

# Teaching guidelines

## Supply Chain Resilience in a Geopolitical Era

This work was supported by the Polish National Agency for Academic Exchange, Strategic Partnerships, “Higher Education for Resilient Economy”, grant number (BNI/PST/2023/1/00016)

## Material information

This teaching material is designed for courses in Supply Chain Management, International Business, Operations Management, and Strategic Management, offering students a theoretically grounded and empirically informed exploration of how firms build resilience in the context of geopolitical turbulence. It addresses a central question of contemporary business strategy: how organisations can sustain performance and adapt their supply chains in an increasingly unstable and unpredictable global environment shaped by persistent geopolitical risk.

The material begins with an accessible conceptualisation of supply chain resilience, defined as the ability of firms to anticipate, absorb, respond to, and recover from disruptions. It situates this concept within the broader context of a shifting global economy, where geopolitical tensions, trade conflicts, and systemic shocks are no longer exceptional events but structural features of the business landscape. Students are introduced to the idea that resilience is not a static attribute, but a dynamic and continuously evolving capability shaped by organisational learning and adaptation.

Building on this foundation, the material explores how geopolitical turbulence affects global value chains and firm-level decision-making. Drawing on real-world examples - including sanctions regimes, trade restrictions, and disruptions in key maritime routes such as the Red Sea and Suez Canal - it demonstrates how localized geopolitical events generate cascading effects across global supply networks. Students analyse how such disruptions increase costs, extend lead times, constrain logistics capacity, and challenge just-in-time production systems, particularly in highly interconnected manufacturing sectors.

A distinctive feature of this resource is its focus on the role of firm capabilities in responding to disruption. Moving beyond efficiency-oriented approaches, the material introduces the Dynamic Capabilities View as a central theoretical framework. Students examine how firms develop the abilities to sense emerging risks, seize strategic responses, and reconfigure their operations in the face of uncertainty. This perspective is contrasted with the Resource-Based View, highlighting the limitations of static resource advantages in rapidly changing environments and emphasising the importance of adaptability under conditions of geopolitical instability.

The material further integrates a strong empirical component through the presentation of a study based on Partial Least Squares Structural Equation Modelling (PLS-SEM), conducted on a dataset of 341 manufacturing firms in Poland. This context provides a particularly relevant case due to its deep integration into European and global value chains and its exposure to regional geopolitical tensions. Students engage with empirical findings that illustrate how geopolitical disruptions activate both proactive and reactive dynamic capabilities within firms, and how these capabilities mediate the relationship between external shocks and organisational outcomes.

Through this analysis, learners explore how proactive capabilities - such as risk anticipation and preparedness - and reactive capabilities - such as rapid response and recovery - interact to shape supply chain design and resilience. The material demonstrates that while proactive and reactive capabilities jointly influence the redesign and quality of supply chain structures, reactive capabilities play a particularly critical role in maintaining operational continuity and performance during crises. This encourages students to understand resilience as an outcome of capability deployment, rather than a direct consequence of external conditions.

The teaching resource also emphasises the forward-looking nature of geopolitical risk. Students are introduced to the concept of the Geopolitical Risk Index and the distinction between geopolitical threats and realised events. This framework helps explain why anticipated instability can influence firm behaviour even more strongly than actual disruptions, shaping investment decisions, sourcing strategies, and network configurations before shocks materialise.

Throughout the material, students are encouraged to engage critically with key contemporary questions:

- What does supply chain resilience mean in a world of persistent geopolitical turbulence?
- How do geopolitical risks influence firm behaviour even before disruptions occur?
- To what extent are dynamic capabilities more important than resource endowments in shaping resilience?
- How should firms balance efficiency with adaptability in supply chain design?
- What role can policy and institutional support play in strengthening firm-level resilience?

The resource combines theoretical perspectives, empirical evidence, and real-world examples to foster analytical thinking and applied understanding. Students are encouraged to connect management theory with strategic decision-making and to assess how firms transform uncertainty into adaptive responses through capability development.

While primarily intended for advanced undergraduate and graduate courses, the material is also well suited for master-level seminars focusing on supply chain strategy, risk management, or organisational adaptation. Its modular structure allows instructors to tailor sessions around themes such as geopolitical risk and supply chains, dynamic capabilities, resilience and recovery, global logistics disruptions, or the strategic redesign of production networks in turbulent environments.

## Learning objectives and outcomes

This teaching material focuses on how firms build supply chain resilience in the context of persistent geopolitical turbulence. Its core objective is to help students understand how geopolitical risk - arising from conflicts, trade tensions, and political instability - shapes supply chain design, operational performance, and strategic decision-making in manufacturing industries. It highlights the shift from efficiency-driven models toward adaptability-oriented approaches, where resilience becomes a critical capability rather than a by-product of stable environments. The material emphasises the strategic role of dynamic capabilities - particularly sensing, seizing, and reconfiguring - in enabling firms to anticipate, respond to, and recover from disruptions. It underscores the importance of both proactive and reactive responses, showing how firms must simultaneously prepare for potential shocks and react effectively when they occur. At the same time, it illustrates the limitations of traditional resource-based perspectives in turbulent environments and the need for continuous adaptation.

Through empirical analysis and theoretical reflection, students evaluate how geopolitical disruptions activate firm-level capabilities and how these capabilities translate into supply chain redesign and resilience outcomes. The material also highlights the forward-looking nature of geopolitical risk, demonstrating how anticipated threats - not only realised events - influence firm behaviour and strategic choices. Learning outcomes are categorized as follows:

### Knowledge

- The student is able to explain the concept of supply chain resilience and its relevance in an environment of persistent geopolitical turbulence.
- The student understands how geopolitical risk, including acts and threats, affects global value chains and firm-level decision-making.
- The student can describe the key differences between the Resource-Based View and the Dynamic Capabilities View, particularly in the context of stable versus turbulent environments.
- The student understands how dynamic capabilities - specifically sensing, seizing, and reconfiguring - contribute to building and sustaining supply chain resilience.

### Skills

- The student is able to identify and assess risks within global value chains using real-world examples of geopolitical turbulence.
- The student is able to critically evaluate how firms transform external shocks into adaptive responses through capability development.

### Social Competences

- The student is able to formulate and defend informed opinions on how firms should respond to geopolitical disruptions in global supply chains.

- The student can engage in discussions on the trade-offs between supply chain efficiency and resilience in conditions of persistent uncertainty.
- The student is able to critically discuss the role of firms, institutions, and international cooperation in mitigating the effects of geopolitical risk.

## Overview

The teaching materials - consisting of a PowerPoint presentation and an accompanying video - are designed to support instruction in Supply Chain Management, International Business, Strategic Management, and Operations Management, with a particular focus on how firms build resilience in the face of persistent geopolitical turbulence. Both materials follow a coherent and integrated structure, allowing instructors to use them flexibly in classroom settings or as part of asynchronous learning environments.

The lecture begins by introducing the concept of supply chain resilience in a contemporary context, defining it as the ability of firms to anticipate, absorb, respond to, and recover from disruptions. This conceptual foundation is situated within a global environment characterised by increasing instability, where geopolitical tensions, trade conflicts, and systemic shocks have become structural rather than episodic. Students are guided to understand why traditional efficiency-driven models are no longer sufficient and why adaptability and responsiveness are now central to effective supply chain management.

Building on this foundation, the material explores how geopolitical turbulence affects global value chains and operational decision-making. The lecture draws on real-world examples - including sanctions regimes, trade tensions, and disruptions to critical logistics routes such as the Red Sea and Suez Canal - to illustrate how localized events generate cascading effects across international production networks. Students examine how such disruptions increase lead times, raise transport and compliance costs, constrain logistics capacity, and challenge just-in-time systems, particularly in highly interconnected manufacturing sectors.

A central analytical component of the lecture focuses on firm-level responses to disruption. Students are introduced to the Resource-Based View and its limitations in volatile environments, followed by the Dynamic Capabilities View as a more suitable framework for understanding adaptation under uncertainty. The lecture explains how firms develop and deploy key capabilities - sensing emerging risks, seizing strategic responses, and reconfiguring operations - to manage disruption and sustain performance. This section emphasises that resilience is not a static characteristic, but a dynamic and capability-driven process.

The material further incorporates an empirical study based on Partial Least Squares Structural Equation Modelling (PLS-SEM), using data from 341 manufacturing firms in Poland - a context particularly exposed to geopolitical tensions due to its strong

integration into European and global value chains. Students are introduced to the logic of the empirical approach and guided through the analysis of how geopolitical disruptions activate both proactive and reactive capabilities within firms. The lecture demonstrates that disruptions themselves do not directly improve outcomes; instead, their effects are mediated by how effectively firms respond.

Particular attention is given to the distinction and interaction between proactive and reactive capabilities. Students explore how proactive capabilities contribute to preparedness and anticipation, while reactive capabilities enable rapid response, recovery, and operational stabilisation. The lecture highlights that both types jointly shape supply chain design, but that reactive capabilities play a particularly critical role in maintaining resilience during crises. This reinforces the idea that adaptation depends on capability deployment rather than external conditions alone.

The lecture also introduces the concept of geopolitical risk as a measurable and forward-looking phenomenon. Students learn about the Geopolitical Risk Index and the distinction between geopolitical threats and realized events. This framework helps explain why anticipated instability can influence firm behaviour even more strongly than actual disruptions, shaping strategic decisions, sourcing strategies, and supply chain configurations before shocks materialise.

The final section situates these insights within broader managerial and policy discussions. It encourages students to reflect on how firms can balance efficiency with resilience, how organisations can develop capabilities for continuous adaptation, and how institutional environments can support firms operating under uncertainty. The lecture highlights the importance of organisational learning, information sharing, and coordinated responses in strengthening resilience at both firm and system levels.

Overall, the materials guide students through the conceptual, empirical, and strategic dimensions of supply chain resilience, encouraging them to critically assess how geopolitical turbulence reshapes global production networks, firm behaviour, and the foundations of operational stability in an increasingly uncertain world.

## Pre-lecture preparation

No specific prior preparation is required to benefit from this lecture. The material is designed to be accessible to students without advanced background knowledge, as all key concepts related to supply chain resilience, geopolitical risk, and dynamic capabilities are introduced and explained during the session. However, students may benefit from refreshing their understanding of basic empirical research methods, particularly Partial Least Squares Structural Equation Modelling (PLS-SEM). Familiarity with the main assumptions of PLS-SEM, the logic of model estimation, the interpretation of path coefficients and mediation effects, as well as the method's limitations, will support a deeper engagement with the empirical section of the lecture.

This background knowledge will help students more effectively understand how theoretical relationships between geopolitical disruptions, dynamic capabilities, and supply chain outcomes are tested and interpreted in real-world research contexts.

## Suggested usage

These teaching materials can be used in both synchronous and asynchronous formats, depending on the instructor's preference. The lecture is structured to be accessible without prior specialised knowledge, as all key concepts related to supply chain resilience, geopolitical risk, and firm adaptation are introduced during the session. However, students may benefit from a general understanding of how disruptions affect global value chains, including challenges such as delays, supplier dependencies, and network vulnerabilities. A basic familiarity with how empirical results are interpreted can also support deeper engagement with the analytical component. This optional preparation helps students more effectively connect theoretical insights with real-world supply chain challenges and engage more actively in discussion.

## Engagement activities

This lecture can be supplemented with a range of interactive activities designed to enhance student engagement and deepen understanding of the topic. These activities are flexible and can be used either before the lecture to activate prior knowledge, or after to reinforce key concepts and encourage critical thinking. They are suitable for both live and asynchronous teaching formats.

Activity	Description
Disruption mapping exercise	<p><b>Objective:</b> Students develop understanding of how geopolitical disruptions affect supply chains and create cascading operational challenges.</p> <p><b>Activity:</b> Students work in small groups on a short case (e.g. Suez Canal disruption or sanctions scenario) and identify key vulnerabilities such as supplier dependencies, transport routes, and logistics bottlenecks. They map the direct and indirect effects on costs, lead times, and production continuity. Finally, each group proposes immediate response strategies and briefly presents their conclusions.</p>
Capability diagnosis exercise	<p><b>Objective:</b> Students apply the Dynamic Capabilities framework (sensing, seizing, reconfiguring) to real-world firm behaviour.</p> <p><b>Activity:</b> Students analyse a firm-level scenario and classify observed actions into sensing, seizing, and reconfiguring capabilities. They assess whether the firm's approach is primarily proactive or reactive and identify strengths and gaps in its capability set. The activity concludes with a short discussion on how these capabilities influence resilience outcomes.</p>

<p>Debate: Efficiency vs Resilience</p>	<p><b>Objective:</b> students critically evaluate strategic trade-offs between efficiency and resilience in supply chain management.</p> <p><b>Activity:</b> Students are divided into two groups representing opposing perspectives: one prioritising efficiency (e.g. lean, just-in-time systems) and the other prioritising resilience (e.g. redundancy, flexibility). Each group prepares arguments supported by lecture concepts and real-world examples of geopolitical disruptions. The activity concludes with a structured debate and a brief synthesis of key insights.</p>
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## Post-lecture activities

Following the lecture, students can deepen their understanding by applying the concepts of geopolitical risk, supply chain resilience, and dynamic capabilities to real-world developments. Post-lecture activities involve systematic observation of global events over a three-month period, during which students monitor selected regions and identify emerging developments that may evolve into disruptions affecting supply chains. This may include political tensions, trade disputes, regulatory shifts, or early signs of conflict that could influence logistics networks, sourcing strategies, or production stability.

Students are encouraged to classify observed developments as either geopolitical threats (anticipated tensions) or geopolitical acts (realised disruptions), and to reflect on how even small-scale or early-stage signals may influence firm behaviour. By documenting and comparing these observations, students develop a forward-looking perspective on risk, focusing on how uncertainty shapes decision-making before disruptions fully materialise.

This continuous monitoring approach enables students to recognise patterns across regions, assess the potential escalation of events, and evaluate their implications for global value chains. It also encourages reflection on how firms might respond through proactive and reactive capabilities, linking theoretical frameworks from the lecture to ongoing real-world developments.

Through this activity, students strengthen their analytical and interpretive skills while gaining practical experience in geopolitical risk assessment. At the same time, they develop a deeper understanding of how supply chain resilience is shaped not only by actual disruptions, but also by the anticipation of risk and the ability to prepare for an increasingly uncertain global environment.