



# German Supply Chain Act IT in Supply Chain Risk Management

Arvid Lang - Project Draft

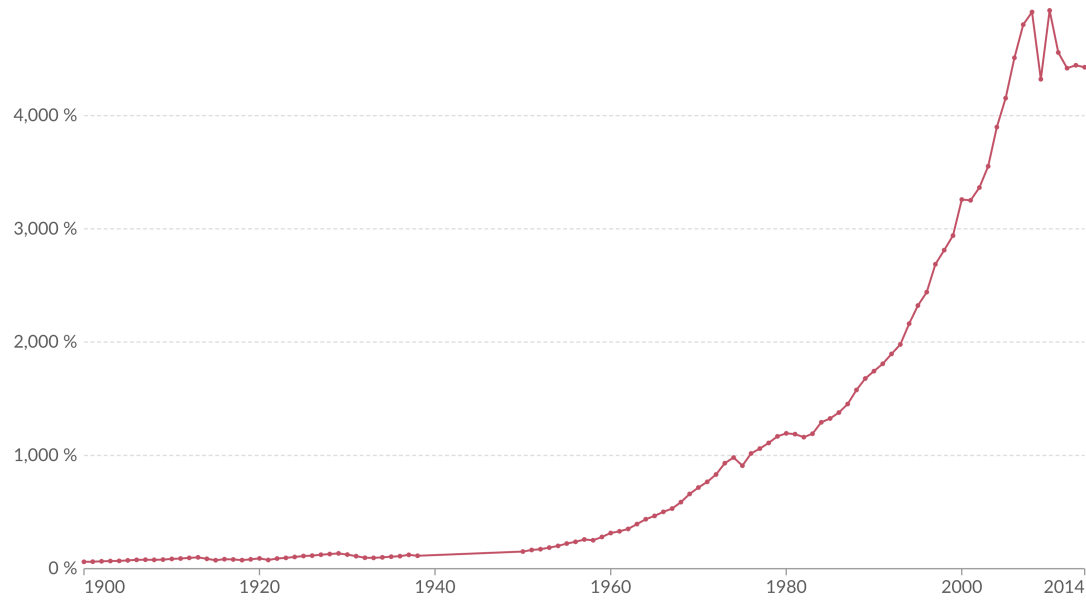


# Developments in Trade and GDP

## Growth of global exports

Total world exports adjusted for inflation (constant prices), relative to 1913. Values correspond to world export volumes indexed to 1913.

Our World in Data



Data source: Federico and Tena-Junguito (2016)

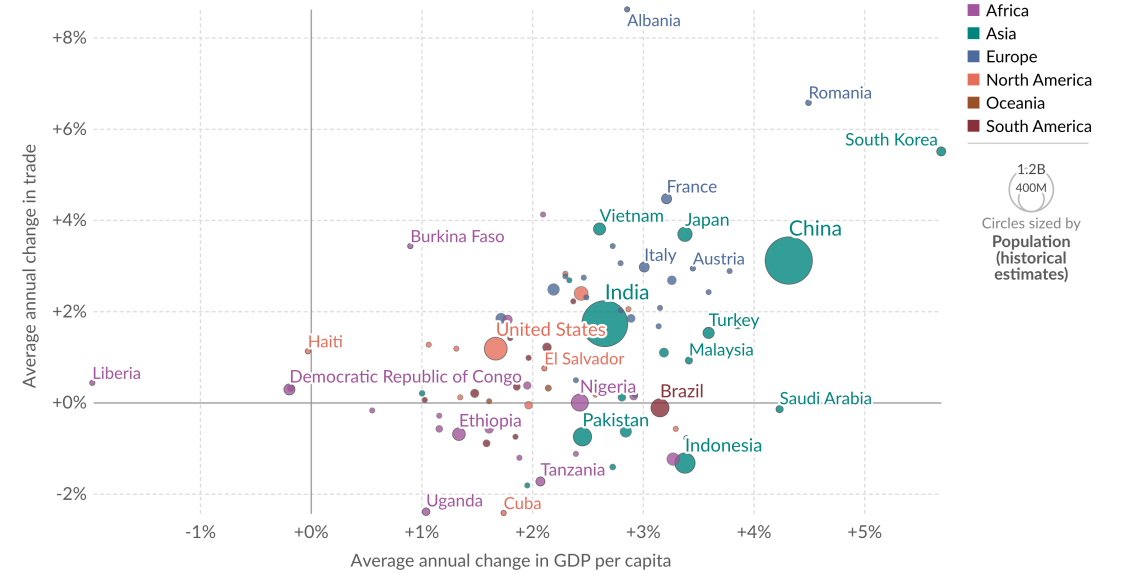
[OurWorldInData.org/trade-and-globalization](https://OurWorldInData.org/trade-and-globalization) | CC BY

Source: <sup>1</sup>

## Annual average growth of trade vs. GDP per capita, 1945 to 2014

Trade is expressed in exports as a share of GDP. GDP per capita is adjusted for inflation and differences in the cost of living between countries.

Our World in Data



Data source: Fouquin and Hugot (CEPII 2016), Maddison Project Database 2020 (Bolt and van Zanden, 2020)

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Source: <sup>1</sup>

# German Trade and Human Rights

## German Foreign Trade Partners 2022 (Import)

Rank	Country	Value in 1,000€
1st	China	192 829 951
2nd	Netherlands	114 997 972
3rd	USA	93 337 697
...		
18th	Turkey	24 716 872
...		
24th	India	15 081 998

Source: own based on <sup>2</sup>

## ITUC Global Rights Index (2014)

- Index that ranks countries according to applied human rights
- Rating 1
  - Labour rights generally guaranteed
  - Associations allowed
  - Violations of rights very rare
- Rating 5
  - Workers with no access to rights
  - Therewith exposed to autocratic regimes

→ **China, India and Turkey with Rating 5**

Source: <sup>3</sup>

# The Supply Chain Act on Due Diligence

- Key aspects for companies:
  - Implementation of Risk Management and Risk analysis
  - Formulation of a policy statement
  - Measures for prevention and remedial action (complaint procedures)
  - Annual documentation and reporting system
- Act takes all supply chains streams into consideration (up-, middle- & downstream)

## Implications

- High risk of undetected human right violations in supply chains
- Required resources can cause problems particularly for small or mid-cap companies

### Research Question:

**How does IT help to detect risks and monitor supply chains in regard to violations to the german supply chain act (LkSG)?**

# IT-Technologies and applications

- Visual Supply Chain Mapping
  - Mapping of suppliers, Location and countries Human Right Index Rating
- Big data analytics (BDA)
  - Ability to process vast amount of data can perform pattern analysis and uncover hidden risk
  - E.g. Evaluation of suppliers questionnaires
- Artificial Intelligence (AI)
  - Able to identify and assess risk
  - Identification of pattern in complex data structures through neural networks
  - Continuous monitoring possible
- Supplier Management & special Software for LkSG
  - Complete visibility of supplier information
  - Possibility of Supplier and Supply Chain Network Risk-Scorecards
  - Support of Documentation and Reporting Obligations

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- <sup>3</sup> International Trade Union Confederation (2014) *ITUC Global Rights Index. The world's worst countries for workers*. Brussels
- <sup>4</sup> Federal Ministry of Labour and Social Affairs (no date) *Background and development*. Available at: <https://www.csr-in-deutschland.de/EN/Business-Human-Rights/Supply-Chain-Act/Background-and-development/background-and-development.html> (Accessed 16th February 2024)

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<sup>9</sup> Sufyaan, A. (2023) *The Power of Digital Technologies in Supply Chain Risk Management*. Available at: <https://revenuesandprofits.com/supply-chain-risk-management/> (Accessed 17 February 2024)