ZEW Expert Brief

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Corporate Insolvencies in Times of COVID-19

Leibniz Association

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Executive Summary[1]

- After the outbreak of the COVID-19 crisis, the number of insolvency filings has reached a record low in 2020.
- However, industry sectors are affected differently. In the early phase of the COVID-19 crisis, the number of insolvencies in the service sector decreased most substantially. In the third quarter of 2020, we observe increasing insolvency numbers throughout all sectors that have, however, not reached pre-crisis level yet.
- Our analysis shows a pronounced decrease of insolvent micro firms with at most 10 employees until September 2020 while insolvency declarations among micro firms are rising again in the third quarter of 2020.
- Businesses with fully liable owners avoided insolvency filings to a much greater extent than companies with limited liability.
- Businesses with owners living abroad are more likely to file for insolvency.
- The COVID-19 crisis changed the age composition among insolvent entrepreneurs: The number of insolvency filings of older entrepreneurs (above 65 years) has started to catch up with the numbers among young entrepreneurs (below 35 years). In the age groups (35 -50 and 51-65 years) we see a strong decrease in insolvency filings.
- Insolvency declarations among firms located in Western Germany have dropped more sharply than the numbers in Eastern Germany resulting in a slight increase in the share of Eastern German insolvency filings.
- We observe no major shifts in the age composition of insolvent firms, the gender composition of insolvent entrepreneurs and entrepreneurial team size.

[1] The authors are greatly indebted to CREDITREFORM for the ongoing support in establishing the MUP. Special thanks goes to Patrik-Ludwig *Hantzsch*, head of CREDITREFORM's business research department, for his many helpful discussions and CREDITREFORM's data management for enduring support.

1. Objectives

Economic consequences of the COVID-19 pandemic have been an important issue in the public debate. In almost every country, stores and plants were closed and mobility severely restricted in order to contain the spread of the virus. Given this forced halt of many economic activities, governments have initiated quite a variety of instruments to fight against the pandemic's negative economic impacts. In Germany, for instance, the Federal Government has granted unprecedented aid measures to companies in response to the economic crisis and the shutdown measures. These measures are described as the "largest assistance package in the history of the Federal Republic of Germany" (Federal Ministry of Finance 2020, p. 3). Besides various instruments of liquidity provision, the government also passed a temporary amendment to the German Insolvency Law (Federal Ministry of Justice and Consumer Protection 2020). This amendment comprises a temporary suspension of the legal obligation to declare insolvency and has been implemented to avoid that businesses are driven out of the market by the standard insolvency rules. In fact, these rules could have prevented companies from taking out additional government-backed loans and/or would have made state banks responsible for supporting insolvent companies.

More and more voices are now being raised questioning whether the temporary changes in the insolvency law are still appropriate. Critics point to the danger of the emergence of zombie companies, which in essence are not viable in the long term because their business model, for example, did not work properly even before the crisis or which, as a result of the changes brought about by the crisis, will foreseeably not prove sustainable after the crisis. Others argue that it is still too early to conclude that many businesses will revive after the lockdown and hence the exemptions from the insolvency law should be prolonged. Currently, it is barely possible to demonstrate empirically which of these two views is right or wrong as the crisis is still ongoing.

This expert brief aims to provide facts on firms and entrepreneurs which despite the suspension of the filing obligation have still declared insolvency during pandemic. In this respect, our analyses provide a reference scenario for the wave of insolvency filings expected by many experts and politicians. Recent statistics show that during the first year of the pandemic the numbers of insolvency filings have decreased significantly – just the opposite what is usually observed during economic crises. In a recent paper Dörr, Licht and Murmann (2021b) show that it was precisely companies with poor credit ratings, whose rating deteriorated even further during the crisis months, which were able to avoid insolvency proceedings.

Given the cessation of the insolvency law amendment, this report aims at tracking the insolvency evolution of German corporations by continuously updating the below analyses. More importantly, however, the report sheds further light on how patterns in firm and ownership characteristics of insolvent firms have changed since COVID-19 has hit the German economy.

Specifically, the report focuses on both firm characteristics and entrepreneur characteristics of firms that have filed for insolvency before and after the COVID-19 outbreak in Germany. On the one hand, our aim is to analyze whether the decomposition of insolvent firms has changed since the start of the pandemic. On the other hand, the figures presented in this report serve as a reference point of the decomposition of corporate insolvencies before the expected wave of insolvencies will start to materialize. For this purpose, we provide descriptive statistics of the evolution of corporate insolvencies over the years 2006 to 2020 as well as monthly insolvency data for the period January 2018 to December 2020 looking at various firm and entrepreneur characteristics. In addition, the report also points to related studies and literature and thus lays the ground for further discussions in the context of business dynamics in times of COVID-19.

Ultimately, the report is the starting point to establish a continuous monitoring of firm entries and exits during and in the aftermath of the Corona crisis. Insolvencies are one way to exit the market. However, only a minor share of all exiting firms are forced to leave the market by means of insolvency procedures. In fact, many firms choose to close voluntarily – business exits which are not captured by official insolvency statistics. Even more, after several steps of reforms of the German insolvency law, filing for insolvency does not necessarily imply market exit. Debt-equity swaps, debt cuts or restructuring agreements with creditors are ways which might allow viable business models to regain solvency. And indeed about 1 out of 5 businesses which have started an insolvency filing in 2010 successfully regained solvency by 2017 (see Destatis 2020). Understanding the economic impact of the number of insolvency declarations is hard to assess as a significant share of insolvency proceedings need several years to wind up. In addition, the relation between the total number of business exits and the number of insolvencies might vary over time e.g. with the business cycle. This limits our ability to infer the number of real business exits from the number of insolvencies and it also hampers our ability draw economic conclusions based on the number of insolvency filings only. For this reason, the economic assessment of the development of insolvency filings and its policy implications is left to a future report. At this point, this study only aims at the provision of descriptive facts. Moreover, future reports of this series of COVID-19 related firm dynamics monitoring will shed light on market entries as well as on the total number of exits (business exits through insolvencies and through "voluntary" closings). Our preliminary analyses point to a significant drop in the number of new firm foundations and to a sharp increase in the number of "voluntary" firm closures. Reliable evidence on these both dimensions are important for the complete characterization of business dynamics during the crises.

The following analyses are based on the Mannheim Enterprise Panel (MUP) which covers the near universe of German enterprises. The MUP is derived from the records of CREDITREFORM, the largest credit rating and business information agency in Germany. Besides insolvency and firm entry information, the data base comprises detailed information on both firm and entrepreneur characteristics. Thus, it serves well for tracking and analyzing the effects of the current crisis on business insolvencies in Germany.

2. Excursus: The German Insolvency Law

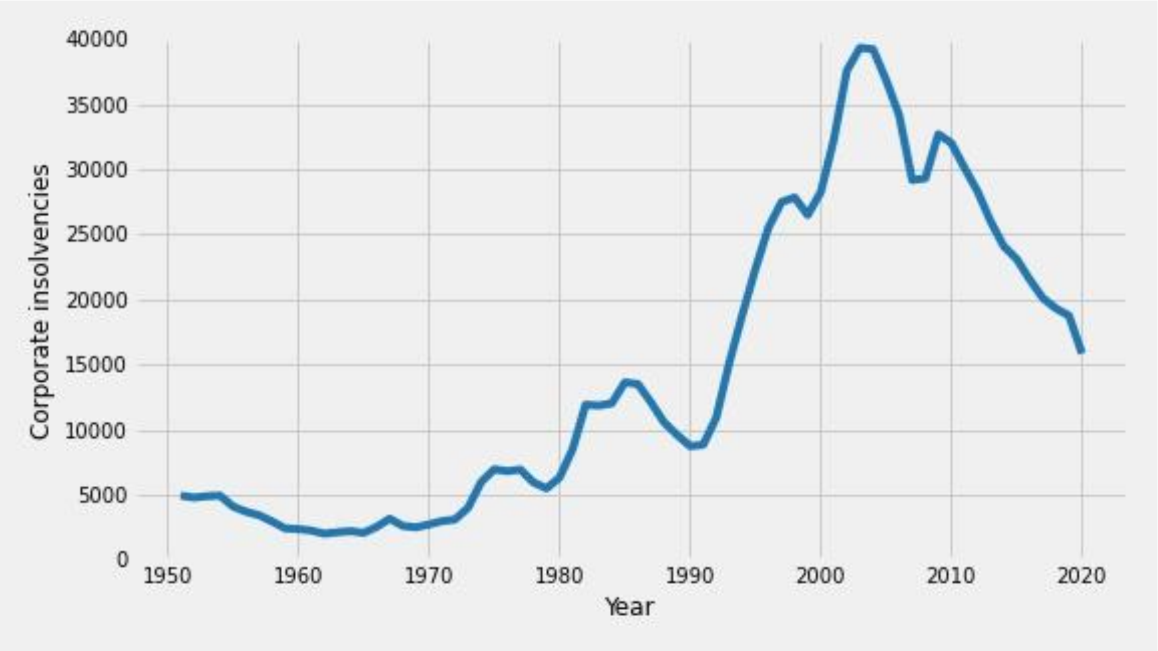
2.1 A Brief Historical Overview of German Insolvency Law

In the following, the characteristics of the German insolvency law and the main steps of its reforms in the last 30 year are summarized (for details see Bork 2019) to ease the understanding of the exemption for the law during the COVID-19 pandemic. Generally, the German insolvency law has changed decisively in the last twenty years. The initial focus on creditor protection and debt repayment has increasingly shifted towards the objective of continuing the business after solvency has been restored. Today, the purpose of insolvency proceedings is either to restore the debtor's solvency or to wind up the indebtedness in an orderly manner. The latter can be achieved by selling the insolvent company by one of the following three ways: (i) a so-called transferring reorganization, (ii) an insolvency plan or (iii) a liquidation by dissolving the company. The reforms of the insolvency procedure takes several legal steps and also evolves learning and behavioral adjustments by businesses, their advisors and the legal systems.

In Germany, a first uniform bankruptcy procedure (German: *Konkursordnung*) was enacted in 1877 with the primary aim of servicing creditors' claims. In response to the Great Depression, the existing regulation was extended by the so called *Vergleichsordnung* in 1935. At that time, the overwhelming number of insolvency filings had to be rejected due to a lack of assets: Often there were not even enough assets to cover at least the costs of the proceedings. When proceedings were closed, the insolvency rate was usually a meager few percent. A major goal of the reform was to provide stimulus to debtors and creditors to start the insolvency proceeding much earlier. **The insolvency law came into force in 1999**, replacing the earlier procedural codes in East and West Germany. In order to tackle the problem of frequent lack of assets, the legislator created incentives to file for insolvency early. An essential prerequisite for the legal obligation to open insolvency proceedings is the existence of a reason for insolvency. The law defines three reasons: insolvency, impending insolvency and over-indebtedness.

After the insolvency law came into force, the number of insolvency declarations increased significantly and peaked at a record high of almost 40,000 declarations in 2003. After the Financial Crisis in 2009, the numbers have been steadily declining (see Figure 1). Several small changes took place in 2001 to stimulate the use of the insolvency plan, an instrument that enables debtors and creditors to develop an economically sensible way out of the crisis adjusted for the individual case.

Figure 2.1: Insolvency declarations over time



Note: Number of corporate insolvencies according to official statistics.

The **Act to Further Facilitate the Restructuring of Companies** (ESUG) in 2011 aims at strengthening the restructuring instruments and opportunities as well as strengthening the creditor positions by giving creditors greater influence over the selection of the insolvency administrator, by simplifying access to self-administration and by expanding and streamlining the insolvency plan procedure. In 2014 and 2017 several small changes of the insolvency law aimed at making the insolvency more attractive to creditors.

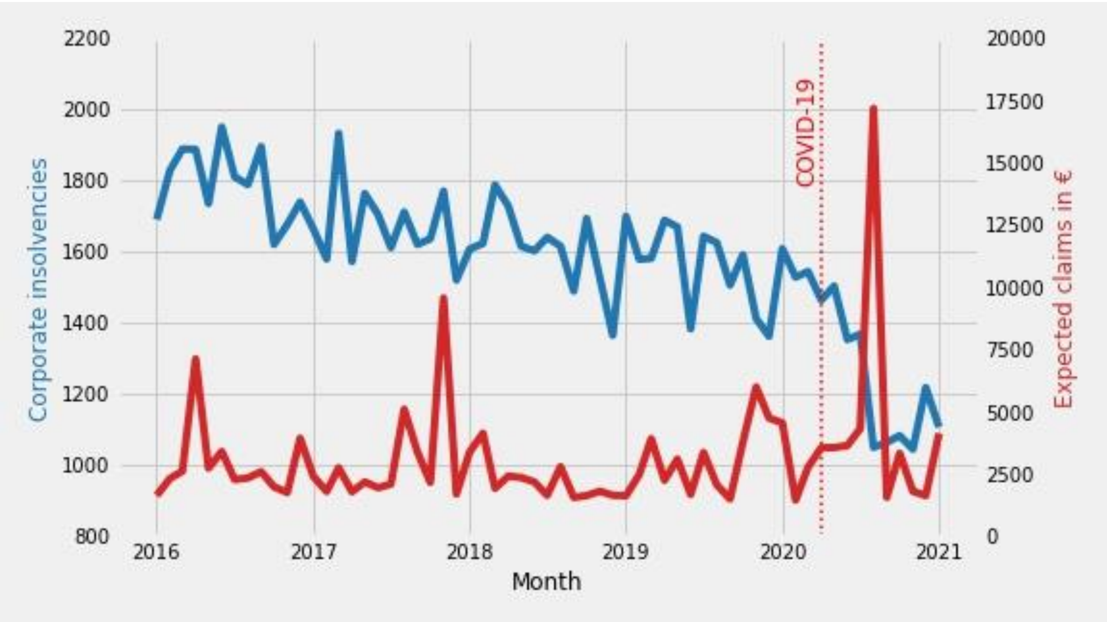
The latest reform in the German insolvency law has been enacted on January 1, 2021. The **Act on the Stabilization and Restructuring Framework** (StaRUG) implemented the EU Restructuring Directive in Germany. StaRUG aims at an early identification of insolvency risks and forces the management to develop a restructuring plan in the case of an imminent insolvency. So, StaRUG seeks to avoid a situation in which businesses are forced to invoke an insolvency procedure but rather incentivizes voluntary insolvency declarations at an early stage. There is no need that the restructuring plan involves all types of debt but might cover only one group of debtors like banks. A wide variety of arrangements are conceivable, e.g. debt waivers, deferrals, adjustment of conditions or debt-to-equity swaps. Management might also decide to include shareholders to contribute to the asset position e.g. via a share cut or the issuance of new shares. Although the effectiveness of this new law still needs to be tested in practice, it is clearly in line with the development of the insolvency law which increasingly places a higher weight on the continuation of insolvent businesses. Therefore, it is precisely the avoidance of insolvency and the ability to continue that must be presented in the restructuring plan.

2.2 The COVID-19 suspension of the insolvency law

The most relevant amendment of the German insolvency law in the context of this report, is the **COVID-19 Insolvency Suspension Act** (German: *COVID-19-Insolvenzaussetzungsgesetz* – COVInsAG) which has been passed at the beginning of the pandemic in March 2020. Its goal is to counteract the economic effects of the COVID-19 pandemic in Germany, specifically to enable the continuation of companies that have fallen into financial difficulties as a result of the pandemic. The deterioration of the economic landscape and the shutdown measures would have surely obliged numerous firms to initiate insolvency proceedings as a result of the financial distress that they have experienced. This temporary law amendment gives insolvent firms time to take advantage of government assistance, to reach financing (e.g. loans) or reorganization agreements (e.g. debt cuts) with creditors and capital providers in order to overcome their distress and insolvency.

It is for this insolvency suspension along with the liquidity support schemes that business exits are at a record low in this century, despite the fierce economic conditions (Figure 2.11 and Figure 2.2 show a significant kink in the evolution of insolvency filings over time). This is an atypical dynamic as economic crises usually act as cleansing mechanism forcing unviable firms to exit the market. Recent research shows that the current policy setting has led to a substantial backlog of corporate insolvencies (Dörr et al. 2021b) which is expected to realize once policy support measures cease (Dörr et al. 2021b; Holtemöller 2021; Clemens et al. 2021).

Figure 2.2: Insolvency Declarations and Outstanding Claims Since 2016



Note: Number of corporate insolvencies and of expected claims according to official statistics.

Figure 2 depicts the number of insolvency filings and the amount of debt claims involved. The monthly number of filings indicate that the effect of the COVID-19 exemptions of the mandatory filing obligation are mirrored by a dramatic drop of insolvency cases from April 2020 onwards. In addition, the figure also shows that debt claims involved in insolvency cases is highly skewed. The size of debt involved in the respective cases in each year is often dominated by one or a few large cases. E.g. the record peak of debt claims in 2020 is caused by only one case: the insolvency filing of Wirecard. The peaks in previous years also relate to quite specific cases. Hence, the total amount of claims involved in insolvency petitions captures trends in the evolution of insolvency proceedings only to a limited extent.

In the last weeks, the COVID-19 exemption of the insolvency filing obligation has been heavily discussed among its advocates and opponents in the political arena. Ultimately, the temporary insolvency filing suspension has ended at May 1, 2021. While eligibility criteria of the suspension have been adjusted over the last few months of the crisis, the reversion to the full filing obligation is expected to have substantial effects on insolvency proceedings. It is important to mention that the analyses in this report should always be read in reference to the insolvency law amendment and its adjustments over time:

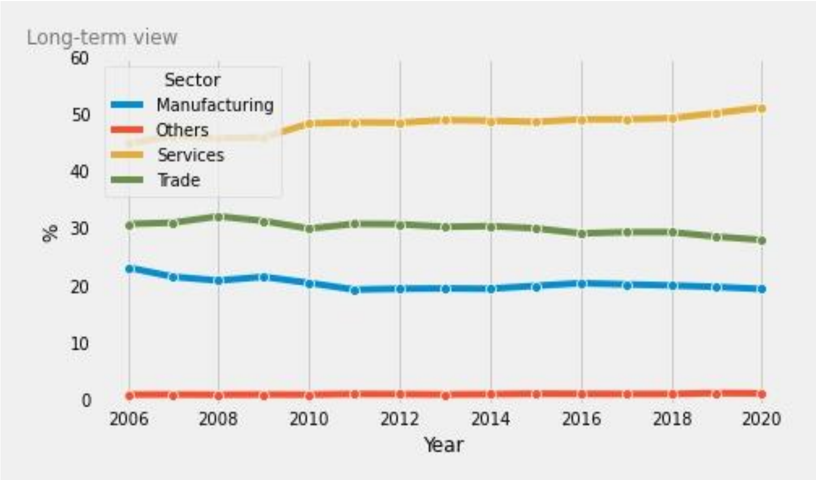
- ***March 27, 2020:*** The German parliament adopted the **Act to Temporarily Suspend the Obligation to File for Insolvency and to Limit Directors' Liability in the Case of Insolvency Caused by the COVID-19 Pandemic** until the end of September 2020. The suspension applies to all formal insolvency reasons (insolvency, impending insolvency and over-indebtedness) if the company suffers financial distress due to the COVID-19 crisis. The suspension of the insolvency filing obligation, requires that insolvency reasons need to be linked to the adverse effects of the COVID-19 pandemic. The insolvency filing requirement is suspended only as long as there are actual prospects of eliminating the inability to pay. If there are no longer any prospects, an insolvency must be filed without delay. COVInsAG also temporarily restricted the right of creditors to apply for the opening of insolvency proceedings for insolvent or over-indebted debtors (so-called creditor applications or third-party applications): in the case of third-party applications filed between March 28 and June 28, 2020, insolvency proceedings could only be opened if the reason for insolvency already existed before March 1, 2020
- ***October 1, 2020:*** The suspension of the obligation to file for insolvency has been extended until end of December 2020. Henceforth, the extension only applies to over-indebted companies.
- ***January 1, 2021:*** The suspension of the obligation to file for insolvency has been extended until end of April 2021. However, the further suspension only applies to such firms which applied for financial assistance instruments which were introduced during November or later (the so called *November Hilfen*).

3. Insolvencies by Firm and Entrepreneur Characteristics

3.1 Sector Affiliation

In this section of the report, we look at the companies' sector affiliation. We compare insolvencies of firms from services, trade and manufacturing as well as other sectors not falling under any of these three sector classes.

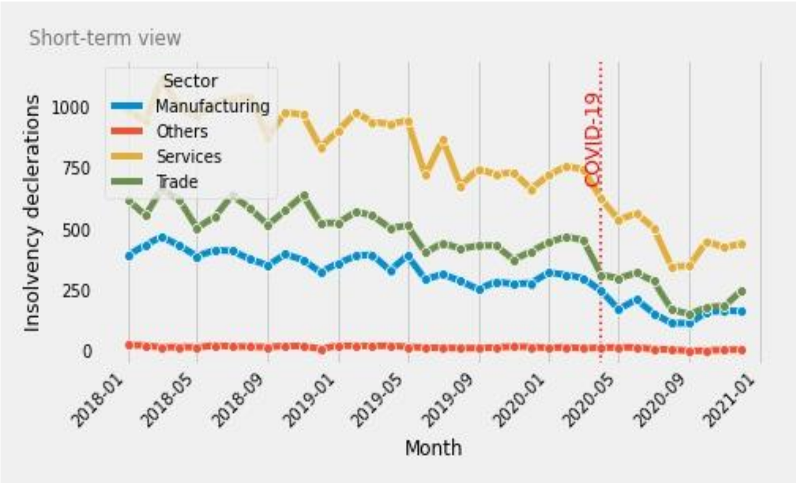
Figure 3.1: Corporate Insolvency Decomposition by Sector Affiliation



Source: ZEW (2021) Mannheim Enterprise Panel

Various studies point to the strong exposure of consumer-related services to the adverse impacts of COVID-19 (e.g. Dörr et al. (2020) and Wollmershäuser (2021)). We observe that in the long-term perspective the share of insolvent service firms has increased over the last years (Figure 3.1). In the four month after the outbreak of the crisis, we observe a disproportionately strong decrease of insolvent service and trade firms in absolute numbers (Figure 3.2). This suggests that the observed backlog of corporate insolvencies is largely made up of companies from the services and trade sectors. Since September 2020, when the suspension of the obligation to file for insolvency ended for illiquid companies, we can observe slightly rising insolvency numbers throughout all sectors while still being at low levels. We expect that both the absolute number as well as the relative number of corporate insolvencies in the service sector especially in severely hit industries such as catering, accommodation, tourism, and clothing retail will increase in the months to come.

Figure 3.2: Number of Corporate Insolvencies by Sector Affiliation



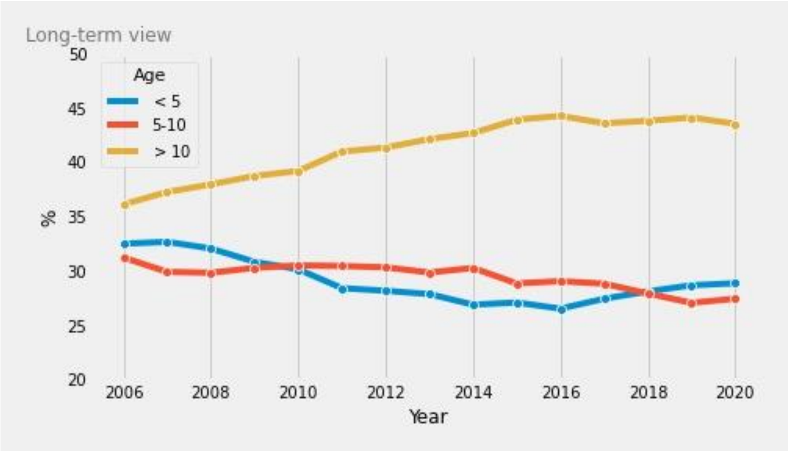
Source: ZEW (2021) Mannheim Enterprise Panel

3.2 Age of Company

This part of the report analyses the companies' age at time of the declaration of insolvency. For this purpose, we split the insolvent firms into three buckets:

- firm is a startup younger than 5 years at time of insolvency declaration,
- firm has been on the market between 5 to 10 years at the time of insolvency filing,
- incumbent firms which have been on the market for more than 10 years at time of filing for insolvency.

Figure 3.3: Corporate Insolvency Decomposition by Firm Age

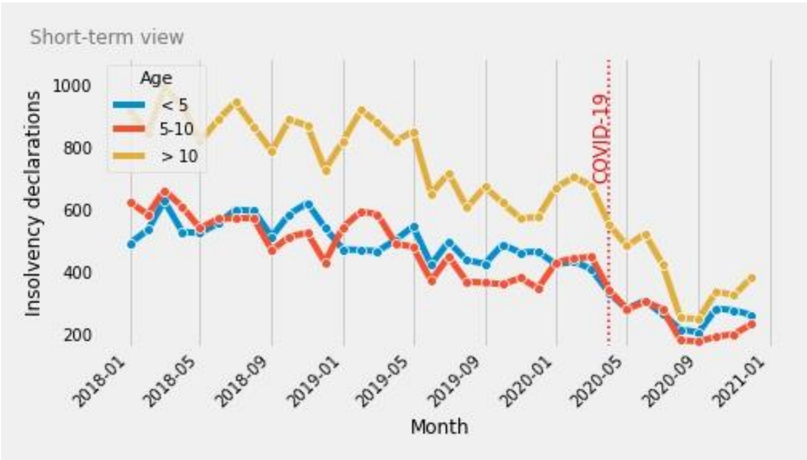


Source: ZEW (2021) Mannheim Enterprise Panel

In the long-term perspective, we observe a trend of an increasing share of incumbent firms declaring insolvency until 2016 and a stabilization afterwards (Figure 3.3). This effect is mainly driven by the low level of business formations in the last years. With business foundations being at very low levels, the share of corporate insolvencies among incumbent firms has consequently increased over the last years.

Current studies suggest that young firms are particularly vulnerable to the adverse effects encountered in the current crisis (Dörr et al. 2021b; Egeln et al. 2020). We expect that especially younger firms, with limited cash reserves and little collateral to draw new credit lines, face a high risk of corporate insolvency once the insolvency filing suspension ceases. Thus, we expect the fraction of insolvencies among young firms to increase in the coming months. Current numbers suggest that insolvency declarations among younger companies remain at low levels while filings among incumbent firms have started to increase since September 2020 after an initial strong slump (Figure 3.4).

Figure 3.4: Number of Corporate Insolvencies by Firm Age

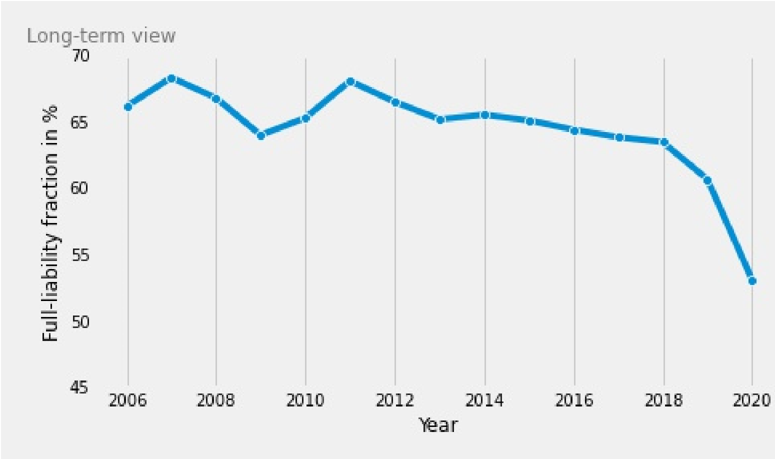


Source: ZEW (2021) Mannheim Enterprise Panel

3.3 Legal Form of Company

This section looks the legal form of the insolvent companies. We differentiate between firms with full liability (BGB, OHG, KG and similar legal forms) and firms with limited liability (GmbH & Co. KG, GmbH, AG). The variable "full liability fraction" reflects the share of insolvent firms with full liability.

Figure 3.5: Share of Insolvencies of Firms with Full-Liability

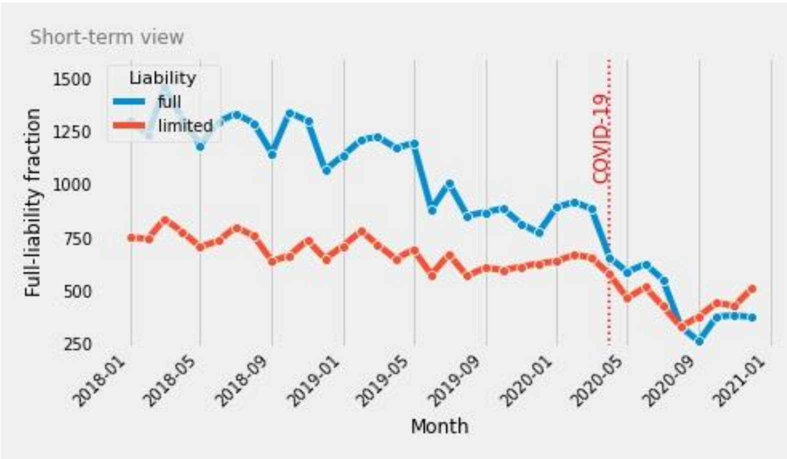


Source: ZEW (2021) Mannheim Enterprise Panel

Until 2014, the share of insolvent firms with full liability fluctuated around 65 percent. From then on, we observe a decrease in the proportion of insolvent firms where the business owners bear full liability (Figure 3.5). This effect is probably due to the introduction of the new legal form of the *Unternehmergesellschaft (UG)* in 2008, which opened entrepreneurs the opportunity to limit their liability without large capital requirements.[2] An increase in business formations with limited liability has consequently translated into a rise of business exits of firms with limited liability.

More importantly, in the context of COVID-19, it can be observed that the declining trend of insolvencies among corporations with full liability has been strongly accelerated with the onset of the current crisis (Figure 3.6). It is likely that the suspension of the insolvency obligation has been predominantly used by entrepreneurs which bear full liability as they are typically confronted withfar reaching consequences in case of insolvency proceedings. Thus, we expect the fraction of full liability insolvencies to return back to higher levels once the insolvency filing suspension is running out.

Figure 3.6: Number of Corporate Insolvencies by Type of Liability



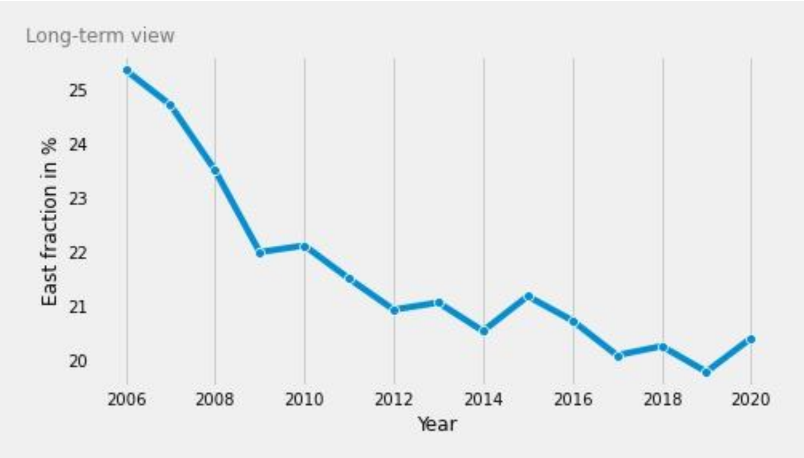
Source: ZEW (2021) Mannheim Enterprise Panel

[2] In order to found an UG a nominal capital of 1 EUR is required in contrast to 25,000 EUR for a GmbH.

3.4 Geographic Location of Businesses

This section looks at the geographic location of insolvent companies. We differentiate between firms located in the east of Germany versus companies headquartered in the western part of Germany. The variable "east fraction" reflects the share of insolvent firms located in the Eastern German states Mecklenburg-Western Pomerania, Brandenburg, Berlin, Saxony-Anhalt, Thuringia or Saxony.

Figure 3.8: Share of Insolvencies of Firms in Eastern Germany

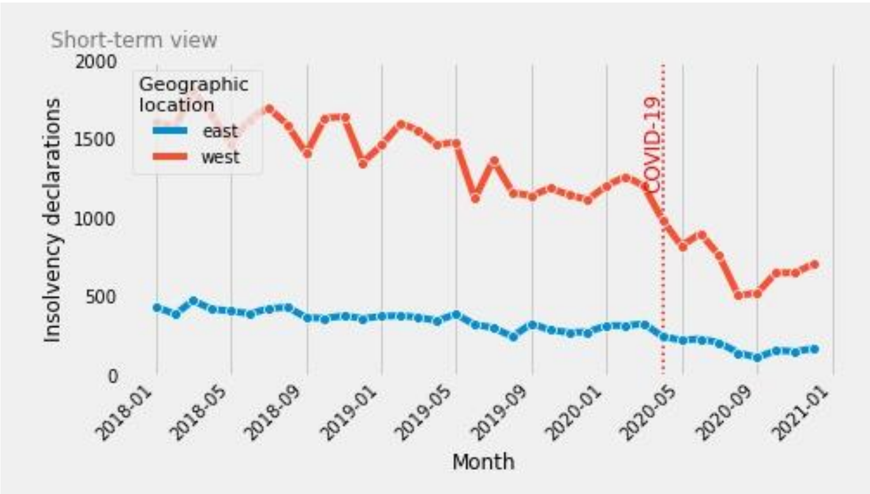


Source: ZEW (2021) Mannheim Enterprise Panel

Over the last years, the share of insolvency filings among firms located in East Germany has continuously decreased from more than 25 to around 20 percent (Figure 3.8). Dörr et al. 2020 and Bellmann et al. 2021 show that regional differences in the economic impacts of the COVID-19 crisis exist because of differences in the sector composition.

In the short-term perspective, we see a slight reversal of this trend as insolvency declarations among firms located in Western Germany have dropped more sharply than the numbers in Eastern Germany (Figure 3.9). It is possible that a furtherdisaggregation of local entities could reveal further regional differences in insolvency declarations and voluntary closures.

Figure 3.9: Number of Corporate Insolvencies by Geographic Location

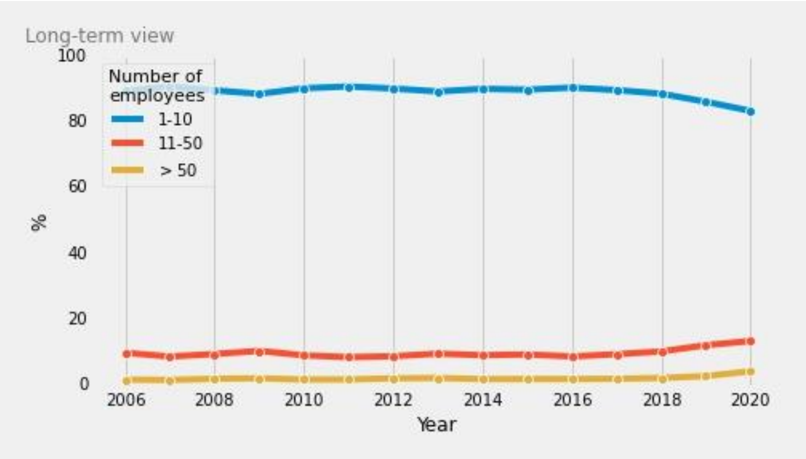


Source: ZEW (2021) Mannheim Enterprise Panel

3.5 Company Size

In this section of the report we look at the companies' size as measured by its number of employees. We compare the composition of corporate insolvencies among micro, small and larger corporations. For this purpose, we split the firms into size buckets according to the following thresholds:

Figure 3.10: Corporate Insolvency Decomposition by Firm Size

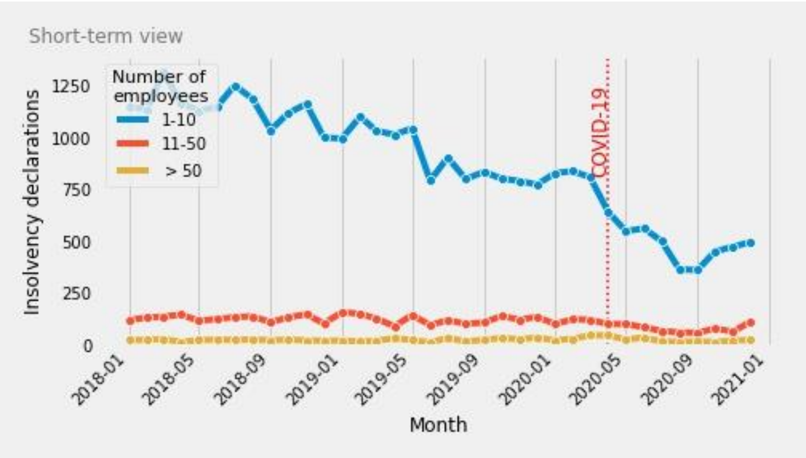


Source: ZEW (2021) Mannheim Enterprise Panel

- micro enterprise: 1 - 10 employees,
- small enterprise: 11 - 50 employees and
- larger enterprise: >50 employees.

In the long-term perspective, we observe a slight decline in the fraction of insolvencies among small firms over the past four years (Figure 3.10). In the COVID-19 period, this trend seem to be accelerated through a pronounced decrease of insolvent micro firms with at most 10 employees until September 2020 (Figure 7.2). This is in line with current studies which suggest that especially smaller and micro firms including self-employed, freelancers and trade businesses (*Gewerbebetriebe*) are particularly vulnerable to the adverse effects encountered in the current crisis (Dörr et al. 2021b; Dörr et al. 2020; Gürtzgen and Kubis 2021). We expect that especially micro firms, with limited cash reserves and little collateral to draw new credit lines, face a high risk of corporate insolvency once the insolvency filing suspension completely ceases. In the last months of 2020 we have already seen slightly increasing numbers of insolvent micro firms and we expect insolvencies among small firms to further increase in the coming months.

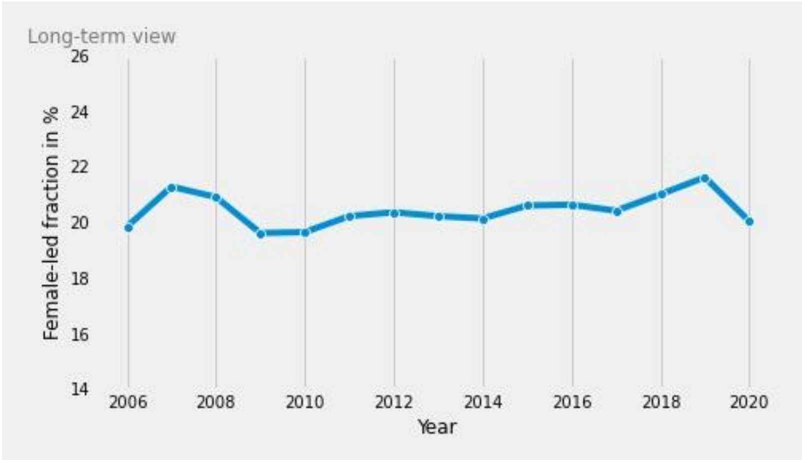
Figure 3.11: Number of Corporate Insolvencies by Firm Size



Source: ZEW (2021) Mannheim Enterprise Panel

3.6 Insolvencies by Gender of Entrepreneurs

Figure 3.12: Share of Insolvencies of Female-led Firms

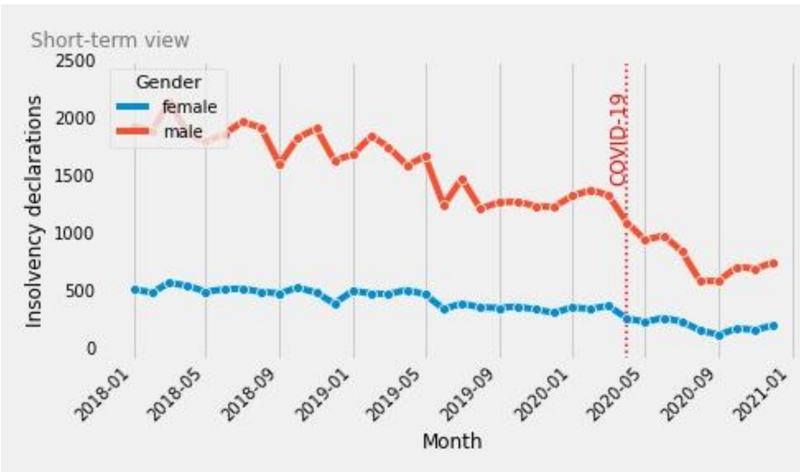


Source: ZEW (2021) Mannheim Enterprise Panel

In this section of the report we look at the entrepreneurs' gender. We compare firms exclusively run by female entrepreneurs with firms where at least one entrepreneur is male. The variable "female-led fraction" reflects the share of insolvency filings related to firms which are exclusively owned by female entrepreneurs.

In the long-term view the fraction of insolvencies of female-led firms has been quite stable at around 20-22 percent (Figure 3.12). A body of research shows that female workers and entrepreneurs in Germany are hit disproportionately hard compared to their male counterparts by the current crisis (Graeber et al. 2021). Similar results indicating a gender gap in the exposure to the adverse effects in the COVID-19 pandemic are also found in other countries such as the US (Fairlie 2020; Grashuis 2021; Bloom et al. 2021). Still we assume that among the micro-firms which constitute the largest part of the backlog of corporate insolvencies female-led firms are represented. Thus, we assume that the fraction of female-led insolvencies will likely increase in the coming months and possibly will even exceed pre-crisis levels.

Figure 3.13: Number of Insolvencies by Gender of Entrepreneur

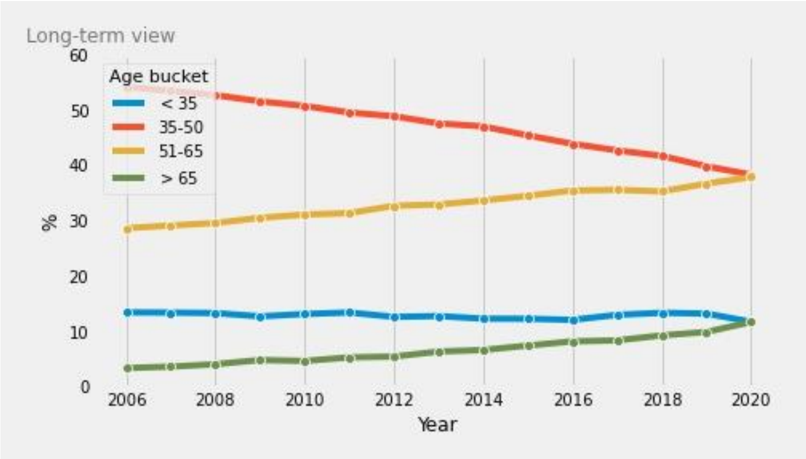


Source: ZEW (2021) Mannheim Enterprise Panel

3.7 Age of Entrepreneurs

In this part of the report we look at the entrepreneurs' age. For this purpose, we first calculate the average age of all entrepreneurs of a company at the time of the declaration of insolvency. Then we create four age buckets:

Figure 3.14 Insolvency Decomposition by Age of Entrepreneurs

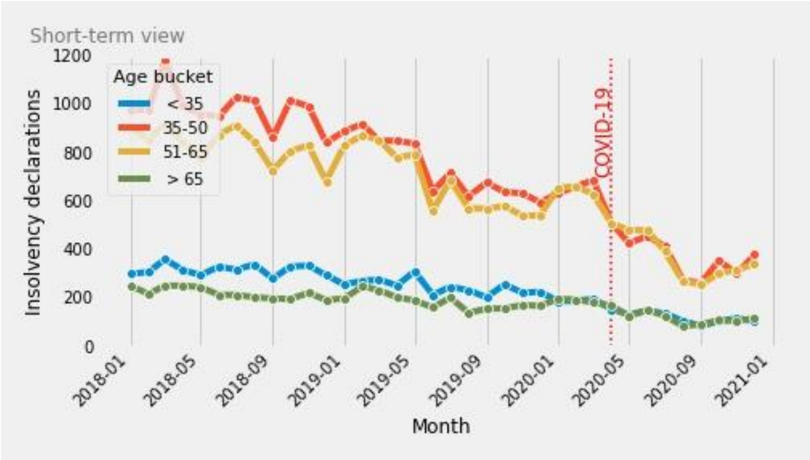


Source: ZEW (2021) Mannheim Enterprise Panel

- age of entrepreneurs below 35 years on average
- age of entrepreneurs between 35 and 50 years on average
- age of entrepreneurs between 51 and 65 years on average
- and age of entrepreneurs above 65 years on average

In the long-term perspective, we observe a clear trend indicating that the fraction of insolvencies among older entrepreneurs (51+ years: yellow and red line) has increased over the last 15 years (Figure 3.14). This trend is probably related to German demographics and driven by the baby boomer generation of the 50's and 60's (Figure 3.14). We observe that since the outbreak of the pandemic in Germany the number of insolvency filings of older entrepreneurs (above 65 years) has started to catch up with the numbers among young entrepreneurs (below 35 years) (Figure 3.15). According to a report of the Association of German Chambers of Industry and Commerce, the Corona pandemic has likely depressed the value of many businesses which exacerbates the problem of company successions. The report warns that since the outbreak of the COVID-19, many senior entrepreneurs are considering giving up their business as there are no prospects of finding suitable successors (DIHK 2020). A similar trend of significant closures of businesses run by senior entrepreneurs since the start of the pandemic can be observed in the US (Battisto et al. 2021).

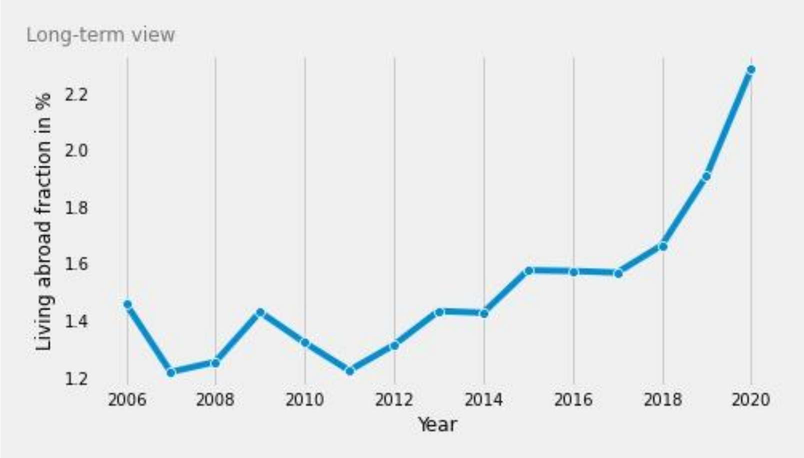
Figure 3.15: Number of Insolvencies by Age of Entrepreneurs



Source: ZEW (2021) Mannheim Enterprise Panel

3.8 Country of Residence of Entrepreneurs

Figure 3.16: Share of Insolvencies by Entrepreneurs Living Abroad



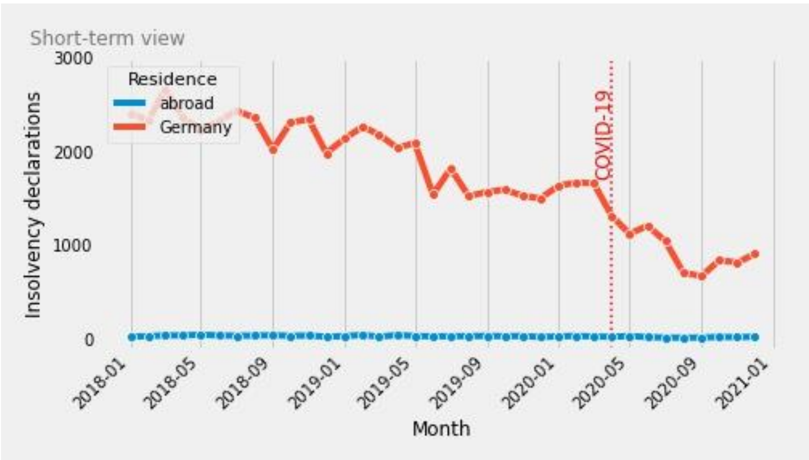
Source: ZEW (2021) Mannheim Enterprise Panel

In this part of the report we look at the entrepreneurs' country of residence. We compare companies run by entrepreneurs exclusively living outside Germany with firms where at least one entrepreneur lives in Germany. The variable "Living abroad fraction" reflects the share of insolvency filings related to firms which are owned by entrepreneurs living abroad.

The outbreak of the COVID-19 pandemic in Germany was clearly followed by a strong increase of the fraction of insolvencies of entrepreneurs living outside of Germany. However, foreign entrepreneurs only play a minor role in the German insolvency landscape, as they only own 1.2 and 2.3 percent of the insolvent firm between 2006 and 2020.

Based on this descriptive finding, we can only speculate that foreign firm owners tend to focus on their core or headquarter businesses located in their country of residence and thus close subsidiaries located in Germany first.

Figure 3.17: Number of Insolvencies by Entrepreneurs' Country of Residence

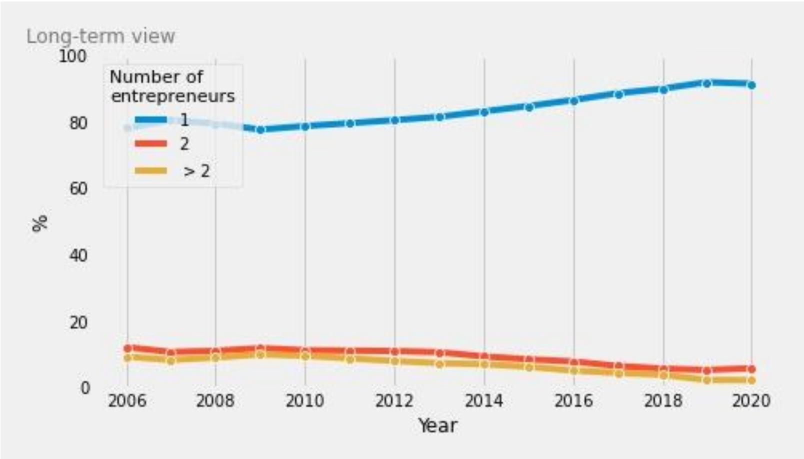


Source: ZEW (2021) Mannheim Enterprise Panel

3.9 Size of the Entrepreneurial Team

In this part of the report we look at the number of entrepreneurs that jointly run the same company. For this purpose, we create three size buckets reflecting how many entrepreneurs were running a firm at its time of insolvency:

Figure 3.18: Insolvency Decomposition by Size of Entrepreneurial Team



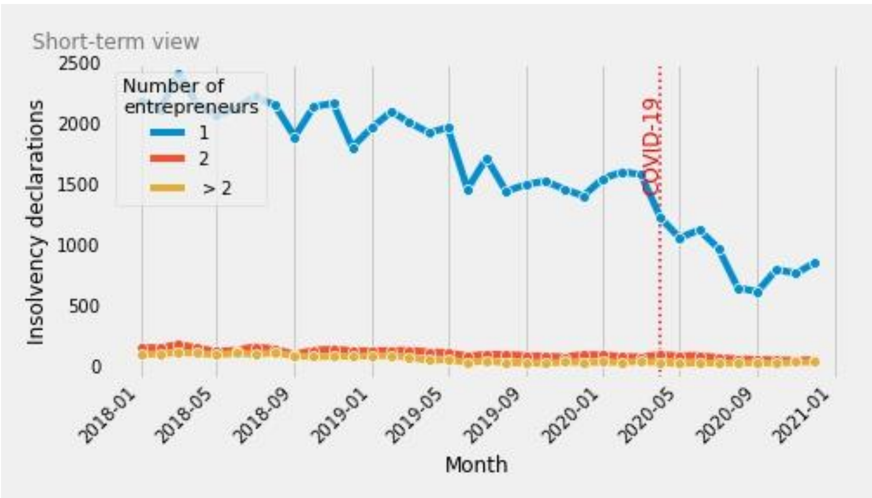
Source: ZEW (2021) Mannheim Enterprise Panel

- company is owned by 1 entrepreneur
- company is owned by 2 entrepreneurs
- company is owned by more than 2 entrepreneurs

Starting in the year 2009 we see a long-time trend of an increasing share of insolvencies of single entrepreneurs (Figure 11.1). It appears that this trend is interrupted in the COVID-19 crisis, with a slight increase of insolvencies of commonly-led companies.

Analyzing the absolute numbers in the short-term view, we observe a decrease of single-entrepreneur insolvencies starting with the outbreak the crisis until September 2020 (Figure 11.2). Companies led by single entrepreneurs are usually smaller than those led by multiple persons. So most probably single entrepreneurs are part of the insolvency backlog. In the last month of 2020 insolvency numbers of single entrepreneurs are rising again and we expect increasing numbers in the upcoming months.

Figure 3.19: Number of Insolvencies by Size of Entrepreneurial Team



Source: ZEW (2021) Mannheim Enterprise Panel

4. Outlook

At the beginning of May 2021, the suspension of business owners' legal obligation to declare insolvency has run out. As a result, we expect a strong rise of insolvency numbers. While it depends on several factors when the backlog of corporate insolvencies will materialize, current estimates suggest that around 25,000 mostly small corporate insolvencies are to be expected (Dörr et al. 2021a). However, COVID-19 is expected to not only drive a significant number of firms out of the market, but also have a more structural impact that will create winners and losers in the business landscape. To monitor the effects of COVID-19 on the German insolvency landscape, we will regularly update this expert brief. Furthermore, a full picture of the impact of COVID-19 needs to take into account market entries and even more important firm exits beyond insolvencies.

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