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Corporate Carbon Performance Data: Quo Vadis?

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Background

- EU-Report “Financing Sustainable Growth” calls for new labeling and transparency efforts; lays out the basis for extending the established risk appraisals towards carbon and climate issues
- Task Force on Climate-related Financial Disclosures published recommendation how to disclose information about the risks and opportunities presented by climate change
- Basic assumptions:
 - quality of reported data ✓
 - estimation methods ✓
 - scope of data coverage ✓
- However, is that reality?

Data

We gathered CO2 emission data (scopes 1, 2 and 3) from the main providers: Bloomberg, Carbon Disclosure Project (CDP), ISS ESG, MSCI, Sustainalytics, Thomson Reuters, and Trucost

Provider	Coverage		Scope 1		Scope 2		Scope 3	
	Rep.	Total	Rep.	Est.	Rep.	Est.	Rep.	Est.
Bloomberg	2,000	2,000	✓	✗	✓	✗	✓	✗
CDP	2,000	2,000	✓	✗	✓	✗	✓	✗
ISS ESG	4,000	11,500	✓	✓*	✓	✓*	✗	✓
MSCI	2,200	9,000	✓	✓	✓	✓	✓	✗
Sustainalytics	2,000	7,500	✓	✓	✓	✓	✗	✗
Thomson Reuters	2,000	5,000	✓	✓*	✓	✓*	✓	✗
Trucost	1,800	9,000	✓	✓	✓	✓	✓	✓

*Provided in a combined Scope 1 + Scope 2 score.

Methods

Analytical Steps – pearson correlations:

1. Unadjusted data – all company data taken „as provided”
2. Adjusted data – removing the top and bottom 0.05% of all data points for each data provider
3. Reported data only (as indicated by data provider)
4. Reported data according to GHG Protocol (according to CDP)
5. Estimated data (as indicated by data provider)

Results: Unadjusted data; correlations Scope 1 & 2

Scope 1	<i>Bloomberg</i>	<i>CDP</i>	<i>MSCI</i>	<i>Sustain.</i>	<i>T. Reuters</i>	<i>Trucost</i>
<i>Bloomberg</i>	1					
<i>CDP</i>	0.9924*	1				
<i>MSCI</i>	0.9901*	0.8488*	1			
<i>Sustainalytics</i>	0.9704*	0.9081*	0.8653*	1		
<i>T. Reuters</i>	0.9918*	0.9746*	0.9248*	0.9407*	1	
<i>Trucost</i>	0.7213*	0.9085*	0.9443*	0.8805*	0.7878*	1

→ average = 0.91

Scope 2	<i>Bloomberg</i>	<i>CDP</i>	<i>MSCI</i>	<i>Sustain.</i>	<i>T. Reuters</i>	<i>Trucost</i>
<i>Bloomberg</i>	1					
<i>CDP</i>	0.9115*	1				
<i>MSCI</i>	0.9558*	0.5036*	1			
<i>Sustainalytics</i>	0.8973*	0.4572*	0.8507*	1		
<i>T. Reuters</i>	0.9197*	0.4351*	0.5346*	0.4012*	1	
<i>Trucost</i>	0.8773*	0.4401*	0.0411*	0.7962*	0.6984*	1

→ average = 0.65

⇒ Data as provided: consistency depends on scope

Results: Adjusted data; correlations Scope 1 & 2

Scope 1	Bloomberg	CDP	MSCI	Sustain.	T. Reuters	Trucost
Bloomberg	1					
CDP	0.9924*	1				
MSCI	0.9912*	0.9621*	1			
Sustainalytics	0.9675*	0.9726*	0.9311*	1		
T. Reuters	0.9918*	0.9746*	0.9876*	0.9637*	1	
Trucost	0.9845*	0.9598*	0.9615*	0.8860*	0.9861*	1

average = 0.97

Scope 2	Bloomberg	CDP	MSCI	Sustain.	T. Reuters	Trucost
Bloomberg	1					
CDP	0.9647*	1				
MSCI	0.9393*	0.8715*	1			
Sustainalytics	0.9022*	0.9418*	0.8780*	1		
T. Reuters	0.9208*	0.9389*	0.8675*	0.7956*	1	
Trucost	0.9092*	0.9059*	0.8444*	0.8901*	0.8232*	1

average = 0.89

⇒ Adjustments improve consistency

Results: Reported data (GHG Protocol); correlations Scope 1 & 2

Scope 1	CDP	MSCI	Sustain.	T. Reuters	Trucost
CDP	1				
MSCI	0.9878*	1			
Sustain.	1.0000*	0.9991*	1		
T. Reuters	0.9990*	0.9995*	0.9981*	1	
Trucost	0.9971*	0.9974*	0.9943*	0.9980*	1

average = 0.99

Scope 2	CDP	MSCI	Sustain.	T. Reuters	Trucost
CDP	1				
MSCI	0.9560*	1			
Sustain.	0.9943*	0.9944*	1		
T. Reuters	0.9837*	0.9844*	0.9905*	1	
Trucost	0.9938*	0.9927*	0.9929*	0.9777*	1

average = 0.98

⇒ Good news for reported data: fairly consistent data

Results: Estimated data; scope 1, 2, 3

Scope 1	MSCI	Sustain.
MSCI	1	
Sustain.	0.7704*	1
Trucost	0.8744*	0.7536*

average = 0.79

Scope 2	MSCI	Sustain.
MSCI	1	
Sustain.	0.6909*	1
Trucost	0.5648*	0.6385*

average = 0.63

Scope 3	ISS	Trucost
ISS	1	
Trucost	0.1591*	1

⇒ Bad news for estimations: large inconsistencies, specifically reading Scope 3

Results: Estimated data; scope 1 & 2 as one score

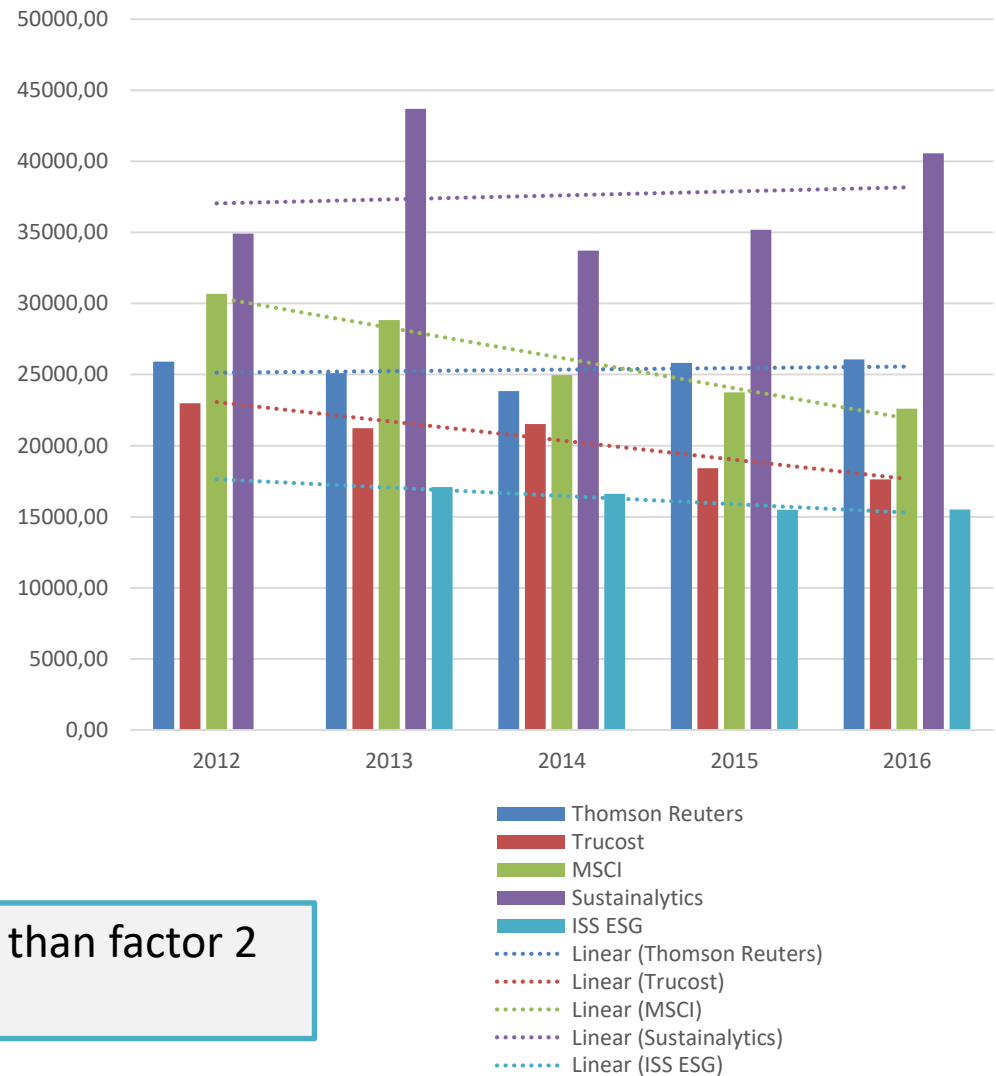
Scope 1+2	ISS	MSCI	Sustain.	T. Reuters	Trucost
ISS	1				
MSCI	0.5366*	1			
Sustain.	0.7097*	0.7720*	1		
T. Reuters	0.6008*	0.7601*	0.7295*	1	
Trucost	0.7574*	0.8759*	0.7571*	0.6952*	1

→ Avg = 0,72

⇒ Good news for estimations: combined score can restore some consistency

Example inconsistencies – estimated data (Scope 1 & 2)

This case shows the combined estimated scope 1&2 emissions for a single company from 2012-2016. Each column represents data from a different provider.



- ⇒ Emission levels can differ by more than factor 2
- ⇒ Even trends can differ

Summary of findings

Analyzed data	Key findings
Unadjusted data	<ul style="list-style-type: none"> - For scope 1 most providers rather consistent; for some providers bigger inconsistencies - Bigger inconsistencies for scope 2 data
Adjusted data	<ul style="list-style-type: none"> - Higher levels of consistency
Reported data according to the GHG protocol	<ul style="list-style-type: none"> - Highest levels of consistency
Estimated scope 1 & 2 data in one score	<ul style="list-style-type: none"> - Improves the level of consistency
Scope 3 data	<ul style="list-style-type: none"> - Reported as well as estimated data: very low levels of consistency

Recommendations for future research and the EU Action Plan

- **GHG accounting & reporting:** Promote universally accepted standard and broad application
- **Estimation methods:** Increase transparency & extend scope of data coverage (esp. regarding SMEs)
- **Risk appraisals:** Go beyond carbon footprinting and develop methods how to incorporate forward looking data