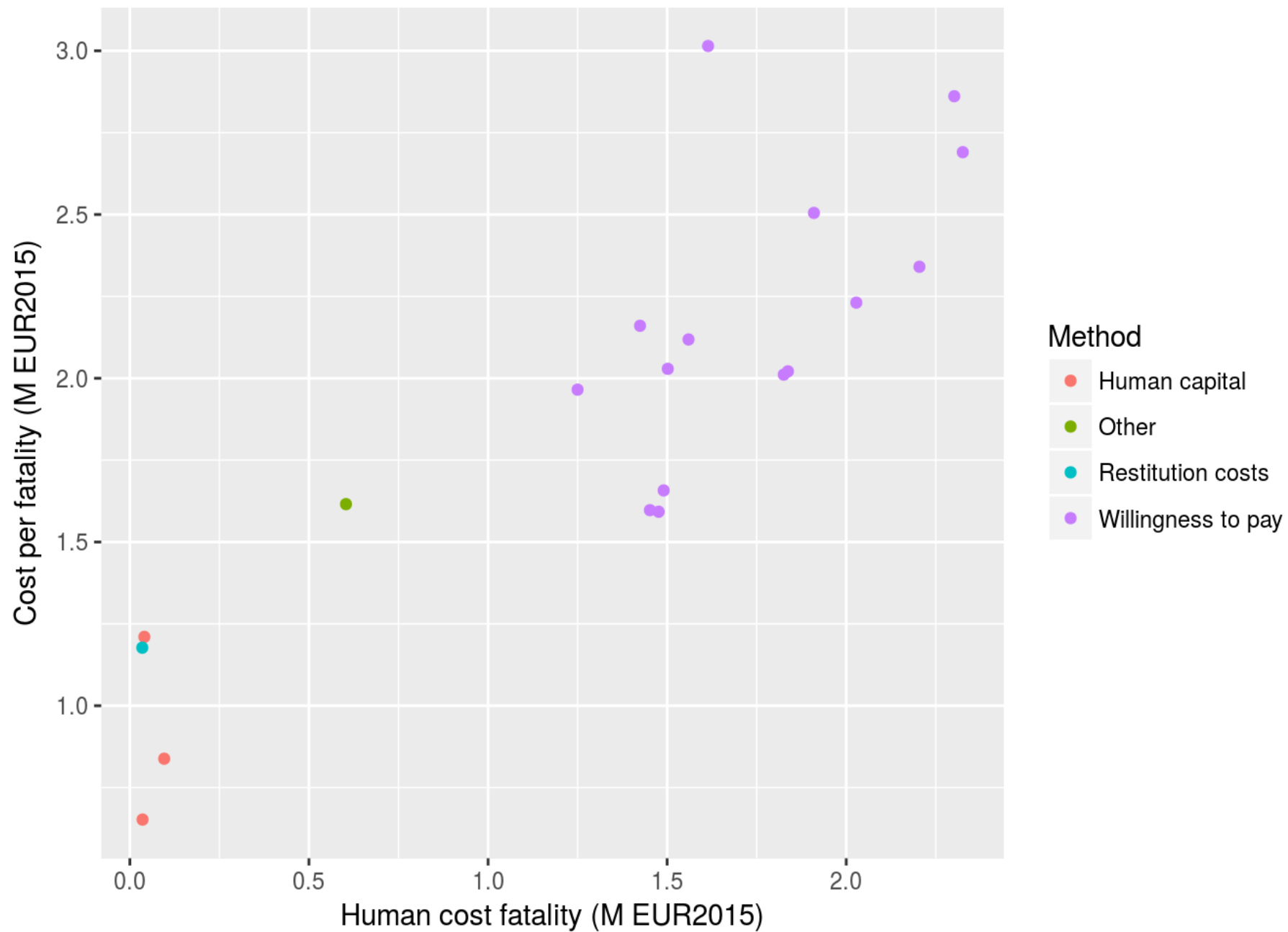


Cost components included

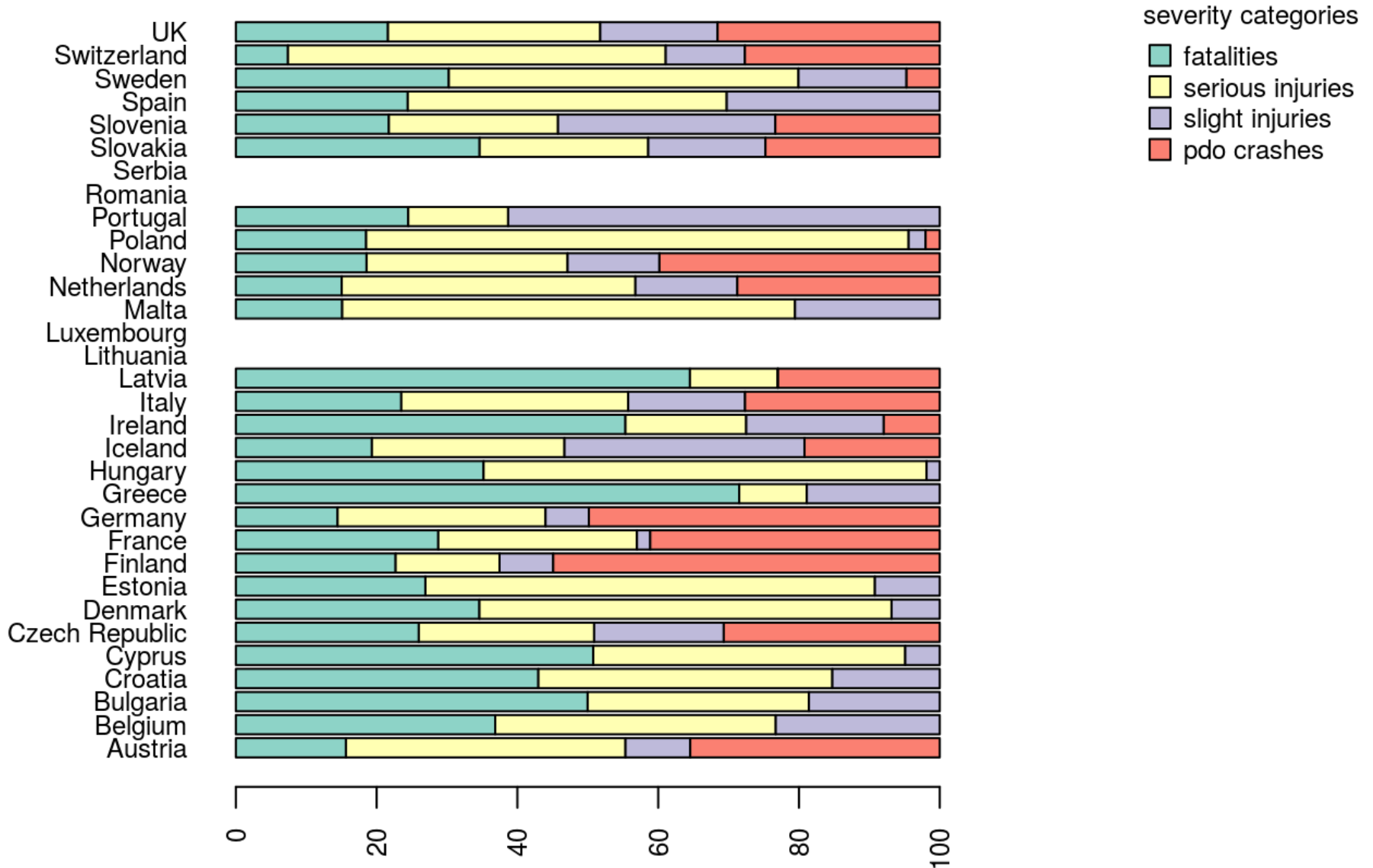


Different methods: human costs

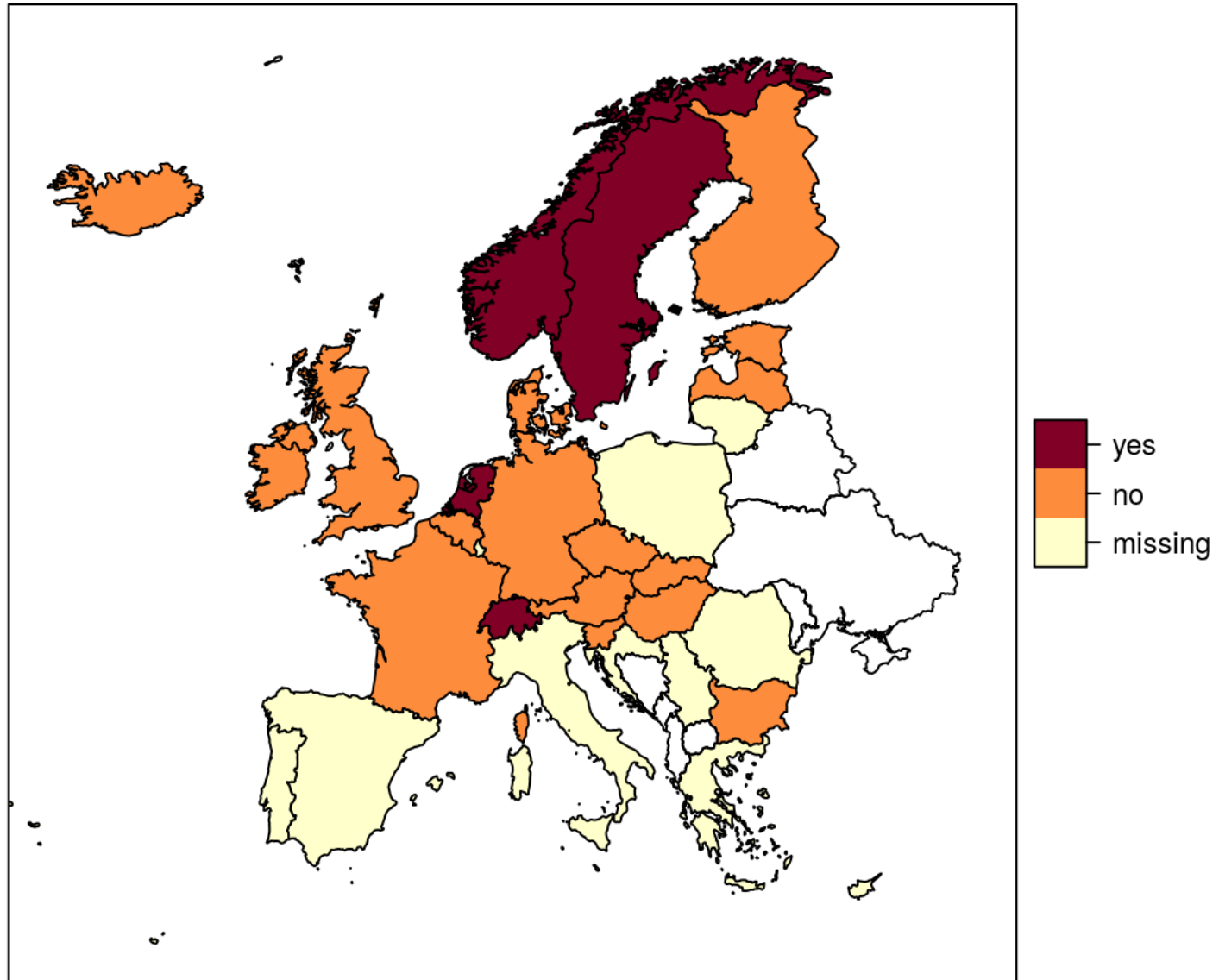




PDO crashes included?



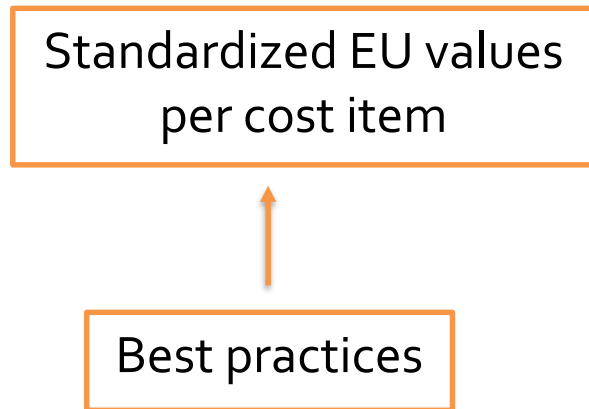
Correction for underreporting?



Harmonized estimates



Value transfer approach:



Standardized EU values

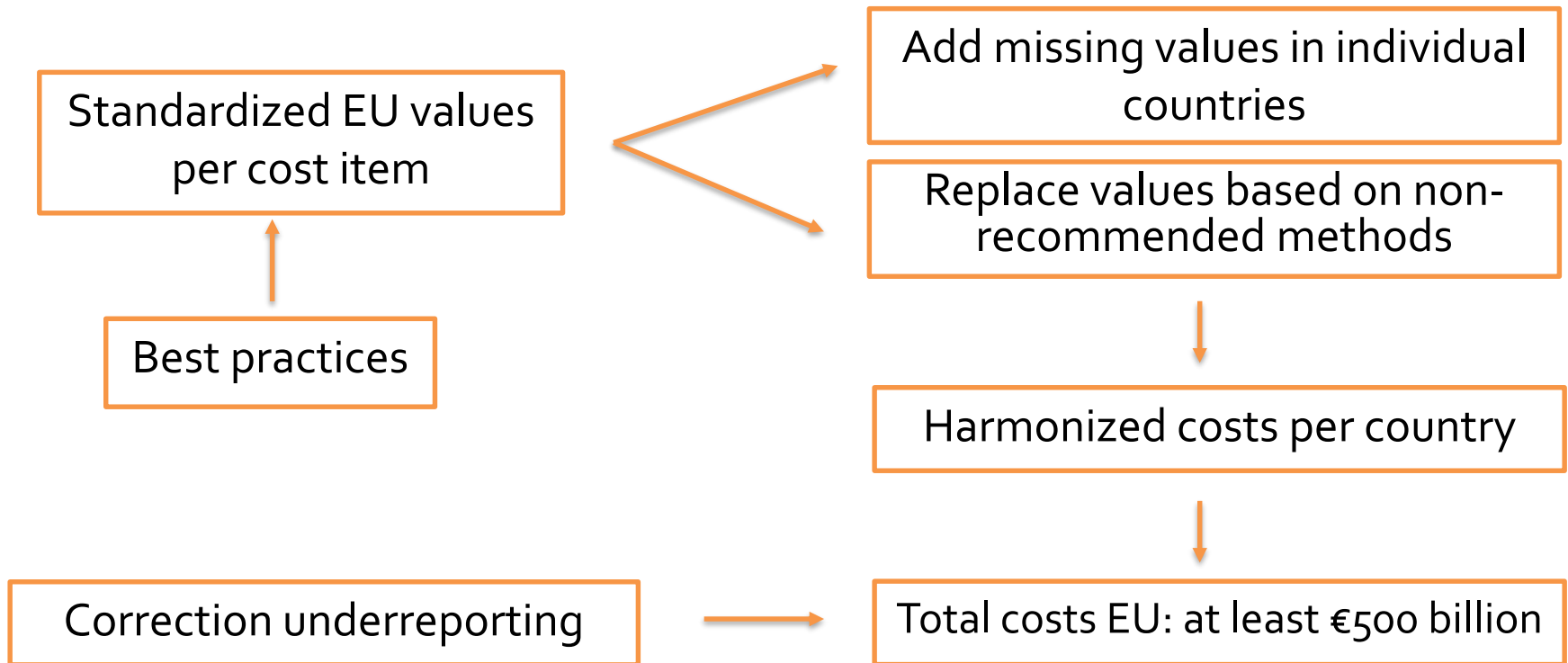
	Medical costs	Production loss	Human costs	Property damage	Administrative costs	Other costs	Total (unit) costs
Fatalities	5,430	655,376	1,587,001	11,555	6,346	3,638	2,269,346
Serious injuries	16,719	43,627	230,385	7,622	4,364	413	303,130
Slight injuries	1,439	2,669	15,597	5,317	1,876	519	27,418
Fatal crashes	11,757	727,616	1,809,467	17,542	8,891	3,817	2,579,089
Serious injury crashes	19,158	50,285	263,945	11,143	5,557	709	350,796
Slight injury crashes	1,957	3,629	21,212	7,231	2,677	634	37,340
PDO crashes	-	-	-	2,795	764	400	3,960

Euro, 2015

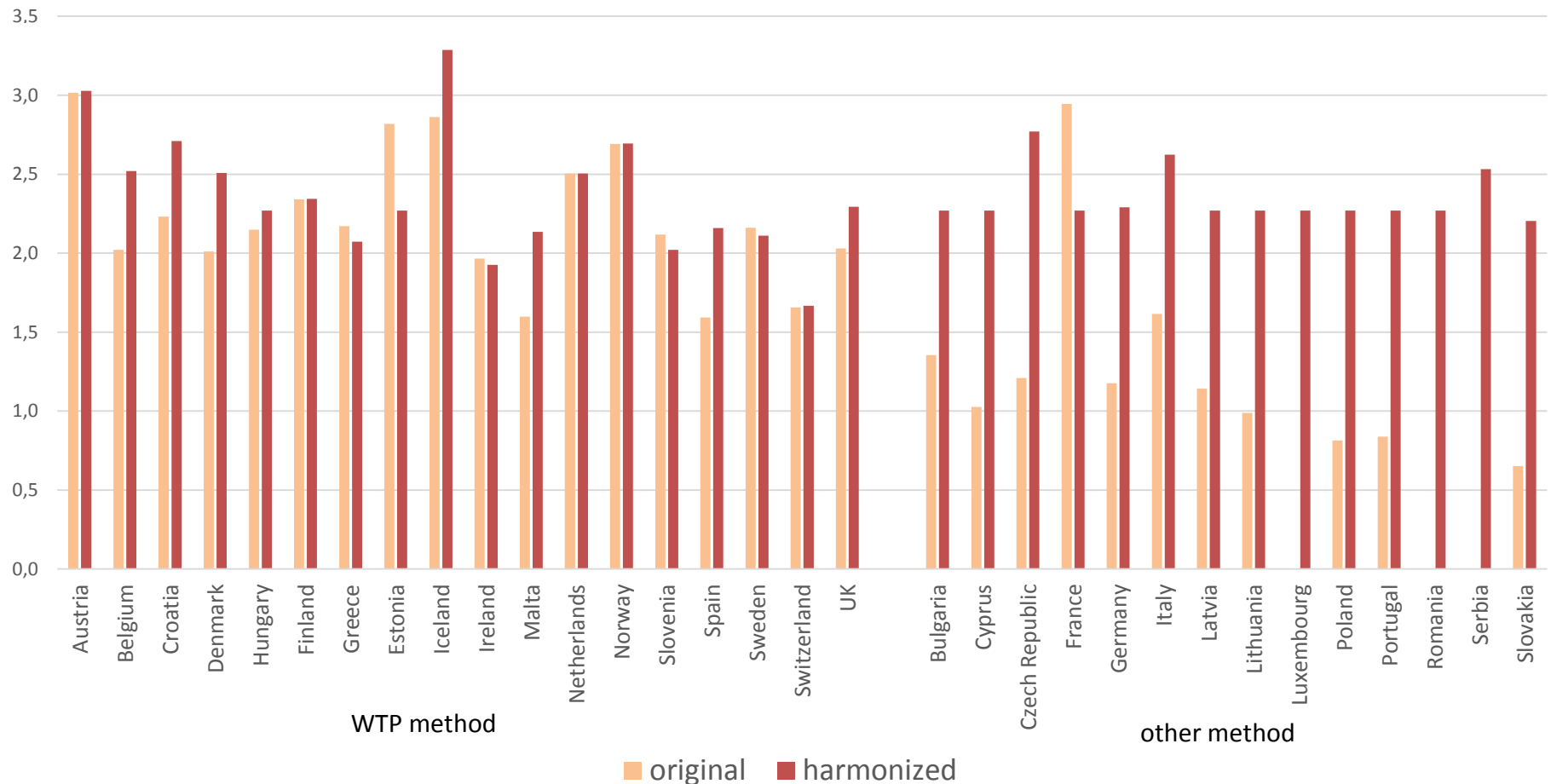
Harmonized estimates



Value transfer approach:



Original vs. harmonized fatality costs



- Total cost in EU:
 - Original values: €200 billion
 - Value transfer: at least €500 billion (corresponding to 3% of GDP)

Conclusions



- Official estimates of costs of road crashes in European countries range from 0.4 to 4.1% of GDP
- Costs per fatality range from 0.7 to 3.0 million EUR (2015)
- Variations mainly explained by methodological differences
- Official values (largely) underestimate the costs in most countries
- If corrections are made, costs of road crashes in the EU are at least € 500 billion Euro or 3% of GDP
- More uniformity and consistency with international guidelines is recommended for national cost studies

Thank you for your attention!

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