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How do agile and internationally experienced companies respond to sanctions?

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ABSTRACT

Objective: In this article, we show how agility and international experience influence the adjustment strategies that firms adopt when exposed to sanctions. We also assess how these strategies affect firms' financial performance.

Research Design & Methods: Quantitative; international e-survey, computer-assisted web interview (CAWI) method, structural equation modelling (SEM), linear regression, clustering; 610 middle-sized companies studied from Poland, US and Germany, data gathered in 2023.

Findings: The more agile and internationally experienced the firms, the more proactive measures they use to adapt to sanctions. Proactive adaptation strategies positively impact financial performance. Agility and international experience are mutually reinforcing.

Implications & Recommendations: When exposed to the sanctions regime, proactive adaptation strategies increase the likelihood of firms' survival. Meanwhile, agility and international experience reinforce proactivity. Therefore, firms should strengthen both these characteristics as they increase the likelihood of resilience in the face of a crisis.

Contribution & Value Added: The article extends understanding of firms' strategic behaviour in the face of a sudden external change/crisis, such as the imposition of sanctions. It shows how intrinsic factors, in this case, agility and international experience, influence the adaptation choice. The results show that agile and internationally experienced companies adopt proactive strategies towards sanctions, which has positive financial consequences. Agility and international expansion serve here as an effective and resilient way of survival during external shocks, such as war.

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INTRODUCTION

On 23 February 2022, Russia launched another armed invasion of Ukraine. This time the attack was not limited to the Crimea and Donbass regions but covered the entire country. The Western world immediately responded to this act of bestiality by imposing individual, political, and economic sanctions on Russia and its ally (Belarus). In contrast to the 2014 restrictions, the sanctions imposed in 2022 were much broader in scope. Unlike many of the previous sanctions, they received wide support from the citizens of the Western world. The clear evidence of companies voluntarily expanding sanctions and leaving Russia and Belarus was equally unusual.

Traditional costing suggests that, faced with sanctions, a company should cease sanctioned activities and continue all others. In this simplistic view, there is no room for either over-compliance

or sanctions' violation. However, business reality is more complex than models. Companies are not perfect optimisers, especially in the face of sudden change or external shock. Studies of corporate behaviour in the face of financial, biological, social or political crises show that companies use the full range of adaptation strategies, from freezing operations, cutting costs, and changing product and service offerings, to seeking new markets and supply chain partners (Gittins *et al.,* 2022; Kraus *et al.,* 2020; Eggers, 2020). Similarly, when faced with sanctions, companies adapt to new circumstances by placing their strategies across the spectrum of possible options: circumventing or violating sanctions (Gaur *et al.*, 2023; Meyer *et al*., 2023; Andreas, 2005; Early, 2015), adjusting or voluntarily limiting business activities with the target country to a greater extent than sanctions mandate (Breen, 2021; Batmanghelidj & Moret, 2022; Early & Preble, 2020).

To date, there has been little body of academic data examining how firms from sanctioning countries respond to these restrictions (for exceptions, see Stępień *et al*., 2024; Meyer *et al.*, 2023; Besedeš *et al*., 2021; Weber & Stępień, 2020; Giumelli & Onderco, 2021; Weber & Stępień, 2020). Sanctions-related issues have recently attracted more attention from international business (IB) scholars in the aftermath of the armed conflict in Ukraine, but there is still little research that shows which factors of firms' capabilities (including agility or their level of internationalisation) influenced a particular type of response to sanctions and what effects these responses had (see, *e.g.,* Stępień & Truskolaski, 2024; Besedeš *et al.*, 2021; Stępień & Weber, 2019).

For firms to survive in a turbulent environment, they should understand which factors within firms determine the choice of specific adaptation strategies that generate financial gains or losses. This article explores firms' intrinsic characteristics that determine their behaviour in the face of sanctions, focusing on particular capabilities of firms: their agility and international experience. However, the findings of this research are applicable not only to firms' responses to the sanctions regime but also to their behaviour in the face of various crises and disruptions.

We aimed to explore the relationships between the agility level, the firms' international experience, and the way they respond to sanctions. We posed the following research questions:

RQ1: What is the relationship between agility, international experience, and financial performance?

RQ2: How do agility and international experience affect the choice of adaptation strategies to the imposition of sanctions?

RQ3: How does the financial performance of sanctioned companies depend on the choice of specific adjustment strategies?

The research material was data from an international quantitative survey on current EU and US sanctions against Russia. In April 2023, international research agencies conducted the survey using the CAWI method with an electronic questionnaire. The sample consisted of 610 medium-sized enterprises operating in agriculture, manufacturing, wholesale and retail trade and transport and storage. The survey encompassed the United States (200 companies), Germany (210 companies), and Poland (210 companies). War and sanctions affected all respondents.

The remainder of the article is structured as follows. The theoretical section will describe the nature of sanctions and the possible responses of firms to their imposition. Next, it will discuss how agility and international experience can influence the choice of adaptive strategies and how these in turn determine the financial performance of firms. The next part will present the conceptual model. In the methodology section, we will describe the research sample and the statistical analysis methods used. In the results section, we will analyze the relationships between the variables and comment on the results obtained. In the conclusions section, we will indicate research's academic and practical value and outline the area of possible future research to enhance the understanding of firms' behaviour towards sanctions and in the face of external shock.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Economic sanctions change the environmental game rules (Bapat & Kwon, 2015; Morgan & Bapat, 2003; Weber & Stępień, 2020). The main factor that differentiates firms' approaches to sanctions is the calculation of the costs and benefits associated with the continuation of, or a change in, the existing strategy. However, the calculation of alternative adaptation options is itself made through the prism of companies' attitudes to risk.

Sanctions increase the political risk of investments and activities in the area covered by them (see, *e.g.*, Sottilotta, 2016; Biglaiser & Lektzian, 2011; Lektzian & Biglaiser, 2013, 2014; Mirkina, 2018). We analysed the political risk through the lens of perceived uncertainty. Uncertainty relates both to the nature and extent of the sanction's impact on company performance (due to the general economic downturn) and to the duration and development of the sanctions dispute, which affects all current and future business relationships of companies with the sanctioned country (Lektzian & Biglaiser, 2013). Consequently, firms operating under sanctions regimes must pay a premium for the risk of economic interaction (Noland, 2008). The need to demonstrate compliance with sanctions within the supply chain means that this premium also applies to those indirectly affected by restrictions. Some companies prefer to voluntarily restrict their operations to avoid investing in the complex due diligence required to ensure that their Russian partners are not affiliated with sanctioned entities (Johnston, 2015).

From a business perspective, sanctions increase the risk of operating in sanctioned territory and generate adaptation costs. However, they also provide an incentive to seek new opportunities. For example, after the annexation of Crimea to Russia in 2014, the Government Regulation of the Russian Federation No. 708 of 2015 was published, providing several economic benefits for new foreign investors. This was not only economically beneficial but also allowed foreign companies to circumvent Russian counter-sanctions on the import ban of EU and US goods in the food sector. Thus, the economic opportunities that the imposition of sanctions created may, therefore, far outweigh the political risks for foreign investors.

The scenario that companies expect to unfold in the sanctioned country also influences their strategic choice of how to respond to sanctions. If companies believe that there is a high probability that sanctions will be maintained or tightened, their response to adapting to sanctions and withdrawing operations from such a country seems reasonable. In contrast, the prospect of an imminent end to the conflict and the lifting of sanctions may lead companies to passively, albeit temporarily, circumvent or ignore sanctions without, for example, making changes to their supply chains.

The optics of the cost-benefit calculus also change depending on the 'scale of blowback' from sanctions. Companies can estimate the costs of a strategic response to sanctions in at least two ways. The first is the current and future costs of complying with sanctions, and the second is the severity of the costs of circumventing or violating sanctions (Morgan & Bapat, 2003; Weber & Stępień, 2020). When restrictions directly threaten the firm's existence and a rapid change of market (sales, suppliers, etc.) is impossible, circumventing or violating sanctions seems to be the only option to ensure survival. The potential costs of breaking the law seem less severe than going out of business. Conversely, complying with sanctions may seem reasonable and less costly to the company than deliberately circumventing or violating them, if the level of inconvenience and loss of benefits associated with the imposition of sanctions appears low.

Typology of Strategic Responses to Sanctions

Firms take appropriate adaptation measures depending on how they assess the consequences of sanctions for their survival and continued operations. Existing work highlights different responses. Firms try to limit their operations in the sanctioned territory, seek new business partners to replace business relationships disrupted by sanctions, or try to find alternative ways to continue existing business relationships by circumventing the violation of sanctions (Barry & Kleinberg, 2015; Early, 2015; Lektzian & Biglaiser, 2013; Meyer & Thein, 2014; Crozet *et al*., 2021). Thus, firms' responses to economic sanctions range on a spectrum from undercompliance through compliance with sanctions, to voluntary overcompliance.

Meyer and Thein (2014) examined firms' strategic responses in sanctioned Myanmar and diagnosed three main behaviour types: business as usual/no change, low-profile strategies/reduction of activities and withdrawal.' The dominant type of strategy was to reduce involvement but not to cease activities there (so-called 'low-profile' strategies). This type of response falls into the category of following the letter of the restriction and includes mainly passive types of operations aimed at reducing costs or business activities in sanctioned countries.

Oliver (1991) analyses the general coping strategies of firms with institutional change and categorises them as acceptance, compromise, avoidance, defiance, and manipulation but does not further investigate what types of actions these firms take to implement such strategies. Building on Oliver's (1991) categorisation, Weber and Stępień (2020) divide the basic strategy of undercompliance to sanctions into circumvention (*i.e.,* increasing investment in Russia and locating production there) and avoidance (*e.g.,* violating regulations by exporting to Russia via third countries). They identify a range of both proactive and passive strategic responses that firms use to cope with the sanctions imposed. Proactive adaptation can be described as the result of 'thinking out of the box' and includes, for example, finding new markets, moving operations to non-sanctioned countries, or increasing investment in a sanctioned market or moving more operations to sanctioned markets. Therefore, proactive responses can serve as examples of the whole spectrum of compliance, under-compliance or over-compliance behaviour.

Strategic Agility and Sanctions Response

Companies build competitive advantage through the resources they own and/or control. The value of these resources, and therefore their potential to create advantage, increases with their market perception as valuable, rare and difficult to imitate and substitute. Resources are both assets and capabilities (including a firm's management skills, organisational processes and procedures, and information and knowledge) that are useful in identifying and responding to market opportunities or threats (*e.g.,* Sanchez & Mahoney, 1996; Christensen & Overdorf, 2000; Wade & Hulland, 2004). In a turbulent economic environment, to survive and grow, firms develop so-called dynamic resources, now recognised as a long-term source of competitive advantage, whereby a firm can realise its potential faster, more effectively and more efficiently compared to the response of other firms to environmental change (Shams *et al*., 2021, Ulrich & Yeung, 2019).

Following Conforto *et al*. (2016), we define agility as the ability of the firm to quickly and effectively change/transform its strategy/behaviour in response to external triggers (such as crisis or imposition of sanctions) to achieve better performance. Agility is a dynamic competence, developed internally through managerial skills and appropriate management, which appears to make the company more resilient to external shocks and allows it to adapt more quickly to changes in its environment (Barthe-Delanoë *et al*., 2018; Harrold, 2009; McCann *et al*., 2009).

Studying small and medium-sized enterprises in Poland, Kowalik and Pleśniak (2022) show that agile competencies, such as market sensing and entrepreneurial marketing orientation make firms more innovative. Gonzalo *et al*. (2023), who study managers' approach to corporate strategy during COVID-19, show that managers' agile competencies, reflected in their level of creativity, leadership style and communication style, influence out-of-the-box thinking and thus promote proactive actions.

In the study of the relationship between firms' dynamic competencies and their level of innovation (which we treat as a manifestation of proactive behaviour), Ingram and Kraśnicka (2023) not only show an explicit positive relationship between these variables, but also look at the reverse link. By examining the impact of a turbulent environment on the growth of dynamic competence, they show that such a relationship exists, although it is not strong. Therefore, we may assume that it is the internal characteristics of firms that determine their agility level and how they respond to outside changes, and that the turbulent environment only reinforces these competencies.

Sanctions are changes that make the environment more turbulent. Therefore, firms with agile capabilities should respond to such changes faster and more effectively than their counterparts without internal flexible adaptability (Doz & Kosonen, 2010). Based on the above considerations, we hypothesised:

H1: When faced with sanctions, agile companies adopt more proactive than reactive measures to survive and perform in the new environment.

International Experience and Sanctioning Reactions

In this article, we define international experience as a complex construct that relates to the number of international markets occupied, the length of time that firms have operated internationally, and the extent and nature of activities undertaken abroad. The literature on international business, international entrepreneurship, and resource theory of the firm all point to links between the scale, length and scope of international operations and the nature of the strategies of such entities.

For example, entrepreneurial literature and resource theory research (with a special focus on the knowledge-based stream) emphasise that the international scale of a firm's operations leads to the accumulation of knowledge and experience that enables it to respond appropriately to conditions in different host markets. In turn, such competencies enable a proactive approach to strategy formation in the face of sudden change (see, for example, Oliver, 1991; Piercy *et al*., 1998; Hillman & Wan, 2005; Khanna & Palepu, 2010; Aguilera-Caracuel *et al.,* 2012; Głodowska *et al.,* 2019). Analysing case studies of internationalised firms from a sanctioned country, Aliasghar and Rose (2023) showed that the level of cooperation and strength of ties within an international supply chain explicitly increases the likelihood of survival of such firms. In their research on sanctions against Russia imposed after the first attack on Crimea and Donbas, Stępień and Weber (2019) proved that firms with more international experience were more resilient to the negative impact of sanctions because they were able to use a variety of adjustment strategies. Based on this research, we hypothesised:

H2: When faced with sanctions, companies with more international experience adopt more proactive than reactive measures to survive and perform in the new environment.

Financial Performance as the Result of Adjustment Strategies

To the best of our knowledge, there are no published studies investigating the relationship between financial performance and specific adaptation strategies of companies in the face of sanctions. However, as highlighted above, sanctions are a sudden change in the environment, independent of business players. External crises induce similar adaptive changes, so here we use research on the response of small and medium-sized enterprises to the recent global crisis, the COVID-19 pandemic, to capture the relationship between the nature of adaptive responses and firms' financial performance.

Unsurprisingly, previous research on the survival strategies of firms (including SMEs) during external crises, including the COVID-19 pandemic, revealed that they used both reactive and proactive strategies (Gittins *et al*., 2022; Kraus *et al.*, 2020). In a study of the strategies of small firms in the B2C services sector most affected by the pandemic, Stępień and Światowiec-Szczepańska (2022) show that firms that took a proactive approach to the restrictions weathered the crisis much better, both in terms of financial performance and competitive positioning, than those that adapted passively to the restrictions by reducing costs. When studying export activity of companies during the COVID-19 pandemic, Daszkiewicz *et al*. (2023) found that the level of international activity, degree of innovation and market diversification had a significant and positive impact on exports. The results also indicated the use of mixed adaptation strategies by surveyed companies, with many of these activities being proactive. Eggers' (2020) meta-analysis of 68 studies on the behaviour of small and medium-sized enterprises in different types of crisis showed that the more effective survival strategies are proactive, with a strong emphasis on market and entrepreneurial orientation.

Therefore, we assumed the following:

H3: Despite sanctions-related changes, proactive adjustment strategies enable positive financial performance.

H4: Passive adjustment strategies in the face of sanctions lead to negative financial performance.

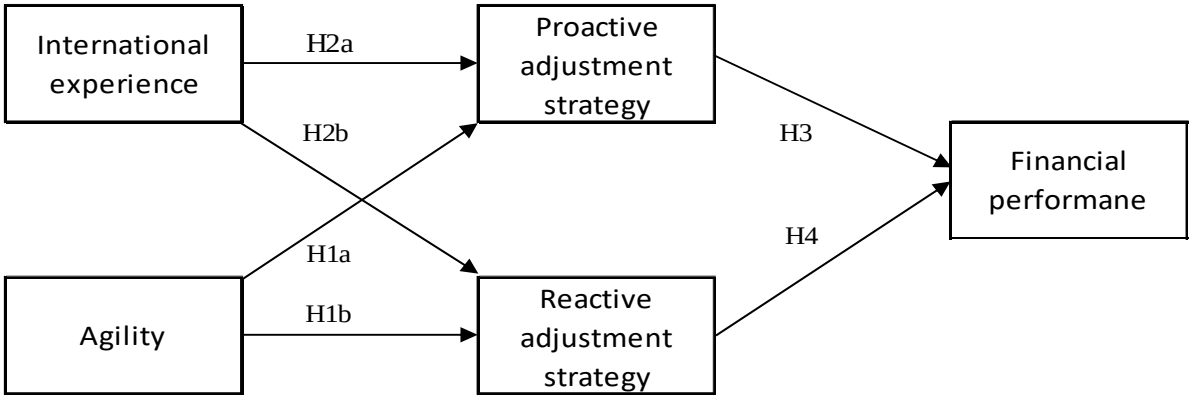

Figure 1. Conceptual framework: Impact of agility and international experience on strategies and performance of sanctioned' companies
Source: own elaboration.

RESEARCH METHODOLOGY

The sample

The quantitative empirical research was international in scope and focused on companies directly or indirectly affected by the sanctions imposed on Russia in 2022 in connection with its invasion of Ukraine. The subject of the analysis was medium-sized companies operating in Russia before the outbreak of the war. We chose medium-sized companies purposefully. Firstly, most research on the behaviour of firms in the face of sanctions focuses on large firms, while small and medium-sized firms remain on the periphery of academic interest, even though this group serves as the backbone of any economy. Secondly, multinational firms are better equipped to anticipate – and possibly even shape – sanctions policy, while medium-sized firms have less capacity and resources to monitor sanctions or anticipate regulatory changes.

The study investigated companies with between 50 and 250 employees. The sample consisted of 610 responses, and the participating companies came from three countries, *i.e.* the US, Germany, and Poland, with 200, 210, and 200 companies, respectively. In each of these countries, we examined the following sectors: wholesale/retail (37.7%), manufacturing (29.7%), transport/storage (18.9%), and agriculture (13%). Table 1 shows summary statistics for the sample.

Table 1. Companies' sample characteristics

No.	**Criteria**	**USA**	**%**	**Germany**	**%**	**Poland**	**%**	**Total**	**%**
1.	*Country*	200	32.80%	210	34.40%	200	32.80%	610	100%
2.	*Industry*								
	Agriculture	16	8%	40	19%	23	11.50%	79	13%
	Manufacturing	59	29.50%	58	27.60%	64	32%	181	29.70%
	Wholesale/Retail Trade	97	48.50%	60	28.60%	73	35.60%	230	37.70%
	Transportation/Storage	28	14.00%	52	24.80%	35	17.50%	115	18.90%
Other		0	0%	0	0%	5	2.50%	5	0.80%
3.	*Size (Number of Employees)*								
	50-99	57	28.50%	113	53.80%	115	57.50%	285	46.70%
	100-249	143	71.50%	97	46.20%	85	42.50%	325	53.30%
4.	*Main client*								
	B2B Sector	45	17.20%	65	25%	152	58%	262	43%
	B2C Sector	23	23.47%	61	62%	14	14%	98	16%
	B2B & B2C	132	52.80%	84	33.60%	34	13.60%	250	40.98%

Source: own study.

To represent the most likely cases of the impact of sanctions on strategic responses, we deliberately chose the industries in which the surveyed companies operate. These industries were directly affected by sanctions, at least in terms of transportation or the ban on cooperation with public entities in Russia and Belarus. Moreover, the value chains in these industries were also internationally dispersed, resulting in a multidimensional and multi-directional impact of sanctions on their operations.

We have limited our sample to the three sanctions' senders countries in which the companies were based, *i.e.*, Germany, Poland, and the United States. Germany is the economic leader of Europe and is politically and economically engaged with Russia as an important partner supplying Germany with gas and fuel and where Germany has made significant investments (Karnitschnig & Nöstlinger, 2022). Since the beginning of Russia's war of aggression against Ukraine, public support for sanctions has remained consistently high.

As a neighbour of both Ukraine and Russia, Poland has been severely affected by the invasion. Before the conflict, more than two million Ukrainians worked in Poland, and after the war, more than five million Ukrainian refugees arrived in Poland, most of whom remain in Poland to this day (Strzelecki *et al.*, 2022). Poland is known for its dependence on Russian gas supplies (Szeptycki, 2021) and its historical oscillation between friendship and hostility towards Russia (Ozbay & Bulent, 2008).

The United States is the world's most active sender of sanctions, characterised by the most effective enforcement of sanctions laws, both at home and abroad. As in Germany, the vast majority of the public supports existing – and even tougher – sanctions against Putin's regime, while economic relations with Russia (and Ukraine) are weaker compared to German and Polish economic relations.

The survey utilised CAWI in the form of an electronic questionnaire translated from English into Polish and German. The SAGO Group surveyed American and German companies, and INDICATOR Agency surveyed Polish companies between March and April 2023.

Variable Construction

Research on sanctions with firm actions as the axis of interest is still scarce (see Bapat *et al.,* 2020). In this study, we employed structural equation modelling (SEM) to examine the relationships among several latent constructs, *i.e.,* strategic agility, international experience, proactive adjustment strategies, reactive adjustment strategies, and financial performance. Below, we define each construct, describe how it was operationalized, and explain the measurement items used in our survey instrument.

1. Strategic agility (SA)

Definition: Strategic agility refers to a firm's dynamic capabilities that enable it to rapidly and effectively respond to environmental volatility through quick decision-making and innovative actions.

Measurement: We measured strategic agility using five items adapted from established scales on dynamic capabilities and organizational agility. Respondents indicated their agreement with each statement on a five-point Likert scale ranging from 1 ('strongly disagree') to 5 ('strongly agree').

***Measurement items*:**
SA1. The most important decisions regarding the company's strategy are made very quickly.
SA1. We continuously analyse risks and develop appropriate response scenarios.
SA3. We are constantly looking for new opportunities in the marketplace.
SA4. As a business, we adapt quickly to market changes
SA5. We develop skills and resources that enable us to respond very quickly to market risks and opportunities.

2. Proactive adjustment strategies (PA)

Definition: Firms' strategies that aim to adapt to environmental changes by seeking new opportunities and innovatively altering their operations.

Measurement: We measured proactive adjustment strategies using four items that capture various proactive responses to sanctions. Respondents indicated the extent to which their company engaged in each activity on a five-point Likert scale ranging from 1 ('Not at all') to 5 ('To a very great extent').

Measurement items:
PA1. Relocating operations to non-conflict countries.
PA2. Exporting to/from Russia or Belarus via new third countries.
PA3. Creating new export/import markets outside Russia/Belarus.
PA4. Creation of new supply chain/subcontracting links outside Russia/Belarus.

3. Reactive adjustment strategies (RA)

Definition: Actions that firms take in response to environmental changes that involve reducing or ceasing certain activities, often as a way to minimize losses or comply with new regulations.

Measurement: We measured reactive adjustment strategies using five items reflecting passive or defensive responses to sanctions. Respondents indicated the extent to which their company engaged in each activity on a five-point Likert scale ranging from 1 ('Not at all') to 5 ('To a very great extent').

Measurement items:
RA1. Termination or complete closure of production/distribution/purchasing/sales activities in Russia/Belarus.
RA2. Sale of infrastructure in Russia/Belarus.
RA3. Withdrawal or freezing of investments in Russia/Belarus.
RA4. Reducing labour costs or employment in Russia/Belarus.
RA5. Reducing labour costs or employment in the country or other non-conflict areas.

4. Financial performance (FP)

Definition: Financial performance captures the impact of the war and sanctions on the financial outcomes of the surveyed companies.

Measurement: We assessed financial performance using three indicators. Respondents rated the impact of the sanctions and war on each financial metric using a five-point Likert scale ranging from 1 ('Significant decrease') to 5 ('Significant increase').

Measurement items:
FP1. total sales;
FP2. total net income;
FP3. total profitability levels.

5. International experience (IE)

Definition: International experience is a multifaceted construct reflecting a firm's accumulated knowledge, activities, and capabilities in global markets, indicating its ability to operate and compete internationally.

Measurement: Unlike the other constructs, we measured international experience using three categorical variables that capture different dimensions of internationalization:

Number of foreign markets (IE1): Assessed by asking respondents to indicate the number of foreign markets in which their company operates:
1 ('One market')
2 ('Two to four markets')
3 ('Five to ten markets')
4 ('Eleven to twenty markets')
5 ('More than twenty markets')

Types of international involvement (IE2): Measured by identifying the nature of the company's international activities:
1 ('Mostly local/domestic')
2 ('Exporter/importer')
3 ('Long-term production/service cooperation')
4 ('Own factories abroad')

5 ('Own distribution networks abroad')

Years of international experience (IE3): Determined by the length of time the company has been active internationally:
1 ('None; domestic operations')
2 ('Less than one year')
3 ('More than one year, less than three years')
4 ('More than three years, up to ten years')
5 ('More than ten years')

Due to the categorical nature of these variables and the absence of Likert-scale responses, we employed a clustering approach to integrate these dimensions into a single latent construct representing international experience. This method allowed us to capture the multifaceted nature of internationalization on an ordinal scale suitable for inclusion in the SEM.

We conducted a hierarchical cluster analysis using Ward's method and Euclidean distances to group firms based on their responses to IE1, IE2, and IE3. The clustering process resulted in five distinct clusters:

1. Nascent internationals: Firms in this cluster are in the early stages of international expansion. With the lowest scores for the number of foreign markets (qi), types of international experience (qh), and years of international experience (qj), these firms are likely to be engaged in their home markets or have just started to venture into international markets. Their international activities are limited in scope and diversity.
2. Emerging exporters. This cluster represents firms that are somewhat more experienced than those in cluster 1. They have started to establish a presence in foreign markets, possibly through basic export/import activities. Their experience is growing, but they still have a limited range of international activities and a relatively short history of involvement.
3. Intermediate internationals. Firms in cluster 3 have a moderate level of experience in international operations. It 'is represented in the majority by long-term exporters. Companies in this cluster have been active in several foreign markets for some time and may have developed a few long-term international relationships or smaller overseas operations. Their international presence is consolidating, but they are not yet deeply integrated into global markets.
4. Advanced internationals. These companies are quite experienced and have a significant international presence. They have a wider range of international activities and have been operating in foreign markets for a longer period. Their international operations are diverse, and they are likely to have developed significant expertise in navigating the complexities of international business.
5. Global operators:. As the most experienced group, companies in Cluster 5 are deeply integrated into the international marketplace. They operate in a large number of foreign markets, have extensive types of international operations – including ownership of overseas facilities and distribution networks – and have accumulated many years of international experience. These companies are true veterans of global business, with rich and diverse international expertise.

Each firm was assigned to a cluster, which we then coded numerically (1 to 5) to represent the level of international experience, with higher values indicating greater internationalization.

We chose the clustering approach to handle the non-ordinal data and to create an ordinal variable representing international experience. This method captures the complexity and multifaceted nature of internationalization, allowing us to include it as a latent construct in the SEM analysis. Clustering provides a nuanced categorization that reflects the heterogeneity of firms' international activities, which would not be captured by a single metric.

We assumed that nascent internationals have the least international experience while global operators have the most international experience of the whole sample.

Figure 2 provides a visual representation of the clustering analysis conducted to categorise firms based on their international experience. The clusters ranged from 'global pioneers' with extensive and diverse international involvement to 'established exporters' indicating a strong but potentially more focused international presence. The silhouette plots within each cluster illustrate the distribution of

firms along three key dimensions: the number of foreign markets in which they operate (qi), the diversity of their international operations (qh) and the length of their international experience (qj). The relative size of each cluster was indicated by the percentage and actual number of firms it contains, providing insight into the commonality of each international experience profile within our dataset.

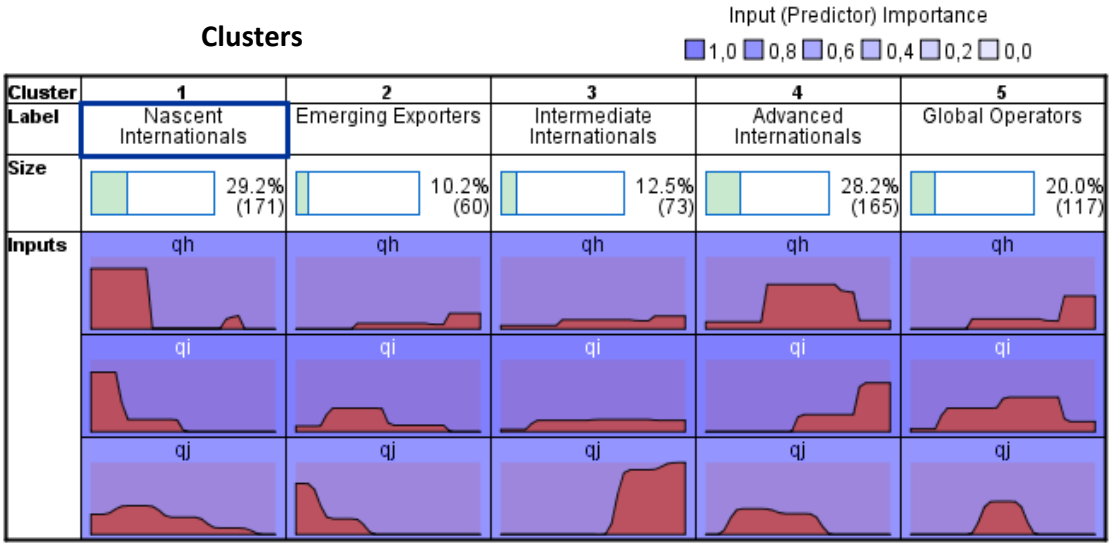

Figure 2. The level of international experience: The categorisation of sample companies

Note: Inputs show the distribution of responses across clusters, Y axis in each cell corresponds to Likert scale
qi – number of foreign markets in which the company operates, 1 – one, 2 – two to four,
3 – five to ten, 4 – eleven to twenty, 5 – more than 20 foreign markets.
qj – years of international experience, 1 – none; domestic operations; 2 – one year; 3 – more than one year, less than 3 years; 4 – more than 3 years to 10 years; 5 – more than 10 years of international experience
qh – types of international experience, 1 – mostly local/ domestic; 2 – exporter/importer; 3 – long-term production/service cooperation; 4 – own factories abroad; 5 – own distribution networks abroad.
Source: own elaboration.

The inclusion of clusters in structural equation modelling (SEM) analysis in our research serves a methodological strategic purpose. Traditional SEM approaches tend to focus on variables that lend themselves to linear scaling, such as those measured on a Likert scale. However, certain key questions about the international experience were not ordinal in nature, making standard SEM techniques inadequate for capturing the nuanced complexity of the data. To address this challenge, we employed a clustering technique that allowed us to transform the rich, categorical data from the non-ordinal survey questions into a continuous scale that reflected a spectrum of international experience from nascent to seasoned operations.

Clustering allowed us to synthesise the multi-dimensional data derived from the survey questions on the number of foreign markets in which companies operate, the diversity of their international operations and the duration of their international activities into a single ordinal metric. This transformation was essential for two reasons. Firstly, it allowed us to maintain the integrity and granularity of the original data while adapting it for use within the SEM framework. Secondly, it provided a coherent structure that facilitated the interpretation of the latent constructs within our model. The resulting ordinal scale, ranging from 1 to 5, reflects a cumulative index of international experience, with higher scores indicating greater depth and breadth of international engagement.

The introduction of this cluster ordinal variable into the SEM model greatly enhanced its analytical capabilities. It provided a means to quantify and examine the impact of firms' level of internationalisation on other strategic variables within the model. It also allowed for a more sophisticated understanding of how different levels of international experience influence business strategies and outcomes. By bridging the gap between categorical survey data and SEM, the clusters not only preserved the nuanced information contained in the survey responses but also enhanced the robust-

ness and interpretability of the SEM analysis. This innovative approach underlines the SEM's adaptability to non-traditional data types and highlights the importance of flexible modelling techniques in exploring complex research questions.

We tested the following research hypotheses derived from the literature:

H1: When faced with sanctions, agile companies adopt more proactive than reactive measures to survive and perform in the new environment (H1= H1a>H1b).

H2: When faced with sanctions, companies with more international experience* adopt more proactive than reactive measures to survive and perform in the new environment (H2= H2a>H2b).

H3: Despite sanctions-related changes, proactive adjustment strategies enable positive financial performance.

H4: Passive adjustment strategies in the face of sanctions lead to negative financial performance.

Structural Equation Modelling: Measurement Validation

We used structural equation modelling (SEM) to establish and test causal relationships between several latent factors – agility, international experience, reactive, and proactive strategic responses to sanctions, and the financial outcomes of the respective actions. The data were analysed as follows. Firstly, we checked the logical and statistical consistency of the constructs used in the conceptual models by means of confirmatory factor analysis (CFA). We then calculated multivariate correlation analysis between the constructs. Next, we used SEM in STATA to test the conceptual framework. This followed a two-step approach (Anderson & Gerbing, 1988), first examining the measurement model and then evaluating the structural model used to test the hypothesised relationships. We validated this model for the full sample (610 cases).

Table 2. Construct validity and reliability test

Variables and Items	Number of items	AVE	Composite Reliability	Cronbach's Alpha	Kaiser-Meyer-Olkin
Agility (SA)	3	0.51	0.75	0.78	0.70
Financial performance (FP)	3	0.79	0.92	0.93	0.76
Proactive adjustment strategies (PAS)	4	0.64	0.88	0.88	0.83
Reactive adjustment strategies (RAS)	4	0.76	0.93	0.93	0.85

Notes: We based measurement for constructs on a five-point scale where 1 = 'Completely disagree' and 5 = 'Com-pletely agree' or 1 = 'Never' and 5 = 'Very often,' depending on the question posed in the survey.
Source: own study.

We tested the discriminant validity of the constructs shown in Table 2 using Fornell and Larcker's (1981) method of comparing the average variance extracted (AVE) to the squared correlation between constructs. The AVE for agility, proactive adjustment strategy, reactive adjustment strategies, and financial performance were 0.51, 0.79, 0.64, and 0.76, respectively.

We tested the constructs' reliability using Cronbach's alpha, and the composite reliability method. All constructs surpassed the recommended threshold of 0.7, showing strong internal consistency. Scoring 0.7 and above for all constructs, all these measures, together with the Kaiser-Meyer-Olkin (KMO) indicated that the constructs demonstrate robust psychometric properties and the measurement model displayed good data fit.

Given that international experience was measured using a clustering approach, traditional reliability measures were not applicable. However, we evaluated the clustering solution for its adequacy using silhouette analysis, ensuring meaningful groupings with clear distinctions between clusters.

Structural Equation Modelling: Model Evaluation

Next, we estimated the structural model to investigate the relationships between proposed latent variables. We assessed the goodness of fit of SEM model with Chi-square, the likelihood ratio, root mean square error of approximation (RMSEA), comparative fit index (CFI), and Tucker-Lewis index indices. Table 3 presents the results of model fit and performance.

Our model showed a significant likelihood ratio with a chi-square of 231.264 ($p < 0.001$) compared to a saturated model and a baseline chi-square of 6759.878 ($p < 0.001$). These results indicate that our model significantly improves the fit compared to a model of independence.

Table 3. Model fit and performance statistics

Fit statistics	Description	model
Likelihood ratio		
chi2_ms	model vs. saturated	231.264
chi2_bs	baseline vs. saturated	6759.878
Population error		
RMSEA	Root mean square error of approximation	0.055
pclose	Probability RMSEA <= 0.05	0.147
Information criteria		
AIC	Akaike's information criterion	22817.007
BIC	Bayesian information criterion	23035.673
Baseline comparison		
CFI	Comparative fit index	0.978
TLI	Tucker-Lewis Index	0.972
Size of residuals		
SRMR	Standardized root mean square residual	0.067
CD	Coefficient of determination	0.899

Source: own study.

We then turned to the root mean square error of approximation (RMSEA) as an estimate of the population error, which was 0.055, indicating a very good fit (the RMSEA ranges from 0 to 1, with lower values generally indicating a better model fit).

Comparative indices such as the CFI and TLI were 0.978 and 0.972, respectively. Both indices range from 0 to 1, with values closer to 1 indicating a better fit. Values above 0.90 are considered to indicate an acceptable fit, suggesting that our model provided a reasonable fit to the data.

Finally, SRMR, an absolute measure of fit, was 0.067 below the commonly used cut-off of 0.08, indicating a good fit of the model residuals. Meanwhile, CD of 0.899 indicated a high degree of variance explained in our model.

RESULTS AND DISCUSSION

Figure 3 shows the relationships between agility, international experience, proactive and reactive adaptation strategies, and financial performance. The results presented in the model confirmed all the hypotheses put forward in the article.

Table 4. Structural model results

Hypothesized path	Standardized coefficient (β)	Standard error (SE)	t-value	p-value	Supported
H1a: Strategic agility → Proactive adjustment	0.67	0.05	13.40	<0.001	Yes
H1b: Strategic agility → Reactive adjustment	0.55	0.06	9.17	<0.001	Yes
H2a: International experience → Proactive adjustment	0.61	0.04	15.25	<0.001	Yes
H2b: International experience → Reactive adjustment	0.54	0.05	10.80	<0.001	Yes
H3: Proactive adjustment → Financial performance	0.36	0.03	12.00	<0.001	Yes
H4: Reactive adjustment → Financial performance	-0.25	0.15	-1.65	<0.1	Yes

Source: own study.

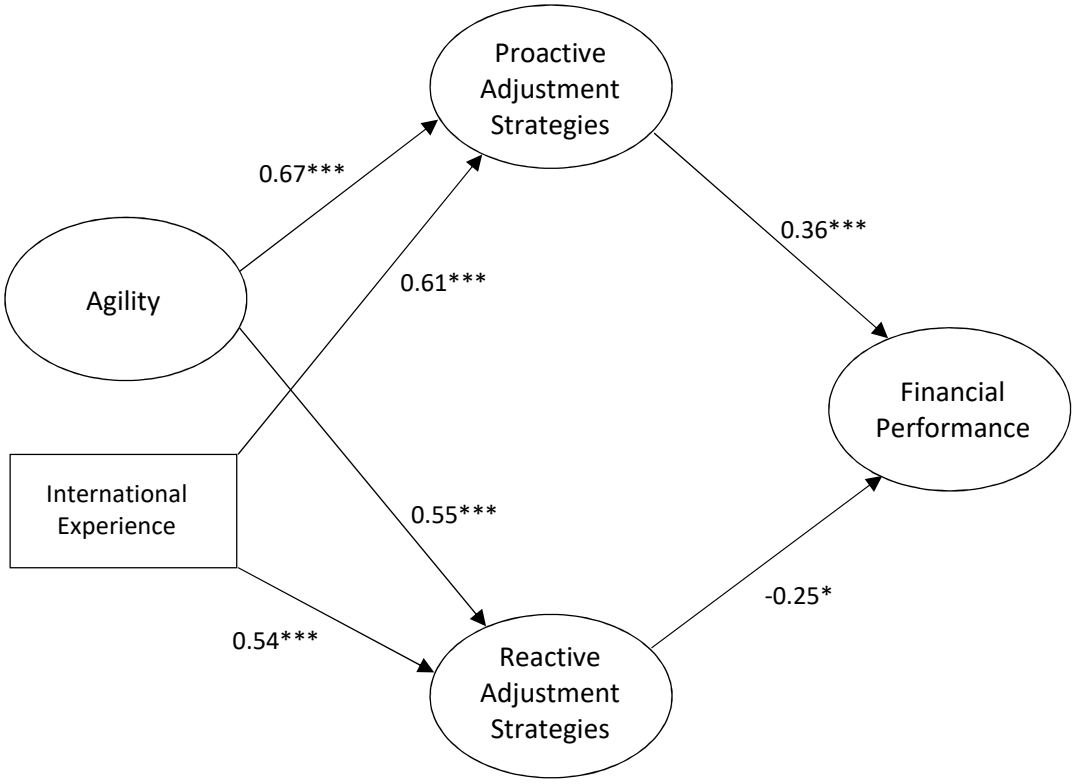

Figure 3. The SEM model results: Impact of agility and international experience on strategies and performance of sanctioned' companies
Source: own elaboration.

H1a and H1b: Strategic Agility positively influences both proactive and reactive adjustment strategies.

The path coefficient from strategic agility to proactive adjustment strategies was β=0.67, which is significant at p<0.001. This indicated a strong positive relationship, suggesting that firms with higher strategic agility were more likely to adopt proactive strategies in response to sanctions. The path coefficient from strategic agility to reactive adjustment strategies was β=0.55, significant at p<0.001. While this relationship is also positive, it is weaker compared to the influence of proactive strategies. This suggests that agile firms are somewhat inclined to adopt reactive strategies, but their preference leans more toward proactive measures.

H2a and H2b: International experience positively influences both proactive and reactive adjustment strategies.

The path coefficient from international experience to proactive adjustment was β=0.61, significant at p<0.001. This strong positive relationship indicated that firms with greater international experience are more inclined to engage in proactive adjustments when facing sanctions. The path coefficient from International Experience to Reactive Adjustment Strategies was β=0.54, significant at p<0.001. Similar to agility, the influence on reactive strategies was positive but less pronounced, suggesting that internationally experienced firms were more proactive.

H3: Proactive adjustment strategies positively impact financial performance.

The path coefficient from proactive adjustment strategies to financial performance was β=0.36, significant at p<0.001. This strong positive relationship implies that firms adopting proactive strategies in response to sanctions experience better financial outcomes.

H4: Reactive adjustment strategies negatively impact financial performance.

The path coefficient from reactive adjustment strategies to financial performance was β=-0.25, significant at p<0.1. This negative relationship indicated that firms relying on reactive strategies

tend to experience poorer financial performance, but the low significance of this result makes the conclusions drawn from it tentative, suggesting that further research is needed to confirm the strength and consistency of this effect.

Discussion

Agility is an attribute of companies that makes them more likely to act proactively rather than passively in the face of the threat of sanctions against a country with which all the companies studied had direct or indirect trade relations at the start of the war. This relationship highlights the importance of agility in adapting to and learning from international markets. Our findings corroborate studies that show how the entrepreneurial capabilities of small and medium-sized enterprises enable them to operate proactively internationally (Oviatt & McDougall, 2005; Coviello, 2006; Gancarczyk & Gancarczyk, 2018). However, the presence of agile resources does not preclude the use of passive adaptation measures, and it may limit them in favour of non-standard moves. In the face of such limitations, most actors adopted mixed adaptation strategies using both passive and active adjustment, as shown in a previous study by Weber and Stępień (2020) on European firms during the period of Russia's first invasion of Crimea. Moreover, regardless of the level of compliance with sanctions (*e.g.*, overcompliance or undercompliance), the companies studied by these authors used a mixed set of adaptations.

International experience works in a similar way to agility. Firms that have been operating for a long time in multiple country markets and with a broad range of foreign activities (such as, *e.g.,* production or distribution networks abroad) have a wider range of experience gained in different economic, institutional or cultural environments, and can therefore use this experience proactively in the face of sudden changes, such as the imposition of the sanctions. As Johanson and Vahlne (2015) indicate in the revised Uppsala model, the ability to grow internationally is, among other things, a function of their experience and network relationships, which are not instantaneous but take time and trust between partners in an international supply chain.

As we hypothesised, reactive strategies lead to negative financial results. On the other hand, proactive adaptation leads to positive financial results, despite undoubtedly adverse changes in the environment, such as the sanctions introduction. The results suggest that companies with strong international experience and agile capabilities can think outside the box and find solutions that generate revenue in the long run, even in the face of adverse change. However, we believe – although this will be the subject of further research – that even very agile and internationalised companies take proactive adjustment measures after the so-called first shock, *i.e.*, sometime after the introduction of sanctions. Immediate responses by firms tend to be more reactive in nature, which is why we have a mixed set of actions in our study. We base our assumption on the results of the qualitative studies by Stępień and Światowiec-Szczepańska (2022) and Gittins *et al.* (2022), which describe such a development of adaptation to pandemic COVID-19 sanctions. In the first phase, reactions to the crisis were mainly passive and only in the next phase did companies with a certain potential for agility, innovation and experience reacted proactively.

Both strategic agility and international experience are crucial for firms to adapt effectively to disruptive events like sanctions. While agility focuses on the firm's internal capabilities to respond quickly, international experience provides external knowledge and networks. Firms that possess both are better positioned to implement proactive strategies that enhance financial performance.

CONCLUSIONS

The introduction of sanctions disrupts the existing rules of the business game and forces a change in existing business relationships. In our article, we have shown that the companies which are more likely to survive and prosper when sanctions are imposed are those with agile skills and extensive international experience. Companies with such internal characteristics are able to turn an adverse environment into success. They do this through a combination of proactive and reactive measures, but only the proactive measures produce positive financial results. Our research also shows that agility and

international experience are mutually reinforcing: agility drives companies to develop their business internationally, and international experience shapes agile resources.

Strategic agility is a driver of proactive responses. Firms with higher levels of strategic agility are more capable of swiftly identifying and capitalizing on new opportunities arising from sudden environmental changes such as sanctions. The stronger influence on proactive strategies suggests that agility equips firms to not only respond but also to anticipate and shape their environments. The weaker yet significant influence on reactive strategies may reflect that agile firms still implement necessary defensive measures but prioritize proactive initiatives.

International experience enhances proactive adaptation. Firms with extensive international experience possess valuable knowledge and networks that enable them to navigate complex international landscapes effectively. The strong positive relationship with proactive strategies indicates that such firms leverage their experience to explore alternative markets, adjust supply chains, and innovate their business models. The positive relationship with reactive strategies, though weaker, suggests that international experience also aids in implementing necessary cost-cutting or compliance measures.

Proactive adjustment strategies have a substantial positive effect on financial performance, emphasizing the financial benefits of innovatively adapting to sanctions. Reactive adjustment strategies negatively affect financial performance, indicating that solely defensive measures may not suffice and could harm profitability. These findings align with prior research on crisis management and organizational resilience, where proactive approaches lead to better outcomes (Eggers, 2020; Stępień & Światowiec-Szczepańska, 2022).

The objective of the above-described research and analysis was to extend an understanding of firms' strategic behaviour in response to sudden external changes or crises, such as sanctions. The aim was to demonstrate how intrinsic factors influence sanctions' adjustment strategies. This article also makes a contribution to the limited economic and business literature on companies' behaviour towards sanctions by analysing the impact of sanctions on financial performance. Finally, unlike most studies in this area that primarily focus on large firms, this article examines mid-sized firms. Further research on the behaviour of firms vis-à-vis sanctions can focus on the strategies of small actors and show the rationale and process of adaptation changes in firms affected by such restrictions.

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Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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