



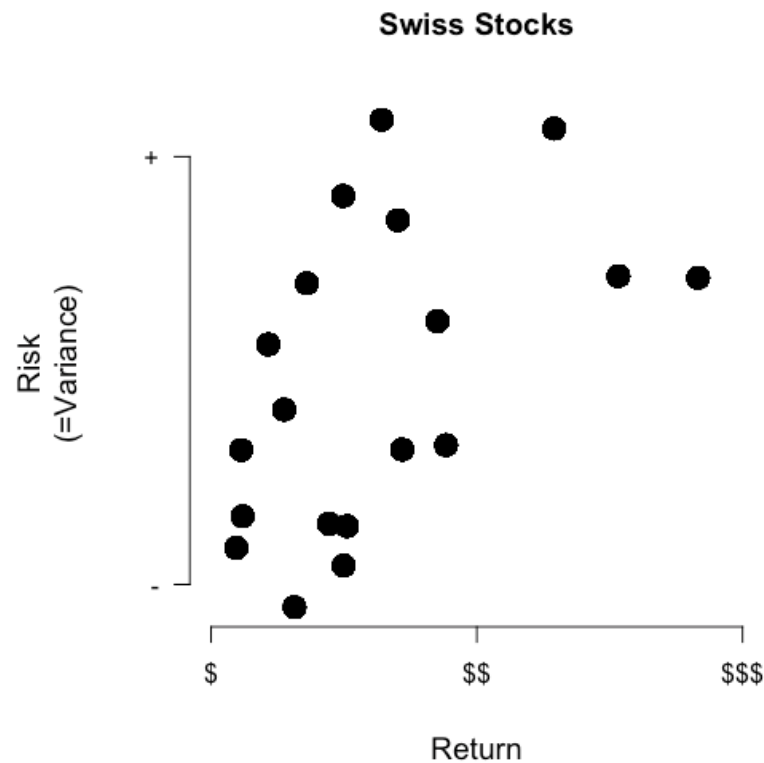
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Risk is not just perceived as variance

Janine Hoffart, Jana Jarecki, Jörg Rieskamp



Observation: Risk/Variance and Return tend to be Positively Related



SMI 20

Positive Relationship
between variance and
expected value

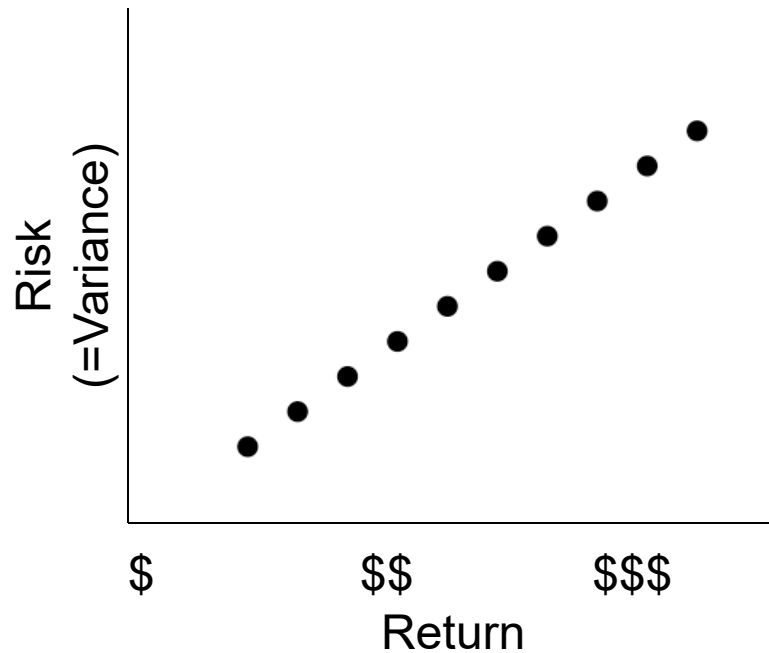
Paradox: **When asked to judge the risk of investment options**

“How risky is it to invest in ... ?”

Far below average ○ ○ ○ ○ ○ Far above average

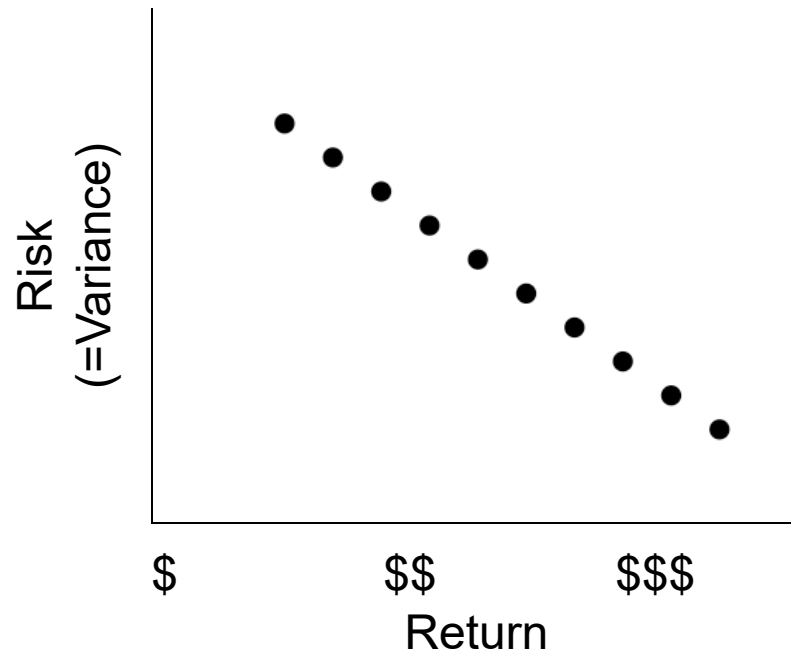
e.g., Kempf, Merkle & Niessen-Ruenzi (2014)

Paradox: Humans perceive a Negative Relationship



True relationship
between risk (variance) and return.

≠



Perceived relationship
between risk (variance) and return.

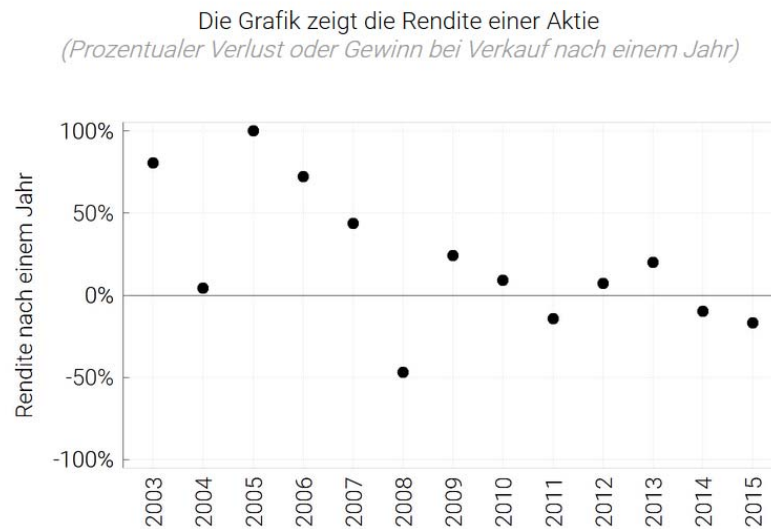
e.g., Kempf, Merkle & Niessen-Ruenzi (2014)

Question:

Do humans perceive risks as costs?

Task:

Judge the riskiness of several real-world stock courses



Study design

*“How **risky** is it to invest in this stock?”*

19 real-world stock developments

True returns only shown graphically

Weiter

Design:

Within-subject manipulation of risk terminology

*“How **risky** is it to invest in this stock?”*

*“How **predictable** is the return trajectory of this stock?”*

*“How **variable** is the return trajectory of this stock?”*

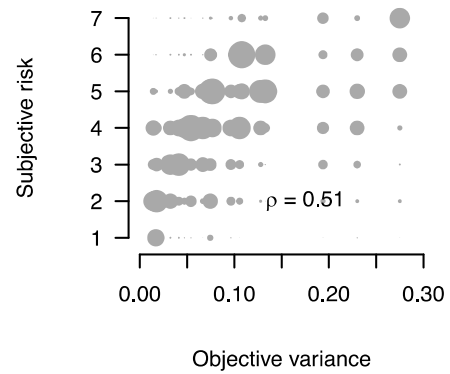
*“How much does the return **fluctuate** for the stock?”*

*“How high is the **return**?”*

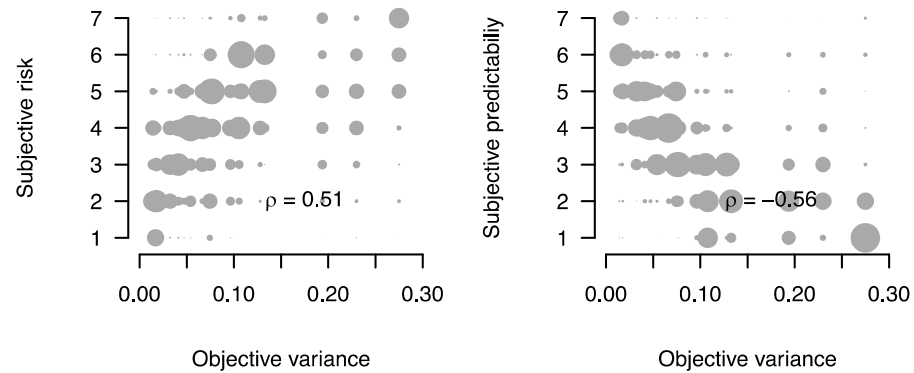
*“How high is the expected **loss**?”*

Question: Which risk terminology allows people to judge the true variance accurately?

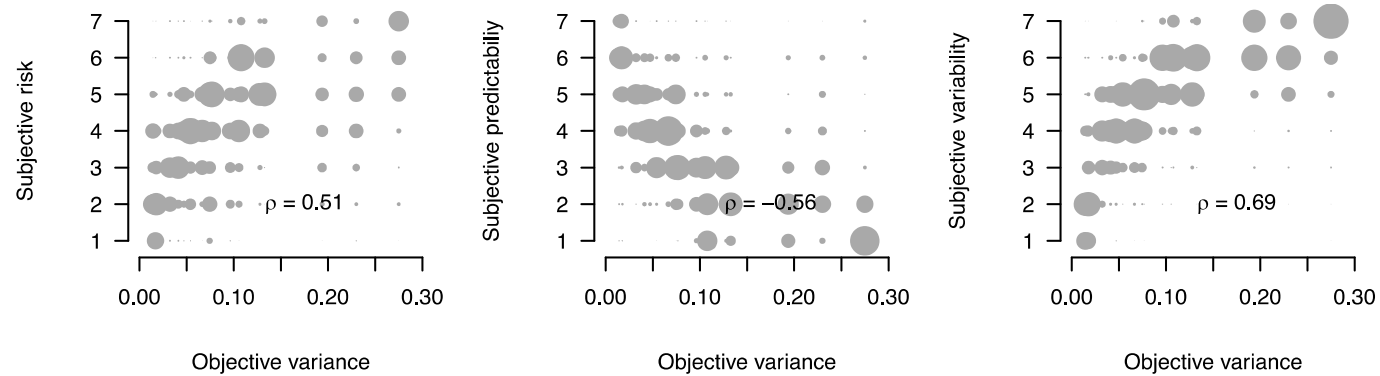
“How **risky** is it to invest in this stock?”



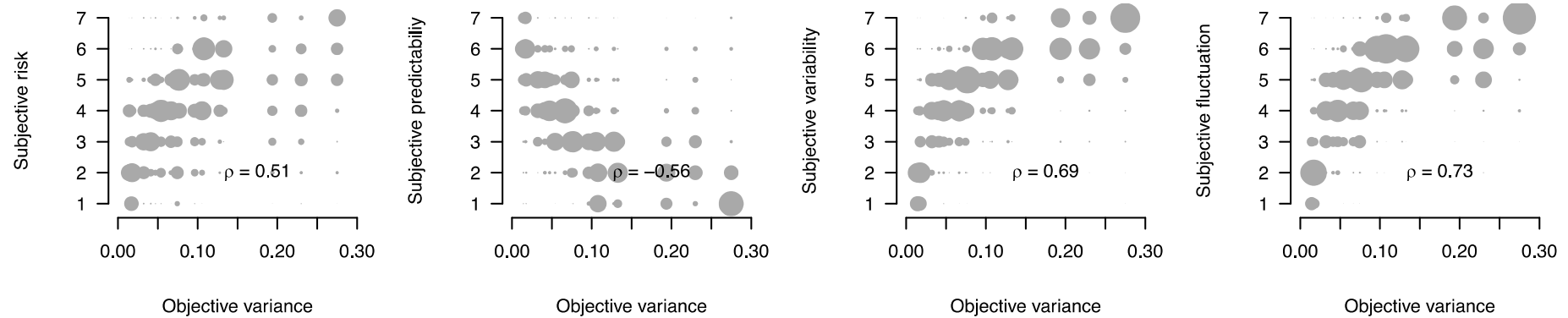
“How **predictable** is the return trajectory of this stock?”



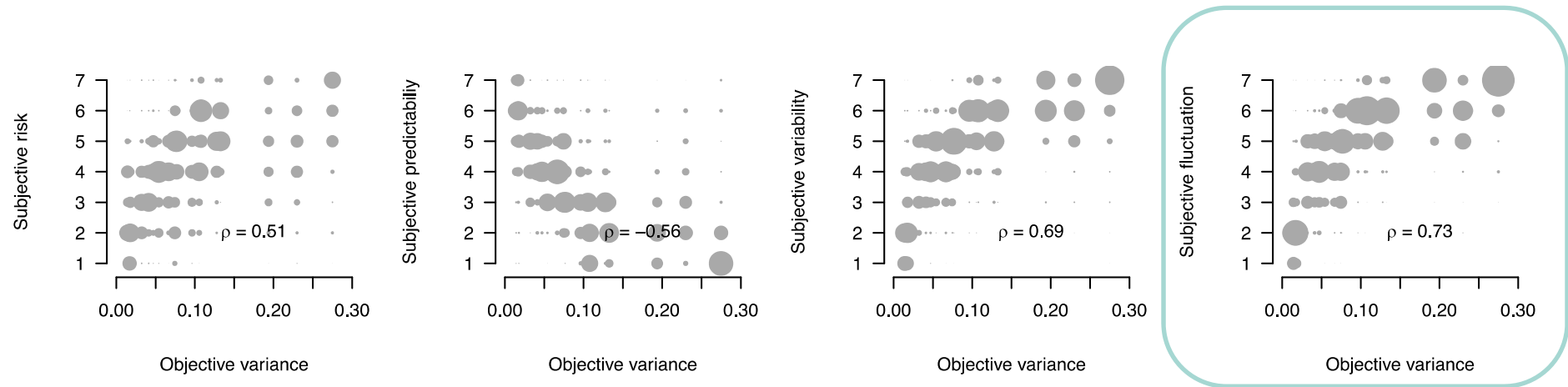
“How **variable** is the return trajectory of this stock?”



“How much does the return *fluctuate* for the stock?”



“How much does the return *fluctuate* for the stock?”



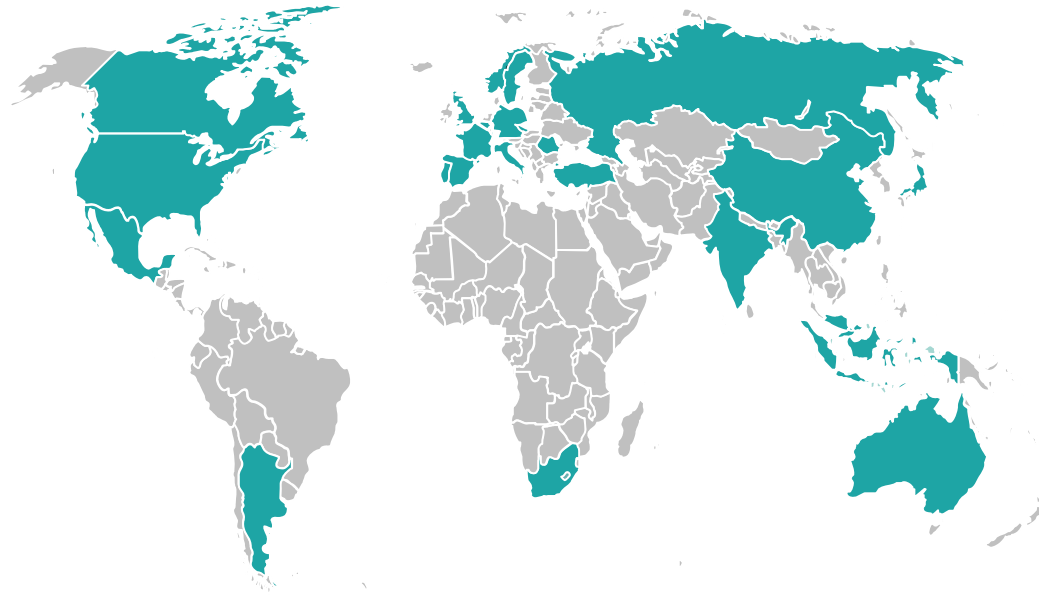
	Scale			
	Risk	Predictability	Variability	Fluctuation
Variance _{Objective}	12.92	-17.43	25.89	28.56
AIC	6293	6049	5450	5264

Open-ended Question: «What does it mean for you if a stock has a high risk?»



Paradoxes related to the perception of variance are driven by differing notions of «risk»

Replication of results with international stocks



Design:

Within-subject manipulation of risk terminology

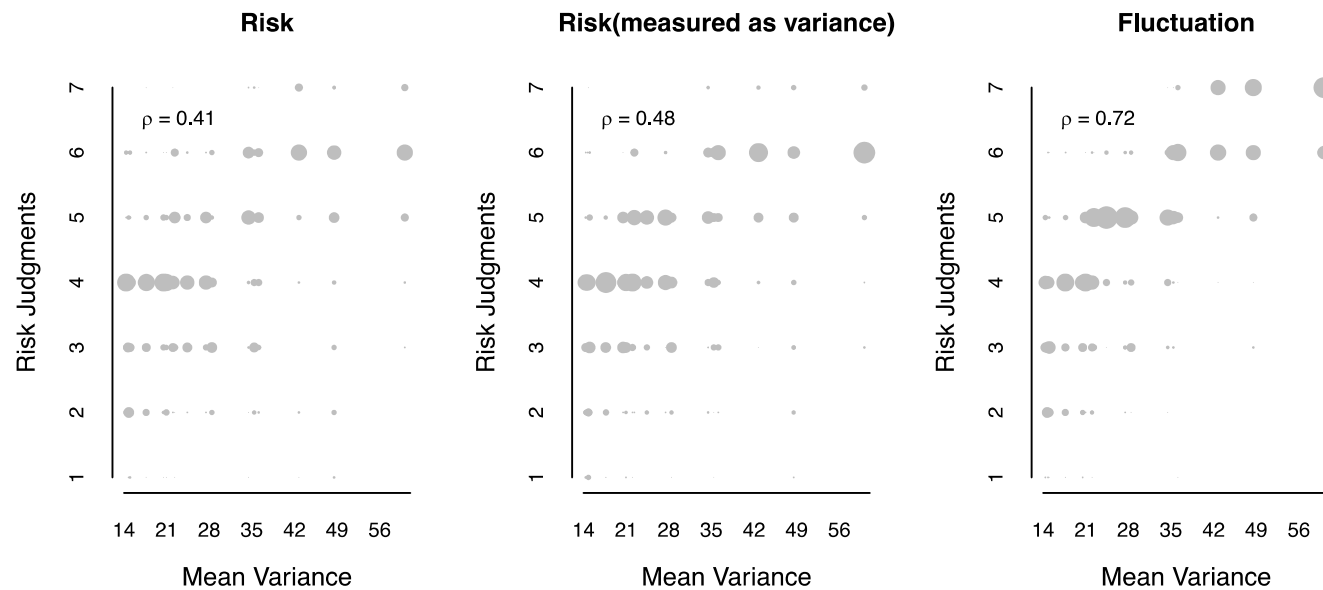
*“How do you judge the **risk** associated with this stock?”*

*“How do you judge the **risk (measured as variance)** associated with this stock?”*

*“How do you judge the **fluctuation** associated with this stock?”*

Results: Replicated

Graph: YES





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“Risk” is no uniform construct

Risk perceived as **cost** more than as variance

Fluctuation as a more accurate alternative given
individuals possess basic knowledge

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