

The International Commerce and Distribution Landscape: New Tensions and Restrictions Along the Global SC

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Perspectives on supply chain risk management

Klaus S. Friesenbichler

Outline

- Risk and its sources
- Snapshot I: Sanctions
- Snapshot II: EU CSDDD
- Risk management

Many sources of risk may affect international supply chains

Interwoven sources of economic risk

- Policy and geopolitics
 - Int'l trade policy
 - Sanctions, wars
 - Interest rates
- Market
 - Development of the (world) economy
 - Firm and industry dynamics
 - Foreign exchange rates
 - Energy prices
- Nature
 - Climate change related events
 - Disasters
 - Pandemic

Yet,

- ... not all risks are equally relevant
- Can the risk be assessed?
- What are some recent developments?
- How can risk be managed?

Risk and uncertainty

Economic uncertainty is *anticyclical*

Knight (1921) defines ...

- **Risk** as a **known probability distribution** over a set of events.
- **Uncertainty** captures **people's inability to forecast** the **likelihood** of events happening.

Theoretical and empirical studies find that uncertainty negatively impacts the real economy (Bloom 2014)

- Esp. investment and employment
- Corporate decisions have to be made on the basis of poorly predictable cost/earnings developments

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Suppose somebody decides to leap from an airplane **without a parachute**

Is this person facing risk?

- Sample space $\Omega = \{\text{"hit the ground"}, \text{"not hit the ground"}\}$
- *Exposure*(“hit the ground”) = lethal
- $P(\text{"hit the ground"}) = 1$
- $P(\text{"not hit the ground"}) = 0$



Assessability & relevance of global risk factors (in %)

Scores pose a composite indicator, averaging the weighting responses. "Low" was weighted with one, "medium" with 0.5 and high with nil.

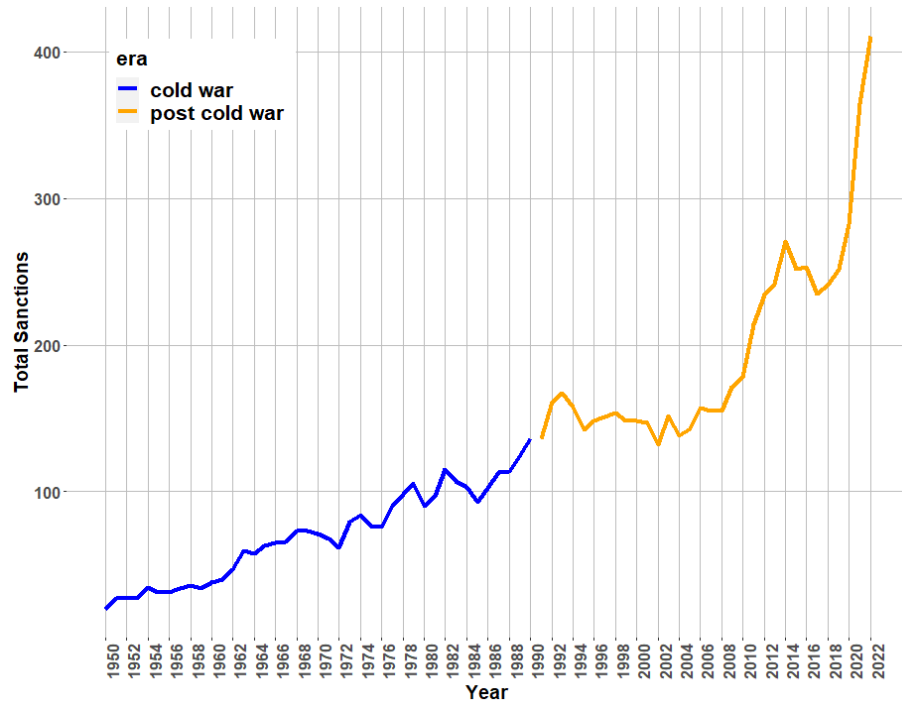
Global risk factors	Assessability			Score	Relevance			Score
	Good	Medium	Low		High	Medium	Little/None	
	In %				In %			
Development of the world economy	2	39	59	0.79	54	38	9	0.73
Foreign exchange rates	10	55	35	0.63	21	37	42	0.40
Interest rates	41	51	8	0.34	11	46	43	0.34
Energy prices	22	64	14	0.46	30	47	22	0.54
International trade policies	4	47	48	0.72	38	44	18	0.60
Climate change	19	58	24	0.52	18	51	31	0.43

Question:

"How high is the uncertainty in your company regarding the development of the following economic policy risk factors and how do you assess their impact on your company?"

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S.: WIFO Industry Survey 2020



S.: Global Sanctions Database

Sanctions increasingly used as a policy tool

International sanctions affect the allocation

- Multiple types of sanctions: Trade, travel, arms, financial, military, etc.
- Multiple objectives: Human Rights, Terrorism, Policy Change, Destabilise regimes, Democracy etc.
- Countries with higher GDP are more likely to impose sanctions on countries with smaller GDP.
- Democracies tend to impose sanctions more frequently and are less often the targets of sanctions.
- Proximity to a target state, including sharing a border, increases the likelihood of sanction imposition.
- Effectiveness (= achievement of objectives) is rather limited

EU Corporate Sustainable Due Diligence Directive

Modelling the EU's production network

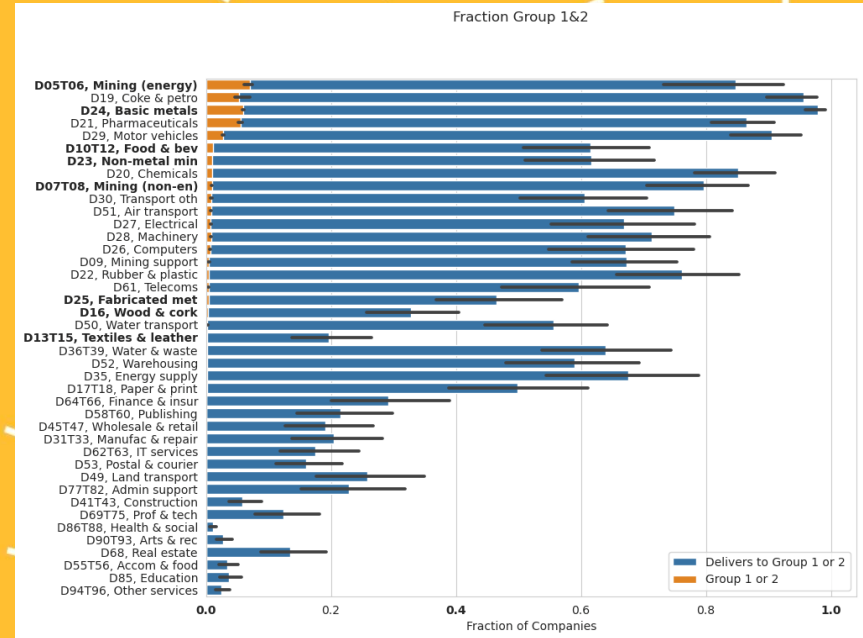
- European register of firms (~30m)
- Sectoral Input—Output data
- Export data for extra-EU countries
- Data on human rights violations
 - Firms before court (Biz and HR Resource Centre)
 - UN Child and Forced Labor data

→ Likelihood that a firm in the EU is confronted with a human rights violation along its value chain

→ Legislation has passed crucial vote last week, but significantly reduced scope

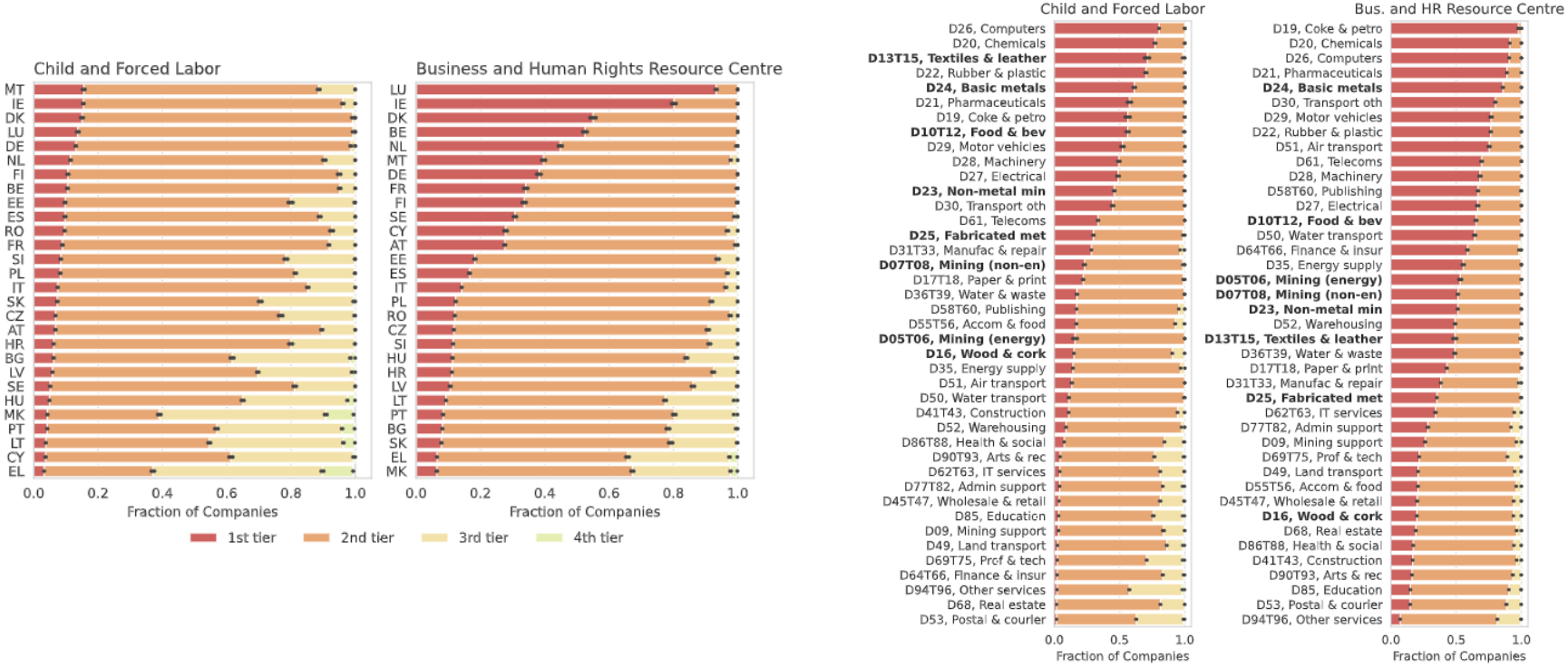
→ Similar actions taken in the US

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S.: Hurt et al., 2023; Felbermayr et al. 2024

Firms' distance to likely HR violations within the network



Risk management

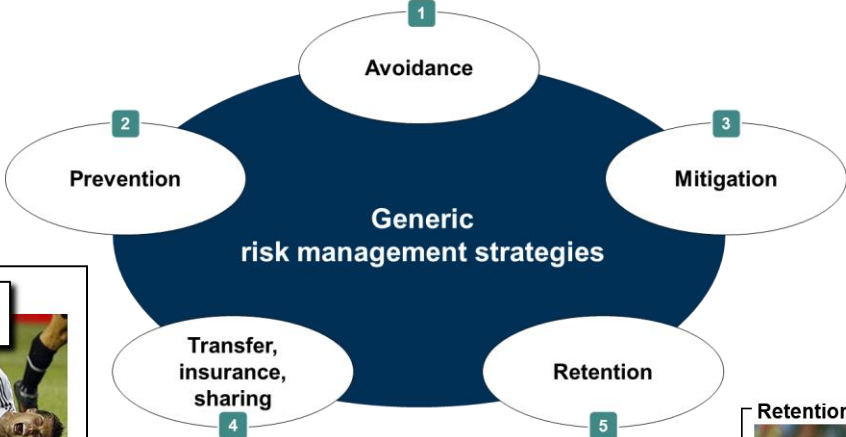
Prevention



Avoidance



Mitigation



Insurance

Cristiano Ronaldo
\$153 million for his lower body



David Beckham
\$78 million for his legs



Retention



Klaus S. Friesenbichler

Deputy Director

klaus.friesenbichler@ascii.ac.at | +4317982601296

Twitter: @FriesenbichlerK

Supply Chain Intelligence Institute Austria

Josefstädter Straße 39, 1080 Wien

ascii.ac.at

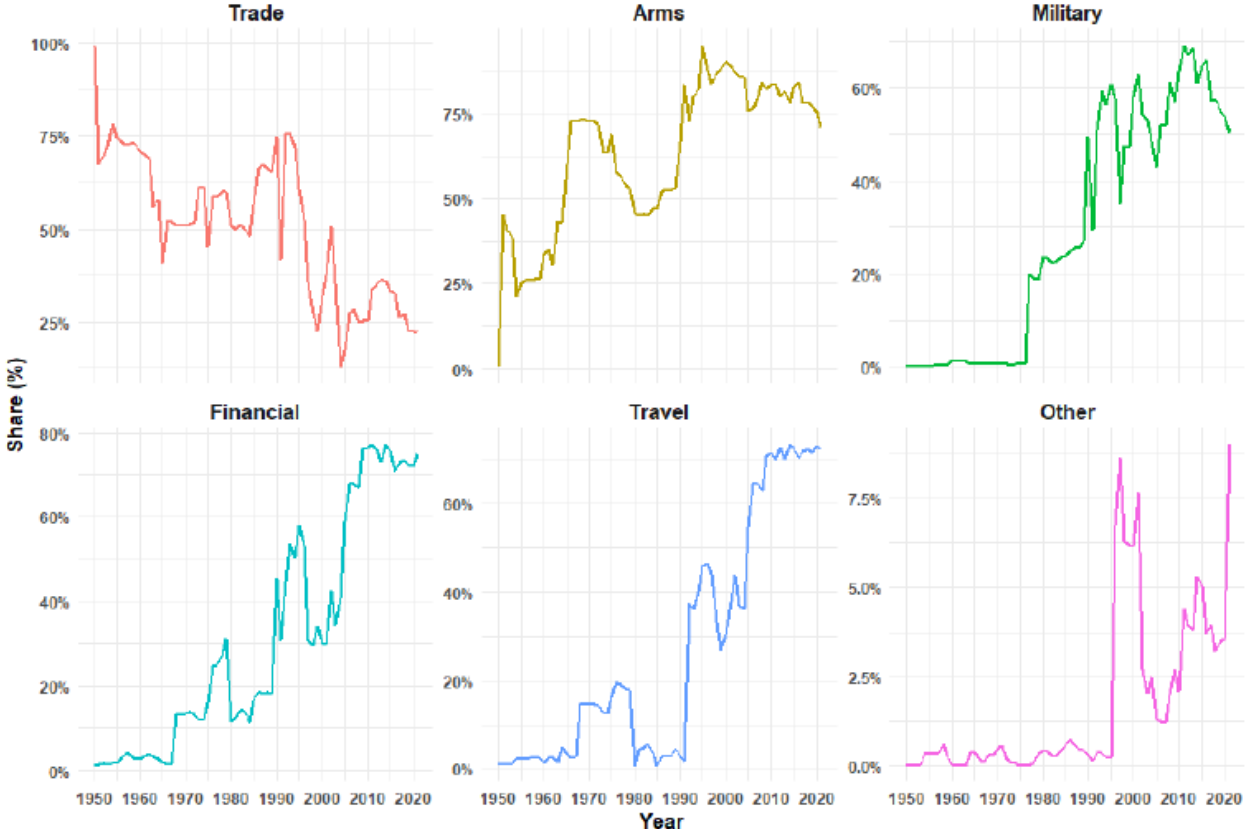
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Evolution of sanctions I

Annual Share of Each Sanction Type Over Time

*A sanctioned country pair can have multiple sanction types in a given year



Evolution of sanctions II

Annual Share of Sanctions by Objective Over Time

*a sanctioned country pair can have multiple objectives in a given year

