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# Research on Risk in Global Production Networks—New Methodological Directions

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## Abstract

*Risk has become almost ubiquitous in today's global economy and has developed into an emerging topic of global production networks (GPN) research. Recent conceptual contributions emphasize that risks are socially constructed and can gradually convert into a performative risk narrative (PRN) in global production networks. To explore how PRNs can be empirically analyzed, this article aims to outline new methodological directions to risk-related GPN research. Against this background, we discuss two methods: discourse analysis and vignette studies. Hence, we argue for research designs open to qualitative and quantitative methods, to gather the diversity of risk expectations and related actor-specific strategic reactions. With this contribution, we seek to stimulate a critical debate on the methodological reorientation of risk-related GPN research.*

**Keywords** crises, discourse analysis, global economy, GPN 2.0, risk, vignette studies

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## 1. Introduction

By the end of the 2010s risk had become omnipresent in the global economy: economic crises, climate change, outbreak of the Covid-19 pandemic, geopolitical tensions. Risks associated with the global interconnected economy are intensively discussed in politics, science, and the media. A prominent example is the debate on the European Union’s relations with the People’s Republic of China, in which the concept of de-risking—reducing risks arising from dependencies on China—has been brought into focus (The Economist, 2023). Not surprisingly, the topic of risk in the global economy has developed into a promising future research topic in economic geography (Yeung, 2023).

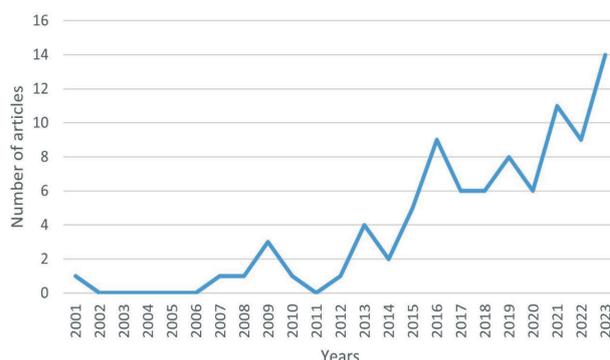
The central importance of risk is also reflected in Global Production Network (GPN)<sup>1</sup> research. In the GPN 2.0 approach by Coe and Yeung (2015), risk is an essential category alongside the three competitive factors (cost-capability ratio, market development, and financial discipline) to explain firm behavior and subsequent geographical (re-)configuration processes in global production networks. This theoretical advancement goes hand in hand with the premise that dealing with risks influences firms’ strategic decisions on locations, sourcing, and the subsequent organizational and spatial configuration of global production networks (Coe & Yeung, 2015).

The number of articles on risk in global production networks has increased over the years (see Figure 1); however, the absolute number of articles and authors dealing with the topic remains limited (e.g., Bryson & Vanchan, 2020; Franz et al., 2018; Lanari et al., 2021; Neise et al., 2023; Schwabe, 2020; Völlers et al., 2023; Yeung & Coe, 2015). Overall, it can be stated that the discussion of risk in GPN research has not yet been sufficiently explored considering its increasing relevance for understanding recent global socio-economic and geo-political processes.

To give risk related research new impetus, we suggested elsewhere a conceptual renewal of risk in the GPN approach (see Völlers et al., 2023). We proposed an analytical framework based on a *performative risk narrative* (PRN) perspective, to enhance the causal explanation of risk as a dynamic driver in the evolution of global production networks. However, in order to conduct empirical research that builds on these conceptual considerations, adequate methodological developments are required. The aim of this article is

therefore to outline new methodological directions in risk-related GPN research<sup>2</sup>. To do so, the next section recapitulates the theoretical framework of risk in GPN developed by Völlers et al. (2023). Built on this framework we propose two methods—discourse analysis and vignette studies—to advance the empirical analyses of risk in global production networks. Finally, a conclusion is drawn.

Figure 1 “Risk” and “Global Production Network” in the Scopus Database (2001–2023)



Note. Number of articles in the Scopus database (2001–2023) in which both the word “Risk” and “Global Production Network” appear in the title, abstract, and/or keywords. Source: Scopus, 2024, n.d.

## 2. Reconceptualizing Risk in GPN: Towards a Performative Risk Narrative Perspective

In Völlers et al. (2023), we adopted a refined perspective on the notion of risk as a starting point for reconceptualizing risk in GPN. The understanding of risk in the GPN approach is derived from Knight’s (1921) definition of risks as rationally calculable, in contrast to uncertainties. In doing so, we challenged the conventional premise that a simple, objective evaluation of risk probabilities is adequate to fully explain the behavioral patterns of GPN actors and offer a social constructivist understanding of risk to the GPN 2.0 approach. This perspective highlights the fact that risk is a subjective and constantly evolving concept influenced by human thinking, perception, and social interactions (see Christiansen, 2021). Thereby the importance of *fictional expectations* (Beckert, 2013) is highlighted, which represent cognitive or narrative frameworks that individuals employ to make sense of the world and steer their decisions when confronted with uncertainty (see Fuller, 2023).

Considering the above, a complementary facet of the social construction of risk is the collective meaning creation (Christiansen, 2021). Through the exchange of information between individuals, groups of people agree on specific risk expectations and define risk narratives concerning the future that validate strategic actions in the present (Lanari et al., 2021). These risk expectations and narratives are affected by socio-cultural elements and are continuously open to reinterpretation and reframing. The social constructivist viewpoint acknowledges that risk is not a separate entity “waiting to be measured” (Slovic, 2000, p. 329), but rather a phenomenon shaped by subjective perception.

Based on this understanding of risk, we introduced a PRN perspective to enable a more actor-specific identification of how and where risk is produced (see Völlers et al., 2023). This concept of risk embodies a particular perspective that refers to the nature of *GPN risk* (Coe & Yeung, 2015) as interconnected cross-border risk, relevant to the evolution of entire production networks. From a PRN perspective, performative narratives of GPN risk develop in a dynamic interactive process: 1) Emerging from subjective risk perceptions of multiple embedded individual decision-makers dominant risk perceptions translate into 2) collectively shared risk expectations on the intra-organizational level, and 3) gradually transform into causally effective PRNs among interconnected GPN actors and coupled places. These dynamic processes can have implications spanning the entire global production network, influencing the strategic decisions made by GPN actors (see Christiansen, 2021; Lanari et al., 2021). In this way, the PRN perspective can be understood as an analytical tool to enable context-sensitive analysis of GPN risks on different spatial levels.

### 3. New Methodological Directions to Study Risk in Global Production Networks

Building on the presented analytical framework to conduct empirical research on risk in global production networks, it is necessary to go beyond a pure lead firm focus by including relevant non-commercial actors across different spatial scales (see Bryson & Vanchan, 2020; Franz et al., 2018). Furthermore, research should be conducted multilocally to study the different socio-spatial decision-making environments. Research designs of empirical studies should be open to qualitative and quantitative methods, to

gather the diversity of risk expectations and related actor-specific strategic reactions. Interviews with key decision-makers (e.g., by using the technique of semi-structured interviews) proved to be a valuable methodological approach in GPN research (e.g., Yeung, 2022; Helwing et al., 2023; Neise et al., 2023). However, to advance empirical research we suggest two methods that are, to the best of our knowledge, new to risk-related GPN research:

#### 3.1 Discourse Analysis

The analysis of GPN risk requires understanding the risk perception and expectations of organizational decision-makers, and understanding how risk is debated in the public sphere (or extra-organizational environment). Discourse analysis provides an analytical tool to bridge the causal relationship between structural socio-spatial processes and decision-makers agency (Richardson & Jensen, 2003). Therefore, it is essential to analyze the public discourses on risk within the exogenous context-environment, as discourses can influence (directly or indirectly) actor-specific risk perceptions and expectations in global production networks. For example, media coverage of regions and nations plays a vital role in the assessment of investment and divestment decisions by companies (e.g., Friebel & Heinz, 2014; Tewari & Pathak, 2015). If risks are associated with specific locations in the media, these may jeopardize companies' investment decisions and, thus, the economic development of the respective locations. As a further method for investigating risk in global production networks, we propose conducting discourse analyses on risk in the public discourses. Discourse analysis approaches are a common method in economic geography research (e.g., Kelly, 2001; Wong & Bunnell, 2006; Golinski & Henn, 2015), but have not yet been used in GPN research so far.

Digitization has made large amounts of text available to researchers for analysis; with news media, social media, and parliamentary debates providing a particularly valuable resource for analyzing risks in the public sphere. To analyze the material, researchers can use different approaches to discourse analysis (for an overview, see Keller, 2012). The dominant form of discourse analysis in human geography builds mainly on post-structuralist theory (Lees, 2004). In this line of thinking, discourses are not understood as reflections or (mis)interpretations of *re-*

ality, but as socially constructed and changeable over time. Discourses are also spatially sensitive as they are very context-specific (Weichert & Höferl, 2013). For example, in their study on media discourses on nuclear energy in China, Du and Han (2020) show that discourses differ significantly between the national and local scale (also see Everts & Müller, 2020). While national newspapers in China tend to support nuclear energy, local newspapers focus on the risks of nuclear energy; however, differences in public discourses also emerge in international comparisons, as shown by Ganowski and Rowlands (2020) when comparing benefit or risk frames in media discourses on energy storage technologies in Canada and the United Kingdom.

The spatial sensitivity of discourse analysis offers possibilities for GPN research to conduct discourse analysis on a given risk-related topic in different spatial contexts. This is valuable in understanding the socio-cultural and political context in which organizational decision makers in global production networks are embedded, and by which they are (potentially) influenced. Two main forms of text analysis are well suited for implementing discourse analysis in risk-related GPN research. Firstly, lexicometric methods to examine macro-level discursive structures of language use in large text corpora. For this purpose, primarily quantitative indicators and measures are used, for example, to identify the number of certain words. Secondly, so-called micro-methods of text analysis, such as frame and content analysis. These methods aim to examine the meanings of texts in their respective contexts. This also includes the in-depth analysis of singular texts (Mattissek, 2010; Mattissek & Glasze, 2016).

### 3.2 Vignette Studies

To investigate the influence of risk narratives on GPN-actors' risk judgments and resulting actions, vignette studies (also called factorial surveys) are a useful methodological approach. The approach allows the study of the risk assessments or attitudes of individuals, to analyze expected behavior under uncertain (future) conditions. Vignette studies are widely used in behavioral economics and sociological research (see Atzmüller & Steiner, 2010; Oll et al., 2018), but have been sparsely used in economic geography, including GPN studies.

Vignette studies usually combine behavioral experiments with a survey. Each vignette consists of a different contextual variation (e.g., introduction of tariffs, new regulation on foreign ownership) combined with several variables (e.g., tariff amount, maximum foreign share in a company). In an experimental setting, the respondents are confronted with this series of vignettes. In each vignette, one factor (context or variable) is changed and the respondents are requested to make their decision (e.g., reduce, maintain, or increase investment). A follow-up survey is used to collect respondent-related data (e.g., country of origin, export-oriented business). By simultaneously presenting a range of contextual and explanatory factors within an experiment, vignette studies have the advantage of exposing participants to more realistic scenarios (Atzmüller & Steiner, 2010; Neise et al., 2021; Oll et al., 2018; Sohns & Wójcik, 2023).

In this vein, vignette studies complement two analytical tools for examining PRN in GPN studies, which should be combined with interviews with decision-makers and discourse analysis: Firstly, a vignette study may be applied to examine which circulating risk narratives become efficacious (i.e., performative) within a global production network. To design vignettes for an experimental setting, extensive discourse analysis serves as the means to obtain and substantiate realistic scenarios mirroring anticipated risk narratives. Secondly, vignette studies may be used to examine different responses of GPN actors to specific contextual environments (e.g., within actor relationships or at locations) that can be designed as different vignettes. As a result, vignette studies can support researchers in empirically capturing more complex relationships between actors' risk expectations and risk narratives, in a global production network (see Völlers et al., 2023). The insights from the interviews help create potential participant responses in the vignettes and gather information about what type of response-related data should be included in the survey.

It is also useful to verify the results of the vignette study through a subsequent quantitative or qualitative study. For example, the research design of Sohns and Wójcik (2023) provides an intriguing approach to test the robustness of results of a hypothetical vignette study against actual decision-making, through a follow-up qualitative study. Sohns and Wójcik (2023) conducted a vignette study of the Brexit and the FinTech industry and examined managers' reloca-

tion intentions in a first step. In a second step, three years later, they collected qualitative data on actual relocation outcomes.

It is fair to mention that the use of vignette studies requires an extensive empirical approach. However, by combining the vignette study with interviews and discourse analysis, in advance or after the vignette study, is a powerful tool to dig into and explore the different angles of the socially constructed nature of risk and its effect on global production networks.

#### 4. Conclusion

The topic of risk in the global economy has developed into a promising avenue for future GPN research. In recent years the number of articles on the empirical phenomenon of risk in global production networks has increased as well as the related theoretical GPN debates on the concept of risk (see Coe & Yeung, 2015; Völlers et al., 2023). By advocating for a stronger conceptual integration of a social constructivist premise we suggested elsewhere a conceptual renewal of risk as an analytical category in the GPN approach (see Völlers et al., 2023). However, this comes with a need for methodological alignment on par with this conceptual advancement to conduct adequate empirical research.

Therefore, we advocate for two methods—discourse analysis and vignette studies—to enhance empirical research on risk in global production networks. Firstly, we endorse discourse analysis as a powerful method to analyze the public debate on risk that contributes to understanding the specific socio-cultural and political context in which organizational decision-makers in global production networks are embedded. Secondly, we encourage researchers to apply the experimental design of vignette studies. This method aids empirical work in examining the influence of different risk narratives on GPN actors' judgments and investigating different responses of GPN actors to specific contextual environments. Both methods are complementary to the well-established interview methods and contribute to the advancement of a methodological toolbox in GPN research.

Further studies with this renewed set of methods are necessary to systematically examine how and where risk is produced and how risk impacts the configuration of global production networks. In times of global

uncertainty, there is currently an almost unlimited number of empirical cases worth investigating from a GPN perspective, offering a unique opportunity to enhance researchers' and practitioners' understanding of risk-related network dynamics.

#### Notes

<sup>1</sup> In the following we use the acronym "GPN" to refer to the GPN approach, and "global production networks" to refer to the empirical phenomenon (see Yeung & Coe 2015, 30).

<sup>2</sup> Although we are aware of methodological approaches to risk analysis in related research discussions, such as in the global supply chain literature, our focus is on advancing methods for the empirical analysis of risk in GPN research.

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