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Working Paper

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Working Paper 01/26

Suggested citation: Brink, S.; Schröder, C.; Nielen, S.; Günther, C. (2026): Innovation in Times of Crisis: Does Pre-Existing Innovation Experience Matter?, in: IfM Bonn Working Paper 01/26, Bonn.

Impressum

Herausgeber

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www.ifm-bonn.org

Working Paper

ISSN 2193-1879 (Internet)
ISSN 2193-1860 (Print)

Bonn, May 2026

Das IfM Bonn ist eine Stiftung des privaten Rechts.

Gefördert durch:

Bundesministerium für Wirtschaft und Energie

aufgrund eines Beschlusses des Deutschen Bundestages

Ministerium für Wirtschaft, Industrie, Klimaschutz und Energie des Landes Nordrhein-Westfalen

INNOVATION IN TIMES OF CRISIS: DOES PRE-EXISTING INNOVATION EXPERIENCE MATTER?

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Abstract

Previous research shows that innovations help companies to overcome crises. But it is still unclear whether and to what extent external shocks force companies without or less pre-existing innovation experience to innovate and how successful these innovations are to improve the economic situation. This study investigates how innovations may help companies to perform better during macroeconomic crisis. In doing so we distinguish between innovators with and without pre-existing innovation experience. Our results show that companies which are affected by the crisis are more likely to innovate as a reaction. These innovations out of necessity have a significant positive effect on the economic situation of companies. Innovators without pre-existing innovation experience can even gain a competitive advantage over non-innovative companies by acting proactively during the crisis. But these positive effects are stronger for companies with pre-existing innovation experience. Hence, we observe that pre-existing innovation experience is helpful to implement innovations during a crisis in a successful way.

JEL: O31, O32

Keywords: Innovation, Crisis, Business Development

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Previous research shows that innovations help companies to overcome crises. But it is still unclear whether and to what extent external shocks force companies without or less pre-existing innovation experience to innovate and how successful these innovations are to improve the economic situation. This study investigates how innovations may help companies to perform better during macroeconomic crisis. In doing so we distinguish between innovators with and without pre-existing innovation experience. Our results show that companies which are affected by the crisis are more likely to innovate as a reaction. These innovations out of necessity have a significant positive effect on the economic situation of companies. Innovators without pre-existing innovation experience can even gain a competitive advantage over non-innovative companies by acting proactively during the crisis. But these positive effects are stronger for companies with pre-existing innovation experience. Hence, we observe that pre-existing innovation experience is helpful to implement innovations during a crisis in a successful way.

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1 Introduction

Global crises are unexpected events that threaten economies, business organizations and individuals. Such comprehensive crises are typically characterized by challenging macro-level effects and a variety of effects at the micro level. For example, the COVID-19 pandemic disrupted structures, routines and capabilities and impairing organizational performance (Williams et al. 2017). Nevertheless, such crises do not affect every company and every entrepreneur to the same extent (Newman et al. 2022).

A substantial body of research examines how firms navigate crises (e.g. Belitski et al. 2022; Cucculelli/Peruzzi 2020; Doern et al. 2019; Ogawa/Tanaka 2013). These studies show that innovation activity can influence how companies come through an economic crisis. While innovation is well known to enhance companies' performance in ordinary times, e.g., by increasing productivity, achieving competitive advantages and growth (Fagerberg et al. 2010; Grossmann 2009; Lee/Chen 2009; Tidd/Bessant 2020), it can also serve as an appropriate strategic response in crises (Cefis et al. 2020; Papaoikonomou et al. 2012; Wenzel et al. 2020). Such innovation activities can mitigate negative economic effects of external shocks (Ebersberger/Kuckertz 2021; Marques Santos et al. 2021) and simultaneously increase future competitiveness (Brancati et al. 2022).

Crises increase pressure to adapt or find new solutions, often raising firms' willingness to take risks (Christopher/Peck 2004; Do et al. 2022; Kahneman 1979). Research on entrepreneurial orientation and leadership observed a positive relation between risk-taking and innovation (García-Granero et al. 2015). When revenues decline, risky innovation activities become more attractive if it promises to offset losses (Lien/Timmermans 2024). Although prior research show that crises can trigger or accelerate innovation, they largely overlook differences in firms' starting conditions (e.g., Brancati et al. 2022; Reinmoeller/Van Baardwijk 2005). In particular, few studies, like Lien/Timmermans (2024), explicitly compare firms with and without pre-existing innovation experience. While (Ali 2022)finds that pre-crisis companies' research and development intensity is positively related to profits during and after the crisis, it remains unclear whether pre-existing innovation experience affects the economic success of crisis-induced innovations.

This study addresses this gap by asking: Are crisis-induced innovations more economically successful in companies with pre-existing innovation experience than in those without? Unpacking this heterogeneity is crucial to understand whether crisis-induced innovation helps

companies overcome crises and whether it should be targeted by policy. Building on Resource Based View (Barney 2001; Teece et al. 1997), we argue that innovation capability, developed in ordinary times, is a key resource. Companies with pre-existing innovation experience are therefore better positioned to benefit from crisis-induced innovation, especially in the case of more complex innovations (e.g., product, process, and business model innovation) affect firm performance during crises, depending on their level of innovation maturity.

To answer our research question, we use a comprehensive data set and use a two-stage approach to analyze whether firms with crisis-induced innovations perform differently when they have pre-existing innovation experience. We measure economic success in terms of firm growth as well as on their own perception and find that firms with crisis-induced innovations and pre-existing innovation experience perform economically better than crisis-induced innovators without pre-existing innovation experience. We thereby contribute to the literature by extending prior empirical findings on the effectiveness of innovation behavior in times of crisis, which is particularly important because the ability to innovate determines how quickly and how well an economy recovers from a crisis (Papaoikonomou et al. 2012). The remainder of the study outlines the theoretical background and hypotheses, describes the data and methodology, presents the results and discusses implications. We also summarize the limitations of our work and pose questions for future research.

2 Framework and Hypothesis Development

2.1 Innovation behavior in times of crises

The ability of companies to innovate is a key factor in achieving and maintaining competitive advantages and enhances the chances of the company's survival in rapidly changing environments (Clausen et al. 2012). When companies innovate in ordinary times the assumption is that innovations do not arise randomly but are the result of intentional and systematic processes (e.g. Barringer et al. 2005; Heimonen 2012; Teece 1986; Von Hippel 2007). According to this understanding, innovating is a strategic decision for which a company must maintain or develop the appropriate competences. However, when an external crisis occurs, the environment changes suddenly and unexpectedly, and the economic pressure on companies increases. For example, Covid-19 has led to a sudden decrease in demand and companies have suffered losses in sales and liquidity. Simultaneously the crisis inhibits control over organizational processes (Burnett 1998). The extent to which companies are affected can vary from company to company. This complicates the company's strategic options, i.e. planned entrepreneurial activities like innovation activities, which normally require an appropriate degree of control over organizational processes and resources. The new situation forces companies to find new solutions under time pressure to cope with the crisis. In such a challenging environment the prerequisites for being innovative are changing and other characteristics of the management become more relevant.

The resource-based view clarifies that a certain characteristic leads to more innovation activities in times of high uncertainty. In such a situation the ability to find quickly new ways to handle the crisis in a spontaneous manner becomes more important (Charoensukmongkol 2022). According to the resource-based view perspective, such improvisational behavior of entrepreneurs can be considered as an entrepreneurial resource that facilitates the ability to innovate. It enables companies to recombine existing resources and to use them for solving new problems and opportunities (Hmieleski et al. 2013). Indeed, Charoensukmongkol (2022) finds that improvisational behavior is more critical in times of crisis than in ordinary times. There is a positive correlation between improvisational behavior and better performance under unfavorable business conditions.

Following these arguments, we assume that in times of economic uncertainty triggered by a crisis, the innovation behavior of companies that previously did not innovate due to their risk aversion and a lack of need for innovation changes. The greater the impact of the crisis on a

company's demand, sales or liquidity, the greater the pressure to respond to the crisis with crisis-induced innovations. Thus, our first hypothesis we derive is:

Hypothesis 1: The more severely a company is affected by a crisis, the more likely this company generates crisis-induced innovations.

2.2 Crisis- induced innovation and firm performance

We believe that the economic impact of crisis-induced innovation is positive compared to companies that do not innovate at all during the crisis. However, while crisis-induced innovations generally enhance the chances of a stronger performance in comparison to non-innovators, we also believe that their positive effect is limited. Considering the innovation experience of companies, the economic impact of innovation in times of crises may be higher for companies with pre-existing innovation experience. Such companies with innovation experience are in general more pro-active and thus have higher dynamic capabilities (Cioppi et al. 2014). These dynamic capabilities allow them to react faster to environmental changes (Puliga/Ponta 2022). The dimensions of dynamic capability are associated with a better evolutionary fit that in turn positively affects the organization´s innovative performance (Makkonen et al. 2014). However, building up dynamic capabilities is difficult to develop and deploy (Teece 2007). Innovation experiences lead to dynamic learning-by-doing and learning-to-learn effects that increase a company's knowledge and the likelihood of future innovations (Clausen et al. 2012). Thus, innovation persistence goes usually hand in hand with various forms of path dependency (Hecker/Ganter 2014; Le Bas/Scellato 2014). This means that the ability to respond to a crisis with innovations is likely to be more successful and have a greater economic impact if the company already has experience and, consequently, a strong culture of innovation.

If a company is constantly innovating, regardless of external influences, this strategic decision means that this company has also built-up corresponding capabilities. This includes the ability to absorb external knowledge and utilize it for its own innovative capacity (Cohen/Levinthal 1990). These companies often invest specifically in research and development. Such permanent innovators have therefore built up a pipeline of new products or services. Although some innovation projects are cancelled or interrupted in times of crisis, a large number are likely to be continued. It can be assumed that innovations that were planned before the crisis can also contribute to getting through the crisis better than without these innovations. Otherwise, the

investments would be sunk costs. It can even be assumed that opportunity-driven innovations are more sophisticated and complex than innovations that were created solely out of necessity and in the short term.

Crisis-induced innovations themselves differ from targeted innovations in ordinary times. Lien/Timmermans (2024) argue that crisis-induced innovations are predominantly based on necessity. Furthermore, they state that an unstable environment urges for innovations that need a shorter planning and implementation time and are probably less capital intensive. We are in line with their argumentation that crisis-induced innovations are in terms of their degree of novelty often low and are based on reallocation, recombining and reorganization existing resources (Lien/Timmermans 2024). This leads us to our second hypothesis:

Hypothesis 2a: Crisis-induced innovations have a positive impact on firm performance.
Hypothesis 2b: This positive effect is more pronounced for innovators with pre-existing innovation experience.
Hypotheses 2c: Crisis- induced product, service and business model innovation are more sophisticated than crisis-induced process innovation and are therefore more likely to improve firm performance when they are introduced by experienced innovators.

3 Empirical analyses

3.1 Data and variables

To explore our assumptions of how crisis-driven innovations affect the economic success of companies with and without pre-existing innovation experience, we analyze companies' innovation behavior during the COVID-19 pandemic. To this end, we rely on a dataset collected as part of a larger, nationwide online survey conducted in 2022 on corporate innovation activities of companies during the COVID-19 pandemic. The survey targeted companies of all sizes and across all industries registered in Germany. The addresses were sourced from the Markus database of the credit agency Creditreform and from Bureau van Dijk. A total of 49,340 executives were invited via email to participate in the survey. After data preparation our final sample comprises 823 companies.

To assess the companies' economic performance, we also asked them to evaluate their economic situation on a Likert scale of 1 (very poor) to 5 (very good). Companies had to answer this question for the years 2021 and 2022. As an alternative measure not driven by self-assessment, we use the growth rate of employees between 2020 and 2021. The use of self-

reported data is common and widely accepted in entrepreneurship research (Peng/Luo 2000). The respective shares for the economic situation in both years are shown in table 1.

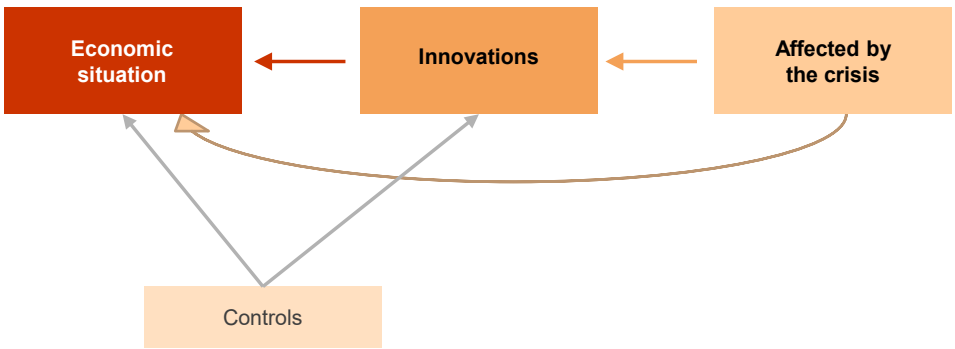
Table 1: Descriptive results economic situation

	Economic situation	
Value	2021	2022
Very poor	7.2%	3.4%
Poor	14.2%	13.1%
Moderate	23.2%	33.3%
Good	34.0%	33.2%
Very good	21.4%	17.0%

Source: Own calculations

We estimate path models consisting of two stages (see illustration one). In the first stage, we analyze how strongly a company is affected by the crisis and estimate its probability of innovating as a reaction to the situation. We expect a positive relationship between the degree of crisis exposure and innovation behavior. To test our second hypothesis, we asked the companies whether they had developed and introduced new or improved products or services, new processes, or new business models in 2018–2019, 2020, and 2021. Based on this self-reported data, we can thus determine whether and how they innovated before and during the COVID-19 pandemic.

Illustration 1: Research model



Source: Own illustration

In the second stage, we focus on the relationship between innovation activity and the economic situation of a company. The goal is to analyze whether there is a difference in performance between non-innovative companies and crisis-induced innovators with and without pre-existing innovation experience. Therefore, we distinguish four different groups of companies based on their innovation activity:

- Companies without any innovation before and during the crisis (non-innovative companies; reference group)
- Companies with at least one kind of innovation before the crisis but without any innovation during the crisis
- Companies without innovation activity before the crisis but implementing at least one kind of innovation during the crisis (crisis-induced innovators without pre-existing innovation experience)
- Companies with innovation activity before and during the crisis (crisis-induced innovators with pre-existing innovation experience)

Table 2: Descriptive results innovation

	Innovation 2018/19		
Innovation 2020	No	Yes	All
No	25,2%	3,5%	28,7%
Yes	33,8%	37,5%	71,3%
All	58,9%	41,1%	100,0%

Source: Own calculations

As can be seen in table 2 most companies innovative before and during the crisis. But more than one third of all companies became innovative as a reaction to the crisis (crisis-induced innovators). About one quarter is not innovative in both periods. Only a very small share is innovative before, but not during the crisis.

To consider further influences that may affect the economic situation and the innovation activity of a company we include the following control variables. We use a dummy to belong to the so called Mittelstand. This means that ownership and management belong together. To control for potential size effects, we use four dummy variables for different size categories (0-9 employees, 10-49 employees, 50-249 employees and 250 or more employees). Another important influence is export activities. Therefore, we include a dummy variable taking the value one if a company exports and zero otherwise. Finally, we include the log of age and legal status as well as industry dummies. Descriptive statistics of all control variables are reported in the appendix.

3.2 Results

Using our classification, we can test potential differences between crisis-induced innovators with and without pre-existing innovation experience. Furthermore, we can analyze the impact of innovation activity on firm performance in times of crises. Table 3 shows the results for implementing at least one type of innovation.

Table 3: Results for innovation (at least one type of innovation)

	(1)	(2)	(3)	(4)
Variables	Situation 2021	Situation 2022	Growth employees	Innovation
Innovation				
Neither before nor during the crisis	Ref.	Ref.	Ref.	.
Only before the crisis	-0.334	-0.578	-0.025	
	(0.357)	(0.370)	(0.043)	
Only during the crisis	0.270	0.333*	0.048**	
	(0.175)	(0.174)	(0.020)	
Before and during the crisis	0.392**	0.307*	0.054***	
	(0.174)	(0.174)	(0.020)	
Affected by the crisis in 2020				
Not at all	Ref.	Ref.	Ref.	Ref.
Minor	-1.094***	-0.593***	-0.052**	0.094
	(0.210)	(0.205)	(0.023)	(0.242)
Moderate	-2.132***	-1.151***	-0.044*	0.369
	(0.227)	(0.216)	(0.024)	(0.254)
Strong	-3.122***	-1.274***	-0.053**	0.649**
	(0.245)	(0.225)	(0.025)	(0.272)
Mitttelstand: Yes	0.148	0.095	0.003	0.399**
	(0.156)	(0.155)	(0.018)	(0.197)
Size Category: 0-9	Ref.	Ref.	Ref.	Ref.
Size Category: 10-49	0.085	0.060	-0.071***	0.117
	(0.187)	(0.187)	(0.022)	(0.226)
Size Category: 50-249	0.528**	0.173	-0.046*	0.472*
	(0.219)	(0.220)	(0.025)	(0.270)
Site Category: 250 and more	0.736***	0.192	-0.037	0.900***
	(0.258)	(0.255)	(0.030)	(0.336)
Export: Yes	-0.028	0.187	0.014	0.349*
	(0.154)	(0.153)	(0.018)	(0.194)
Log of age	-0.031	-0.112	-0.030***	-0.024
	(0.082)	(0.082)	(0.009)	(0.100)
Legal status Dummies	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes
Constant			0.090	-0.397
			(0.055)	(0.565)
Observations	823	823	823	823

Standard erros in parentheses; * p < 0.10, ** p < 0.05, *** p < 0.01

Source: Own calculations

Looking at the first stage of our path model (column 4), we find that companies that are strongly affected by the COVID-19 pandemic are more likely to be innovative during the crisis. This result is in line with the results of Lien/Timmermans (2024) and supports our hypothesis 1.

Our results provide also support for hypothesis 2a: The estimation suggests that innovation activity during the crisis is beneficial for the economic situation of a company. For the growth rate of employees between 2020 and 2021, we find positive effects on innovation activity during the crisis. But this effect is stronger for companies with pre-existing innovation experience and supported our hypothesis 2b. However, to substantiate this result, we analyze each type of innovation separately. In doing so we combine product and service innovation to one kind of innovation. We distinguish between business model innovations, process innovations and product or service innovations. To identify the effect of implementing each type of innovation compared to non-innovative companies, we only use non-innovative companies and companies implanted the respective kind of innovation. Hence, each model has a different number of observations. The more companies implemented the type of innovation the higher the number of observations is. For reasons of space, we only report the results for the innovation variables in each table. All models include the whole set of control variables, which are shown in table 3. The complete results for each type of innovation including the first stage results are available upon request from the authors. Table 4 shows the results for business innovations.

Table 4: Results for business model innovation

	(1)	(2)	(3)
Variables	Situation 2021	Situation 2022	Growth employees
Business model innovation			
Neither before or during the crisis	Ref.	Ref.	Ref.
Only before the crisis	-0.233	-0.454	-0.031
	(0.366)	(0.367)	(0.050)
Only during the crisis	-0.169	-0.271	0.043
	(0.346)	(0.341)	(0.045)
Before and during the crisis	0.433	0.899***	0.100***
	(0.291)	(0.291)	(0.037)
Control variables	Yes	Yes	Yes
Observations	349	349	349

Standard erros in parentheses; * p < 0.10, ** p < 0.05, *** p < 0.01

Source: Own calculations

Looking at business model innovations, we find no effects on the economic situation in the year 2021. Being innovative before and during the crisis goes in line with a better economic situation in the year 2022. Companies being innovative before the crisis and implementing a

business model innovation during the crisis also have higher growth rates of employees between the years 2020 and 2021. Business model innovations are relatively complex and tend to have great economic potential. Hence, it needs time and innovation experience to implement them. That's why we find no effects for the economic situation in 2021 and only positive effects for firms with pre-existing innovation experience. Table 5 reports the results for process innovations.

Table 5: Results for process innovation

	(1) Situation 2021	(2) Situation 2022	(3) Growth employees
Process Innovation			
Neither before or during the crisis	Ref.	Ref.	Ref.
Only before the crisis	-0.350	-0.570	-0.025
	(0.358)	(0.370)	(0.044)
Only during the crisis	0.262	0.390**	0.052**
	(0.179)	(0.178)	(0.021)
Before and during the crisis	0.365**	0.292*	0.056***
	(0.177)	(0.177)	(0.021)
Control variables	Yes	Yes	Yes
Observations	776	776	776

Standard erros in parentheses; * p < 0.10, ** p < 0.05, *** p < 0.01

Source: Own calculations

Process innovations are shown to be an effective way to improve companies' economic situation during the crisis. Companies introducing a process innovation in the crisis report a better economic situation. This applies to companies with innovation activity even before the crisis, but also partly for companies implementing process innovation forced by the crisis without innovation experience. Here we find also positive effects except for the economic situation in the year 2021. The reason for this could be the lack of experience of non-innovative companies to implement process innovations in the short term. Hence, it takes more time to realize the positive effects of introducing a product innovation. Table 6 presents the results for product or service innovations.

Table 6: Results for product or service innovation

	(1) Situation 2021	(2) Situation 2022	(3) Growth employees
Product or service innovation			
Neither before or during the crisis	Ref.	Ref.	Ref.
Only before the crisis	-0.360	-0.626*	-0.031
	(0.360)	(0.373)	(0.044)
Only during the crisis	0.214	0.106	0.037
	(0.225)	(0.221)	(0.026)
Before and during the crisis	0.467**	0.409**	0.056**
	(0.200)	(0.202)	(0.023)
Control variables	Yes	Yes	Yes
Observations	550	550	550

Standard erros in parentheses; * p < 0.10, ** p < 0.05, *** p < 0.01

Source: Own calculations

Looking at product or service innovations, we only find positive effects for companies that have already innovation experience and implemented this type of innovation during the crises. Product or service innovations often need time for development and, without this preparation time before the crisis, they are not as effective in improving the economic situation.

Our results reveal that being innovative, in general, strengthens a company's economic situation. Process innovations promote the adjustment process to the new crisis-related exceptional economic situation and alleviate the impact of the crisis. This kind of innovation needs no deep pre-existing innovation experience. The other innovation types (product or service and business model innovation) are comparatively more elaborate. Hence, they require an innovation orientation within the company's culture. This ongoing innovation orientation strengthens the economic situation of a company and supports our hypothesis 2c: More complex innovations are more likely to have a positive impact on firm performance when introduced by experienced innovators.

Regarding the control variables we find the following: The more companies are affected by the crisis, the more they evaluate their economic situation negatively. Moreover, family-owned companies in which ownership and management are unified tend to be innovative during the crisis.

4 Discussion and Conclusion

Macroeconomic crises can trigger a surge in innovation. During a crisis, innovations emerge both in companies with and without pre-existing innovation experience. The more companies are affected by the crisis, the greater is the pressure on them to make innovative changes to cope with the crisis, especially in their business processes. These innovations out of necessity have a significant positive effect on the growth and economic development of companies. This leads us to an important contribution of our results to innovation research: Companies that even have not previously innovated and have not specifically built-up innovation capabilities in advance can even gain a competitive advantage over non-innovative companies by acting proactively during the crisis. "Forced" innovations by crises, hence adaptations and innovations that are not planned in a long-term and targeted manner, deliver a positive and significant contribution.

However, the resulting crisis-induced innovations are less complex than innovations carried out by companies with targeted innovation activities. This is one reason why the innovations of companies with an affinity for innovation achieve greater economic success than those caused by the crisis. As a result, companies that invested in their innovative capacity before the crisis also benefit from this in economically turbulent times. They benefit to a greater extent than companies with crisis-induced innovations. It therefore depends on the starting conditions what contribution innovations make to overcoming the crisis. This has not been sufficiently considered by previous research.

The investments in innovation capabilities can include R&D expenditure. But innovative capabilities can also build-up and strengthens, as small and medium-sized enterprises often do, through internal measures such as staff training and development, an innovation friendly firm culture or networking with external partners. The dynamic capabilities and absorptive capacity acquired in this way not only pay off in ordinary times but also reduce the risk of insolvency in times of crisis and can thus strengthen a company’s resilience. Especially family-owned businesses are more likely to respond to crises with innovations than management-led companies. Family-owned businesses are often small and medium-sized enterprises in which entrepreneur play a central role in decision-making while simultaneously bearing a substantial share of business risks. Thes concentration of authority is typically associated with flat hierarchies, enabling them to react quickly and flexibly in turbulent times. In contrast, decision-making processes take longer in management-led companies due to their often more complex organizational structures and longer decision-making processes. Consequently, the greater

organizational agility of family-owned business is reflected in a higher propensity to innovate during times of crisis. Economic policy should also strengthen the innovative capacity of companies in times of crisis, i.e. by expanding existing innovation programs or at least making the conditions of participation more flexible. They could extend funding periods and reduce bureaucratic requirements to conserve companies' resources. As innovations from companies with innovation experienced provide a greater contribution to cope with a crisis, policymakers should focus on these companies and ensure that as few pre-crisis innovation projects as possible are cancelled during the crisis. The expansion of public innovation funding terms, especially in times of crisis, strengthens the overall economic innovation and growth potential.

The limitation of our study is that we do not carry out a cost-benefit analysis, i.e. we do not compare the investment costs that flow into innovation activities with their return. We have taken into account innovation activity before and during the crisis, but we do not know to what extent the innovations were carried out during the crisis because of it or independently of the economic shock. Even if the results can in principle be transferred to other macroeconomic shocks, other crisis triggers, such as the financial crisis, can have an adverse effect on companies' innovative capacity, as they simply cannot be financed by external funds. We also have to address the problem of potential simultaneity or reverse causality in our empirical results. For instance, firms that performed better may have had more resources to innovate during the crisis. This is where future research could start and close this gap. We are also unable to say whether the crisis-related innovations also strengthen innovative capacity in the long term.

Appendix: Further descriptive statistics

Table A1: Descriptive statistics categorical variables

Variable	Share
Affected by the crisis in 2020	
Not at all	16.4
Minor	30.3
Moderate	26.8
Strong	26.5
Size category	
0-9	19.8
10-49	37.6
50-249	26.7
250 and more	15.9
Mittelstand: Yes	69.6
Export: Yes	38.2
Sector	
Trade	9.5
Manufacturing	16.9
Construction	11.9
Hotel	4.7
ICT	6.7
Financial service and real estade	3.9
Logistic	3.2
Freelancer service	5.8
Other business services	7.1
Education and teaching	3.8
Health and social	14.5
Art and Entertainment	2.4
Other services	9.7
Legal status	
With personal liability	9.3
Without personal liability	84.6
Other	6.1

Table A2: Descriptive statistics metric variables

Variable	Mean	Std. dev.
age	39.2	38.5
emploment growth	0.03	0.22

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