

# **Insolvency process in Germany and the *insol* database:**

## **A research note**

Theresa Ahlers (Paderborn University)

Fikir Worku Edossa (Humboldt University Berlin)

Urska Kosi (Paderborn University)

Matthias Uckert (Mannheim University)

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### **Abstract**

This research note links the legal framework of the insolvency process of German firms to the information available in the newly-constructed *insol* database. In particular, the database contains information from documents published by German insolvency courts in period 2005-2022. This research note first presents the insolvency process with steps and events of the process as determined by the Insolvency Law (InsO). Next, it classifies the documents to specific steps and events, and then presents their information content using textual analysis. Specifically, we identify target phrases via manual document checks and then create regular expressions for the target phrases. Classification of documents allows us to sketch most common paths that insolvent firms go through.

**Keywords:** *insol* database, insolvency process, Germany, court filings

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## 1 Introduction

This research note links the insolvency process in Germany and the “*insol*” database created and maintained by researchers of the TRR 266 Accounting for Transparency.<sup>1</sup> The database is a unique and comprehensive set of documents published by German insolvency courts. It contains documents related to firms’ insolvency filings in the period 2005-2022.

Structure of the *insol* database is best understood with basic knowledge of the insolvency process. Therefore, we first present the institutional framework of the German Insolvency Law (InsO, *Insolvenzordnung*), which has been in force since 1999 and has undergone a few amendments until today. We describe the flow of the insolvency process with steps and events occurring at various points in time during the process. For each step or event, we identify any document which should be published by the insolvency court and the information it should contain. We assume that these documents represent a primary source of information for creditors to monitor the insolvency proceedings.<sup>2</sup> The documents therefore play an important role in reducing the information asymmetry across creditors.

Second, we present our data collection and structure of the *insol* database. We focus on firms filing for insolvency and collect documents published by insolvency courts from an online platform “*Insolvenzbekanntmachungen*” ([neu.insolvenzbekanntmachungen.de](http://neu.insolvenzbekanntmachungen.de)). We extract information about the firms (i.e., debtors) and insolvency courts, and obtain text of the documents. We apply topical approach and textual analysis to the text to classify any published document to a certain step or event on the insolvency process. Moreover, we provide a unique

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<sup>1</sup> We will make the *insol* database available to interested researchers via the TRR 266 Accounting for Transparency webpage ([www.accounting-for-transparency.de/data](http://www.accounting-for-transparency.de/data)).

<sup>2</sup> We use the terms insolvency proceedings and insolvency process interchangeably. Moreover, explanations and translations of terms used are presented in Table A1 in the Appendix.

firm identifier which allows addition of other firm specific information, e.g., financial statement data.

The novel *insol* database offers unique opportunity for in-depth research about insolvencies and bankruptcies. There are very few German specific studies about insolvencies and bankruptcies although German insolvency data is used in a few international studies. International studies analyze the effects of creditor protection on the efficiency of the insolvency process but contain only small samples of German insolvencies. Only Blazy et al. (2018) analyze insolvency data directly from insolvency courts. This indicates poor availability of German insolvency data (Garrido et al., 2019). An exception are national statistics on monthly, quarterly or annual developments of insolvency filings provided by the German Federal Statistical Office (*Statistisches Bundesamt*). These statistics show the number of filings, both rejected filings due to lack of assets in the estate (*Abweisung mangels Masse*) and opened proceedings, by business type, industry sector, firm age, number of employees, and federal state, and they show the expected amount of insolvency claims.

Taken together, there is an obvious lack of evidence about the actual process which firms filing for insolvency go thru from the opening of the proceedings to its closure. A few case studies present insolvencies of larger German firms (e.g., AirBerlin, (Schoenfelder et al., 2021)), but comprehensive analysis of the insolvency process, including smaller firms with relatively higher risk of bankruptcy (Fackler and Schnabel, 2015), is absent. The *insol* database can close this gap. It is an all-inclusive database of insolvency court publications of German firms.

## 2 Institutional setting

### 2.1 Insolvency legislation

The current German Insolvency Law (InsO) became effective in 1999. Our focus is on how it regulates the insolvency process of firms (*Regelinsolvenz*). Its main objective is satisfaction of creditors involved in the insolvency proceedings jointly and equally to the greatest extent possible (sect. 1 InsO). Satisfaction can be achieved either by liquidation, sale or restructuring of the insolvent firm (i.e., debtor). Creditors are classified into groups based on the rights to satisfaction of their claims. The groups are presented in Table 1.

[Insert Table 1 about here]

Insolvency courts have to publish documents related to each insolvency case (i.e., firm filing for insolvency) in accordance with sect. 8 InsO on an online platform *neu.insolvenzbekanntmachungen.de*. The platform is run by the Department of Justice (*Justizministerium*) of North Rhine-Westphalia (*Nordrhein-Westfalen*) under the authority of the German government.

For the insolvent firm, opening of the insolvency proceedings leads to loss of reputation and severe managerial restrictions (Deutscher Bundestag, 2020). Therefore, since 2021, financially-distressed firms with pending illiquidity have the possibility to restructure their business using out-of-court proceedings (*außergerichtliche Verfahren*). Specifically, the new Restructuring Law (StaRuG, *Unternehmensstabilitäts- und- Restrukturierungsgesetz*) aims to avoid the opening of insolvency proceedings by identifying financial difficulties at a very early stage. This approach should increase the awareness of sophisticated risk management in firms – a particularly important topic during the COVID-19 pandemic (sect. 1 StaRuG).

Restructuring of an insolvent firm via an insolvency plan is also possible under InsO but in practice often lacks the consent of creditors. Therefore, the restructuring plan under the StaRuG assigns more rights to the debtor when negotiating with the creditors (sect. 17 StaRuG). A few other reforms of InsO occurred, for example on the international level reforms regulate cross-border insolvencies and conflicts in jurisdictions. Main changes of the insolvency legislation are summarized in Table A2 in the Appendix.

## **2.2 Description of the insolvency process**

Insolvency process has two phases. First, a period between filing an insolvency application and decision to open the insolvency proceedings is referred to as preliminary insolvency proceedings (PIP, *vorläufiges Insolvenzverfahren*) (Reischl, 2020). The PIP may start with a filing by either the debtor or the creditors (sect. 13 para. 1 InsO). While the debtor is legally required to file the insolvency application at the latest three weeks after the occurrence of the insolvency ground, creditors carry an entitlement to file for insolvency if they identify such ground. To confirm legal interest in the proceedings, creditors have to provide credible evidence of their claims and the insolvency ground (sect. 14 InsO). An insolvency ground exists if the firm is either (a) illiquid (*zahlungsunfähig*) (sect. 17 InsO) and/or (b) over-indebted (*überschuldet*) (sect. 19 InsO). The debtor is entitled to file an application also in the case of pending illiquidity (*drohend zahlungsunfähig*) (sect. 18 InsO).

Second, if the proceedings are opened, the final insolvency proceedings start (FIP, *Insolvenzverfahren*). A central decision at the beginning of this phase is whether the debtor's assets should be liquidated or the firm should be preserved as a going concern. The latter is realized either by sale or restructuring of the firm via an insolvency plan (sect. 1 InsO). While the insolvency plan may also aim to liquidate the firm's assets (liquidation plan), its first

purpose is the restructuring of financially-distressed firms (restructuring plan). This central decision is made by unsecured creditors (*Insolvenzgläubiger*) and creditors with a right to separate satisfaction (*absonderungsberechtigte Gläubiger*) (groups 3 and 4, Table 1) at the first creditors' meeting (report meeting, *Berichtstermin*) (sect. 157 InsO). Creditors' meetings represent the main possibility for the two creditor groups to participate in the FIP.

Regarding the timing of satisfaction, creditors with a right to separate satisfaction (group 3, Table 1) may claim priority (sect. 49 et seqq. InsO). Unsecured creditors (group 4, Table 1) are satisfied by the insolvency quota (*Insolvenzquote*) at the end of the proceedings. The quota is calculated as the proceeds from liquidation of the firm's assets less preferential claims and less insolvency costs divided by the total amount of unsecured claims. Consequently, unsecured creditors have an incentive to choose the proceedings which lead to the highest insolvency quota.

Upon opening the FIP, an insolvency administrator (*Insolvenzverwalter*) is appointed and is responsible for the administration of the debtor's assets (sect. 80 InsO). Alternatively, the debtor may self-administer the assets (*Eigenverwaltung*) under supervision of an insolvency trustee (*Sachwalter*) (sect. 313 InsO). In addition to the creditors' meeting, creditors' interests (groups 3 and 4, Table 1) may be represented by a creditors' committee (*Gläubigerausschuss*) which supports and supervises the insolvency administrator or insolvency trustee in her management activities. The appointment of such committee is not legally required (sect. 67 InsO). However, certain decisions such as the realization of partial distributions (*Abschlagsverteilung*) are subject to the committee's approval (sect. 187 para. 3 InsO). Taken together, a fundamental concern of the insolvency process in Germany is to guarantee a high

level of autonomy and protection to creditors through their decision rights and participation power (Paulus, 2001).

After the implementation of the InsO, the legislator identified that restructuring and self-administration under the law was underperforming (Deutscher Bundestag, 2011). Consequently, a reform to facilitate the restructuring of financially-distressed firms was introduced in 2012. Among the main changes is the so-called umbrella proceedings (*Schutzschirmverfahren*). If the debtor files an insolvency application (*Insolvenzantrag*) for self-administration, the court grants a three-month period for preparation of an insolvency plan (*Insolvenzplan*) under the supervision of a trustee. Moreover, an appointment of a creditors' committee in the PIP is required.<sup>3</sup> During this stage of the proceedings, creditors' main right represents the ability to nominate a candidate for the insolvency administrator. The court cannot reject the nomination if it is unanimous and the candidate is suitable. The preliminary creditors' committee may remain appointed during the FIP.

### **2.3 Published documents and flow of the insolvency process**

To better organize documents published by insolvency courts we link them to the flow of the insolvency proceedings of an individual insolvency case. The flow of the insolvency proceedings is illustrated as a set of steps and events. It gives a general understanding about what is happening during the insolvency proceedings and allows us to identify common paths of insolvency proceedings (for cases that end up with liquidation). While steps happen at a specific point in time, events may happen at any time and change the path of the proceedings. Generally, the publications by insolvency courts are restricted to excerpts (sect. 9 para. 1 InsO,

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<sup>3</sup> This is only required if two of the following three requirements are fulfilled: (1) balance sheet total at least EUR 4,840,000 (after deduction of negative equity), (2) revenue at least EUR 9,680,000, and (3) at least 50 full-time employees.

sect. 312 para. 1 InsO). While the InsO specifies minimum information requirements, it is at the discretion of the insolvency court to publish any further information voluntarily (sect. 9 para. 3 InsO).

### **2.3.1 Preliminary insolvency proceedings**

Figure 1 visually presents various paths that may occur in the PIP. We mark steps (which occur at specific points in time) with numbers and events (which may occur at any point in time) with letters. Most importantly, for each step and event, we mark any document that should be published by the insolvency court on the online platform with a tick in a blue circle. In a blue box we also outline which information should be published.

[Insert Figure 1 about here]

The PIP start with a debtor's filing of an insolvency application at the responsible insolvency court (step 1, Figure 1). From the receipt of the application onwards, the court must take any safety measures (*Sicherungsmaßnahmen*) necessary to secure the debtor's assets and avoid detrimental changes (event A, Figure 1) (sect. 21 InsO). A list of frequently used safety measures is shown in Table 2 (sect. 21 et seq. InsO).

[Insert Table 2 about here]

Safety measures are to be evaluated in line with the proportionality principle and may be implemented or discontinued at any point of time within the proceedings (Reischl, 2020).<sup>4</sup> For creditors, it is important to determine any imposed restrictions as they may affect the

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<sup>4</sup> Safety measures may also be implemented and discontinued at any time within the FIP.



enforcement of their claims if the FIP are opened (Kramer and Peter, 2012). Documents for both the implementation and discontinuation of safety measures are to be made publicly available if they refer to safety measures 1 to 5 in Table 2 (sect. 23 para. 1 InsO). As the insolvency filing is not publicly available, such documents may be the first publicly available information about an insolvency case. The time of implementation and discontinuation of the measures is at discretion of the court, so these documents may occur at any point in time.

Based on the insolvency application, the court evaluates whether the criteria for opening the FIP are fulfilled (step 2, figure 1). First, the court checks three aspects of the legitimacy of the application: i) jurisdiction of the local court, ii) admissibility of the type of proceedings, and iii) entitlement to file for insolvency.<sup>5</sup> Second, it determines whether the application has merit because of existence of insolvency grounds (sect. 16 InsO). As shown in Figure 2 the grounds can be pending illiquidity, illiquidity or over-indebtedness.

[Insert Figure 2 about here]

Third, the court estimates whether the insolvency estate (*Insolvenzmasse*), i.e. the value of the assets owned by the debtor on the opening date until the discontinuation of the proceedings (sect. 35 InsO), is expected to cover the costs (sect. 26 InsO). This is a necessary condition because the costs incurred during the proceedings are to be covered from the insolvency estate. If the condition is not fulfilled, the court informs the debtor that the proceedings can only be opened if a deposit is made (sect. 26 para. 1 InsO).

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<sup>5</sup> Figure A1 in the Appendix shows the details of the criteria.

Evaluation of the insolvency application leads to the court's decision to either open the FIP or reject the application (step 3, Figure 1). The latter happens if any of the three evaluation criteria mentioned above is not fulfilled. While the rejection due to lacking legitimacy (step 3.1, Figure 1) or merit (step 3.2, Figure 1) does not carry legal consequences, a rejection due to lacking assets (step 3.3, Figure 1) leads to immediate liquidation of the firm which potentially causes losses for all stakeholders involved (Reischl, 2020). The stakeholders are also financially affected if FIP are opened (step 3.4, Figure 1). Given the economic importance of these two outcomes, the court is required to publish a document when making these two decisions (sect. 208 InsO, sect. 35 InsO). Moreover, these publications may represent the first document publicly available for an insolvency case (if no safety measures were previously announced).

### **2.3.2 Final insolvency proceedings**

The FIP start with publication of the opening order (step 3.4, Figures 1 and 3). Figure 3 shows various paths that may occur during this phase of the proceedings. To assure that all stakeholders are well-informed about the proceedings, the opening order is required to contain certain information. Table 3 gives an overview of the required information (sect. 27 et seqq. InsO).

[Insert Figure 3 about here]

[Insert Table 3 about here]

With the publication of the opening order, rights to manage and transfer the debtor's assets are transferred to the appointed insolvency administrator (sect. 80 para. 1 InsO). Within a period between six weeks to three months after the opening, the first meeting of creditors (i.e. report

meeting) takes place (sect. 29 para. 2 InsO).<sup>6</sup> For each meeting of creditors, the time, place and agenda are to be published. For the report meeting, this information is published in the opening order (sect. 29 InsO), while for any other meeting a separate document is published (event C, Figure 3) (sect. 71 para. 2 InsO). In the report meeting (step 4, Figure 3), the insolvency administrator reports about legal and economic situation of the debtor, the insolvency estate and the possibilities to continue the firm as a going concern (sect. 156 para. 1 InsO). In the meeting, the creditors vote on decisions ranging from an appointment of a new insolvency administrator to a sale of assets.<sup>7</sup> Since meetings of creditors are not public, the results of the votes are not published (Reischl, 2020) and no separate document for this step of the proceedings (step 4, Figure 3) exists.

In the opening order, unsecured creditors are asked to file their claims with the insolvency administrator within a specified period. Secured creditors (*Gläubiger mit Sicherungsrechten*) are required to notify the administrator about their rights on movable assets. The ranking and amount of the insolvency claims filed are then examined in a separate verification meeting of creditors (*Prüfungstermin*) (step 5, Figure 3). The date of the verification meeting is also set in the opening order. It may happen that new claims are filed after the deadline set in the opening order so that further verification meetings are scheduled (event D, Figure 3) (sect. 177 para. 4 sent. 2 InsO).

In verification meetings, creditors discuss the table of claims prepared by the insolvency administrator (sect. 175 para.1 InsO). A claim can be orally objected by all parties present (i.e.

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<sup>6</sup> According to InsO (sect. 29 para. 2) the court should waive the meeting when i) the assets and liabilities are manageable and ii) the number of creditors or the amount of debts is low.

<sup>7</sup> Further examples of voting decisions include, but are not limited to, election of members of the creditors' committee (sect. 68 InsO), discontinuation due to lacking assets involved in the insolvency process (sect. 207 InsO), ordering of self-administration (sect. 271 InsO).

the administrator, creditors and the debtor) except the court. If the debtor's assets are clearly identified, and the number of creditors or the amount of claims filed is low, the insolvency court may order that meetings of creditors or individual parts thereof to be carried out in writing. It may amend this order at any time. In case the verification meeting is in written form, an objection period is to be published (sect. 2 para. 2 InsO). In case no objection is filed, the claim is regarded as determined. Determined claims entitle unsecured creditors to an equal distribution on a pro rata basis. The sum of the claims and the amount available for partial and final distributions are to be published (sect. 188 InsO). We thus expect a separate document for this step in the FIP (step 6, Figure 3).

Distributions may be partial (*Abschlagsverteilung*) or final (*Schlussverteilung*). A partial distribution can be conducted by the administrator at any time if sufficient cash is available. If applicable, it is to be approved by the creditors' committee. The final distribution is to be approved by the insolvency court (sect. 196 para. 2 InsO). The court is required to publish this approval and schedule the date for the final meeting of creditors (step 7, Figure 3) (sect. 197 para. 1 InsO). In the final meeting, creditors discuss the administrator's final account and any objections to it.

After the insolvency administrator notifies the court that the final distribution was realized, the insolvency proceedings may be discontinued due to satisfaction (step 8.1, Figure 3) (sect. 200 InsO), regardless of any open litigation process. For claims under litigation, the respective amounts are withheld. When the litigation process ends, the amounts may be used for a delayed distribution to the respective creditors (event E, Figure 3). Parties that can request the delayed distribution and reasons for it are as follows (sect. 203 et seqq. InsO). Creditors can request it when retained funds become available for distribution. Insolvency court is allowed to request

it when objects forming part of the insolvency estate are identified. Finally, insolvency administrator can request the delayed distribution when funds paid from the assets involved in the proceedings flow back.

While at the opening of the FIP it was estimated that the costs can be covered by the insolvency estate, it may happen that this condition is no longer fulfilled during the proceedings. In this case, the insolvency administrator has to inform the insolvency court that the firm is expected to lack assets in the estate (*Masseunzulänglichkeit*) and this information has to be published by the court (event B, Figure 3) (sect. 208 InsO). Afterwards, the proceedings may be discontinued due to lacking assets. It is important to distinguish distinct ways of discontinuation of the insolvency process. We present them in Figure 4. We describe discontinuation due to satisfaction above (step 8.1, Figures 3 and 4). Further, we differentiate two types of discontinuation depending on whether the cost of insolvency proceedings can be settled. If not, no distribution takes place and the proceedings are discontinued as soon as possible (*Einstellung mangels Masse*) (step 8.2, Figure 4) (sect. 207 InsO). This can be avoided if a deposit is made by either the creditors or debtor. If the proceeding costs can be settled but there is insufficient cash to cover other mature estate obligations, a distribution takes place according to a different order (*Einstellung mangels Masseunzulänglichkeit*) (step 8.3, Figure 4) (sect. 208 InsO). In this case, unsecured creditors are not satisfied (sect. 209 InsO). Instead, the costs of proceedings and estate obligations which became due after the notification of lacking assets are settled. In both cases (steps 8.2 and 8.3, Figure 4), the discontinuation has to be approved by the final meeting of creditors. As the reason for discontinuation of the insolvency proceedings has to be published (sect. 200 para. 2 InsO), we expect three different document types (see Figure 4).

[Insert Figure 4 about here]

### **3 Data collection and database structure**

#### **3.1 Publication requirements**

In accordance with sect. 8 InsO, insolvency courts publish documents of insolvency cases on *neu.insolvenzbekanntmachungen.de*. This is an online platform run by the Department of Justice (*Justizministerium*) of North Rhine-Westphalia (*Nordrhein-Westfalen*) under the authority of the German government. After the publication on the platform, all documents are publicly available for two weeks. Afterwards, access is only granted if a case-related document is sought. Documents published by insolvency courts are restricted to excerpts (sect. 9 para. 1 InsO, sect. 312 para. 1 InsO). While the InsO requires minimum information, it is at the discretion of the court to publish any further information (sect. 9 para. 3 InsO). The structure of the documents is not prescribed. We therefore obtain main information about an insolvency case via parsing the text of the documents.

For each downloaded document we have the time stamp, type of register (e.g., HRA, HRB) the insolvent firm belongs to and url link. First, from the document's name we extract the federal state and city of the insolvency court (*Amtsgericht*), the unique identification code of the insolvency case (i.e. court file number), and the subject. The latter is a short description of the document's content ranging from one to four words in German language (e.g., meetings, safety measures, opening order, decisions in the process, rejection due to lacking assets). We can connect documents relating to the same insolvency case via the identification code. Second, we extract the following information from the document's text: i) the debtor's name, ii) domicile city, iii) registration court, and iv) registration number. It is important to note that the combination of the type of register, registration court and registration number uniquely

identifies the debtor. Moreover, the combination allows adding other firm-level data (e.g., financial statement information) to our database.

### 3.2 Structure of the *insol* database

We obtain documents published by insolvency courts from the online platform from 2005 onwards.<sup>8</sup> Between 2005-2021, the *insol* database consists of 156,227 insolvency cases of German firms with 723,719 documents. Insolvency cases are distinguished via their identification codes. Each case can consist of a varying number of documents, each document representing one observation. We use case identifies to connect documents to a specific insolvency case. Moreover, we link the documents of each case to the steps and events presented in Figures 1, 3 and 4, and in this way reconstruct the insolvency process the debtor went through. Because documents do not carry clear identification to which step/event they relate to, we need to apply textual analysis techniques. First, a document is classified into different step/event of the insolvency proceedings using topic modelling approach. Second, if this approach is unsuccessful, a document is classified using natural language processing.

Instead of computer-based textual learning method for content analysis we apply manual content analysis because it allows better precision and is tailored to our specific setting (Loughran and McDonald, 2016). In particular, we define target phrases based on a manual content check of a sample of documents relating to 226 insolvency cases in the *insol* database. These are randomly chosen cases with at least 10 documents in order to cover a wide variety of document classifications. To account for any variation in documents' text across courts, at

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<sup>8</sup> We started automated systematic download of documents published by insolvency courts in August 2020. In addition, we purchased documents published earlier from Blueline Data GmbH, which used to provide insolvency information to interested parties via <https://insolvex.de>.

least one case per court<sup>9</sup> is checked. In addition, where chosen cases from a federal state do not contain classification to one of the steps/events, we check 91 additional documents. Table A3 in the Appendix shows distribution of insolvency courts, checked insolvency cases and additional documents per federal state.

The success of content analysis depends on the formulation of clear categories to which information is assigned (Loughran and McDonald, 2011). We therefore form the categories on a sentence-by-sentence basis for each federal state and in this way minimize subjectivity.<sup>10</sup> One category contains target phrases collected from all courts in a federal state. Next, we identify complete set of target phrases per category by merging them across all federal states. Finally, from the target phrases we create regular expressions representing combinations of words.<sup>11</sup> These expressions serve as buzzwords capturing specific content of a target phrase. In contrast to using word lists, this method allows us to reduce the risk of ambiguity and is therefore less prone to errors (Loughran and McDonald, 2016). Some steps/events in Figure 3 seem to be less relevant for transparency of the insolvency process because their main information content is already identified with the classification. Therefore, documents relating to step 8.1, event B and event E are excluded from the textual analysis. Table A6 in the Appendix shows the number of regular expressions used for classifying documents to relevant steps/events.

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<sup>9</sup> There are 183 insolvency courts in Germany.

<sup>10</sup> Table A4 in the Appendix shows how we form categories on a sentence-by-sentence basis and derive target phrases per category on a few examples of safety measures (event A).

<sup>11</sup> Please refer to Table A5 in the Appendix for an excerpt from the list of regular expressions.



### 3.3 Description of insolvency process for cases ending with liquidation in period 2005-2019

In total, the *insol* database consists of 156,227 insolvency cases with 723,719 documents published between 2005 to 2021. We choose to present summary description of the data in the period 2005-2019 which excludes any effects related to the COVID-19 pandemic.<sup>12</sup> In addition, we focus on insolvency cases which end with firm liquidation. Details of sample selection process are in Table 4.

[Insert Table 4 about here]

First, the shorter period reduces the sample by 52,522 (286,007) cases (documents). Second, we exclude 1,088 cases which have more than 12 available documents.<sup>13</sup> Third, we exclude cases which contain documents indicating that self-administration or insolvency plan proceedings are conducted. Because very few cases in the *insol* database have such documents it is very challenging to develop highly representative target phrases.<sup>14</sup> We also exclude cases with at least one document that could not be classified. Next, in line with Figure 1, we restrict our sample to insolvency cases that start either with the implementation of safety measures (event A), rejection due to lacking assets (step 3.3) or opening of FIP (step 3.4). This criterion is not fulfilled by 16,966 cases, which leaves us with 82,622 (349,208) cases (documents). Finally, for each of the three starting points we impose additional restrictions. These on the one hand ensure that opened insolvency cases contain the opening order (step 3.4, Figure 1) and are discontinued either due to satisfaction or due to lacking assets type 1 or type 2 (steps 8.1,

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<sup>12</sup> A temporary suspension of obligation to file for insolvency and of creditor's right to request opening of insolvency proceedings was in effect between March 2020 and April 2021 for firms which became insolvent as a consequence of the pandemic (sect. 1 para 3 COVID-19-Insolvenzaussetzungsgesetz, COVInsAG).

<sup>13</sup> For 99.0% of the remaining cases a maximum of 12 documents are available. We expect cases with more than 12 documents to go through a less common insolvency process and therefore exclude them.

<sup>14</sup> We leave it to future research to develop classification for this type of documents.

8.2 and 8.3, Figure 4). On the other hand, restrictions require that rejected cases (step 3.3, Figure 1) do not have documents related to FIP. At the end, we exclude insolvency cases with documents that belong to mutually exclusive steps. Taken together, our sample consists of 47,311 insolvency cases ending with liquidation (30.3% of *insol* database 2005-2021) which cover 227,893 documents (31.5% of *insol* database 2005-2021).

### 3.4 Summary statistics

We start with presenting descriptive statistics of our sample of insolvency cases. For 59.05% of firms filing for insolvency the proceedings are opened and then discontinued (step 3.4), while for 40.95% the proceedings are rejected (step 3.3). Number of documents per case vary as shown in Figure 5.

[Insert Figure 5 about here]

Given the relatively high share of rejections in our sample, 32.57% of the cases contain only one document. On the other hand, 31.25% of cases have between 6 to 8 documents and 8.23% of the cases have more than 9 documents. For opened cases, we assume that the insolvency proceedings take longer if cases have more documents. We therefore measure the length of the FIP phase (period between publication of the opening order (step 3.4, Figure 1) and discontinuation (steps 8.1, 8.2 and 8.3, Figure 4)) and calculate a correlation coefficient between the number of documents and length. The correlation is positive but rather weak (0.247). Figure 6 shows the distribution of cases according to the length of the FIP in years. The average length is 5 years which is one year longer than documented by Rosengarten et al.

(2020).<sup>15</sup> Distribution is skewed to the right and more than 50% of the insolvency cases are discontinued within 5 years.

[Insert Figure 6 about here]

In terms of geographical dispersion (see Figure 7), most documents are published by courts located in North Rhine-Westphalia (*Nordrhein-Westfalen*) (19 courts, 29.54% of sample documents) and Bavaria (*Bayern*) (29 courts, 11.07% of sample documents). This is expected as the two states have the highest economic activity and highest number of insolvency courts (Statistisches Bundesamt, 2021). City-states like Berlin (8.44%) and Hamburg (5.13%) publish a lot of documents although they only have one court. In terms of documents per court, cities from the two states are also highly ranked: Munich (*München*) (4.22%), Cologne (*Köln*) (4.22%) and Düsseldorf (2.95%).

[Insert Figure 7 about here]

Next, Figure 8 presents distribution of sample documents per steps and events outlined in PIP (Figure 1) and FIP (Figure 3).<sup>16</sup> 21.05% of the documents relate to step 3. Specifically, 8.41% are rejections due to lacking assets (step 3.3, Figure 1) and 12.64% are opening orders (step 3.4, Figure 1). The share of documents relating to the discontinuation due to satisfaction (9.01%, step 8.1, Figure 4) is notably higher compared to the discontinuation due to lacking assets type 1 (1.94%, step 8.2) and type 2 (1.43%, step 8.3). Among events, documents for

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<sup>15</sup> If rejected cases are included (length of 0 years) the average reduces to 3 years.

<sup>16</sup> Out of 227,893 sample documents, 41,404 are not classified into steps/events from Figures 1 and 3. For example, 38,290 relate to classification “application for determination of salary by (preliminary) insolvency administrator/members of the creditors’ committee or notification that salary is determined”.

further verification meetings (event D, Figure 3) are published most frequently (12.92%). By contrast, further meetings of creditors (1.42%, event C, Figure 3) and delayed distributions (0.35%, event E, Figure 3) are rarely published.

[Insert Figure 8 about here]

### **3.5 Common paths**

We continue with presenting common paths of liquidation cases in Germany: first PIP and next FIP. We also indicate frequently disclosed information for each step/event. Figure 9 presents the most probable paths during the PIP until the opening.

[Insert Figure 9 about here]

35% of insolvency applications (i.e., insolvency cases) are rejected immediately (step 3.3, Figure 1). These firms are liquidated, but not as part of a structured insolvency process. In 3% of the cases safety measures (event A, Figure 1) are announced prior to the rejection. For 76% of the documents relating to step 3.3 we can identify who submitted the insolvency application is identified. In particular, 73% are filed by the debtor and only 27% by creditors.<sup>17</sup> Insolvency grounds are rarely stated in the rejection document (1%).

36% of insolvency cases start with safety measures (event A, Figure 1). The most common safety measure is appointment of a preliminary insolvency administrator (93%). In such cases, courts often state permissions of the administrator and corresponding restrictions for the

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<sup>17</sup> This tendency is also observed in documents relating to step 3.4 (Figure 1) and event A (Figure 1).

debtor's management. For instance, 85% of the cases include a notification that management decisions are subject to approval of the insolvency administrator. In 3% of the cases safety measures are implemented and discontinued without opening of FIP (step 3.4, Figure 1). It is possible that these cases are rejected due to lacking legitimacy (step 3.1, Figure 1) or merit (step 3.2, Figure 1), for which no publication of document is required.<sup>18</sup> 82% of the cases starting with safety measures continue with the opening order (step 3.4, Figure 1). Approximately the same number of cases start directly with of FIP.

The opening order most frequently contains legally required information. In 56% of documents the ground for insolvency is stated. Thereof, about 79% of the documents state both illiquidity and over-indebtedness. According to Kayser et al. (2016), illiquidity usually occurs quickly after over-indebtedness, so the high percentage of cases which fulfil both grounds seems reasonable. On the other hand, national statistics (Statistisches Bundesamt, 2007) indicate that illiquidity alone is the most frequent reason for insolvencies. We see this only in 18% of opening orders in the sample. The difference might occur because national statistics include private insolvencies for which over-indebtedness is not a valid insolvency ground. Even though this is the case for firm insolvencies, our analysis rarely indicates over-indebtedness as insolvency ground (2%). The entitlement of firms to file for insolvency when illiquidity is pending is rather an exception (1%). With regards to the agenda of the report meeting, we find that important decisions to be voted on are appointment of a different insolvency administrator, realization of asset sales and discussion of the administrator's interim account.

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<sup>18</sup> This explanation excludes the possibility that cases might still be opened as the period between the filing and the opening order usually does not exceed 3 months.

Figure 10, Panels A and B, indicate the probabilities of the different steps and events from the opening of the FIP onwards, respectively.

[Insert Figure 10 about here]

Panel A demonstrates that about 65% of the opened cases are in line with the liquidation process described in Figure 3. A document is available for the distribution (step 6, Figure 3), the final meeting of creditors (step 7, Figure 3) and for the discontinuation (step 8, Figure 3). With a total occurrence probability of 34%, this seems to be a common path of the FIP. About 14% of the opened cases are directly discontinued afterwards. For the remaining 21% of the opened cases, either a document relating to step 6 or step 7 is missing. This is predominantly true for cases which are discontinued due to lacking assets type 1 or 2.

The distribution document usually includes monetary values, such as the distributable amount (82%). Frequently, further proceeding costs to be subtracted from the distributable amount are explained (46%), but only rarely indicated (1%). The insolvency quota is rarely identified for all documents including distribution-related information.<sup>19</sup> In documents relating to step 7 usually only a notification regarding the availability of the distribution register is stated (92%). Frequent decisions on the agenda of the final meeting of creditors include the raising of objections regarding the final account of the insolvency administrator. In 52% of the documents we find that the final meeting of creditors takes place in written. Therefore, a high share of documents contains a deadline for filing objections. In total, 12 % of the cases are discontinued due to lacking assets type 1 (step 8.2), 16% due to type 2 (step 8.3) and 73% due to satisfaction (step 8.1). Cases which result in satisfaction seldom contain a notification of lacking assets

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<sup>19</sup> This is the case for documents available for step 6 and step 7.

(18%). This can be observed in Panel B which illustrates the probability of the different paths based on events.

In practice, courts publish two different document types for event B. Event B.1 is a general notification that the insolvency estate does not cover the proceedings costs. Event B.2 indicates a necessity of a deposit for the continuation or the proceedings are discontinued due to lacking assets type 2. 37% of the cases contain either a document relating to B.1 or B.2. Of those cases, in 28% the notification is published within two months and in 54% within one year after the opening. This is particularly interesting when considering that at the opening of the cases this criterion is estimated to be fulfilled.<sup>20</sup> Further meetings of creditors (event C, Figure 3) predominantly related to the approval of the administrator's intention to engage in transactions with particular importance, such as asset sales (sect. 160 InsO). In our sample, this event occurs only in 6% of the cases. By contrast, further verification meetings (event D, Figure 3) seem to be a common part of the FIP as 80% of the cases contain at least one document relating to this event. Thereof, 89% state that verification meetings take place in written form. This requires courts to publish the deadline for objections (53%). In this regard, the European Parliament (2015) claims that publishing specific deadlines is particularly important for creditors. Our results show that the majority of the documents contain a specific date or the deadline for objections equals the verification date. A less specific timespan is only identified for 1% of the documents relating to this event. Panel B illustrates that cases in which event D occurs with a high probability result in satisfaction. In fact, this is the common path based on events, with an

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<sup>20</sup> Challenges of estimating proceeding costs are discussed in the literature. E.g., Franks and Loranth (2014) find that one reason for high proceedings costs might be the remuneration scheme for insolvency administrators. In this regard, findings from Frieden and Wielenberg, (2017) indicate that only a negotiated compensation leads to optimal creditor satisfaction. In Germany, the compensation is defined as a share of the realized assets (sect. 1 *Insolvenzrechtliche Verguetungsverordnung*, InsVV)).

occurrence probability 18% and 19% for cases with and without safety measures before the opening, respectively.

Taken together, our results indicate three common paths. The rejection represents the most common path during the PIP. During the FIP, the most common path based on steps includes all steps outlined in Figure 3. For events, most common paths include event D and result in satisfaction.

#### **4 Conclusion**

We describe the legal framework of the insolvency process in Germany. We characterize the insolvency proceedings with steps and events occurring during the process. Moreover, we link the proceedings to the novel *insol* database which contains documents published by insolvency courts about firms' insolvency cases. By constructing the *insol* database, we importantly add to extremely limited data about insolvency proceedings in German firms. In addition, we will offer the *insol* database to the research community and in this way importantly contribute to calls for large scale analyses of German insolvencies and bankruptcies.

For exposition purposes, we conduct an explorative analysis of liquidation cases in the period 2005-2019. Findings indicate that in the majority of the opened and finished cases creditors can monitor all stages of the insolvency process. 58% of sample insolvency cases result in opening the final insolvency proceedings, thereof 72% end with a satisfaction based on an insolvency quota. This represents the most common path during the FIP.



## Reference List

- Blazy, R., Petey, J. and Weill, L. (2018) 'Serving the creditors after insolvency filings: from value creation to value distribution', *European Journal of Law and Economics*, 45(2), pp. 331–375. doi:10.1007/s10657-017-9560-9.
- Deutscher Bundestag (2011) *Gesetzentwurf der Bundesregierung zur weiteren Erleichterung der Sanierung von Unternehmen*. Available at: <https://dserver.bundestag.de/btd/17/075/1707511.pdf> (Accessed: 5 June 2021).
- Deutscher Bundestag (2020) *Entwurf eines Gesetzes zur Fortentwicklung des Sanierungs- und Insolvenzrechts*. Available at: [https://www.bmjv.de/SharedDocs/Gesetzgebungsverfahren/Dokumente/RefE\\_SanInsFoG.pdf?\\_\\_blob=publicationFile&v=6](https://www.bmjv.de/SharedDocs/Gesetzgebungsverfahren/Dokumente/RefE_SanInsFoG.pdf?__blob=publicationFile&v=6) (Accessed: 3 June 2021).
- European Parliament and Council of the European Union (2015) 'EU Regulation 2015/848 on insolvency proceedings', *Official Journal of the European Union*, L 141(58), pp. 2–74.
- Fackler, D. and Schnabel, C. (2015) 'Was wissen wir über Betriebsschließungen? Erkenntnisse für West- und Ostdeutschland', *Wirtschaftsdienst*, 95(2), pp. 143–147. doi:10.1007/s10273-015-1791-1.
- Franks, J. and Loranth, G. (2014) 'A Study of Bankruptcy Costs and the Allocation of Control', *Review of Finance*, 18(3), pp. 961–997. doi:10.1093/rof/rft020.
- Frieden, M. and Wielenberg, S. (2017) 'Insolvency administrator's incentives and the tradeoff between creditor satisfaction and efficiency in bankruptcy procedures', *Business Research*, 10(2), pp. 159–187. doi:10.1007/s40685-017-0047-x.
- Garrido, J., Bergthaler, W., DeLong, C., Johnson, J., Rasekh, A., Rosha, A., Stetsenko, N., (2019) 'The Use of Data in Assessing and Designing Insolvency Systems', *IMF Working Papers*, 19(27), p. 1. doi:10.5089/9781484396223.001.
- Kayser, G. et al. (2016) *Heidelberger Kommentar zur Insolvenzordnung*. 8th edn. Heidelberg: C.F. Müller.
- Kramer, R. and Peter, F.K. (2012) *Insolvenzrecht: Grundkurs für Wirtschaftswissenschaftler*. 1st edn. Wiesbaden: Gabler.
- Loughran, T. and McDonald, B. (2011) 'When Is a Liability Not a Liability? Textual Analysis, Dictionaries, and 10-Ks', *The Journal of Finance*, 66(1), pp. 35–65. doi:10.1111/j.1540-6261.2010.01625.x.
- Loughran, T. and McDonald, B. (2016) 'Textual Analysis in Accounting and Finance: A Survey', *Journal of Accounting Research*, 54(4), pp. 1187–1230. doi:10.1111/1475-679X.12123.
- Paulus, C.G. (2001) 'Germany: Lessons to Learn from the Implementation of a New Insolvency Code', *Connecticut Journal of International Law*, 17(1), pp. 89–98.
- Reischl, K. (2020) *Insolvenzrecht*. 5th edn. Heidelberg: C.F. Müller.
- Rosengarten, J., Burmeister, F. and Klein, M. (2020) *Mergers and acquisitions in Germany: an introduction to the legal framework for mergers and acquisitions in Germany*. 3rd edn. München: C.H. Beck.
- Schoenfelder, D., Lang, P., Herold, D.M., Fuerst, E., Mikl, J. (2021) 'Much ado about nothing? Perceptions of the Air Berlin bankruptcy on airline competition in Germany, Austria and Switzerland', p. 13.
- Statistisches Bundesamt (2021) 'Anzahl der Unternehmen in Deutschland nach Bundesländern in 2019'. Available at:

<https://de.statista.com/statistik/daten/studie/237711/umfrage/unternehmen-in-deutschland-nach-bundeslaendern/> (Accessed: 15 August 2021).

Wang, C.-A. (2012) 'Determinants of the Choice of Formal Bankruptcy Procedure: An International Comparison of Reorganization and Liquidation', *Emerging Markets Finance and Trade*, 48(2), pp. 4–28. doi:10.2753/REE1540-496X480201.

## Appendix

**Table A1: Explanations and translations of terminology**  
**Panel A: Explanations for terms used**

<b>Term</b>	<b>Explanation</b>
Event	Stage of the insolvency proceedings which may occur at any time
FIP	Final insolvency proceedings
InsO	Insolvenzordnung*
PIP	Preliminary insolvency proceedings
StaRuG	Unternehmensstabilitäts- und Restrukturierungsgesetz*
Step	Stage of the insolvency proceedings which occurs at a specific time
Step 3.1	Rejection due to lacking legitimacy
Step 3.2	Rejection due to lacking merit
Step 3.3	Rejection due to lacking assets
Step 3.4	Opening of final insolvency proceedings
Step 4	Report meeting
Step 5	Verification meeting
Step 6	Distribution
Step 7	Final meeting of creditors
Step 8.1	Discontinuation due to satisfaction
Step 8.2	Discontinuation due to lacking assets (type 1)
Step 8.3	Discontinuation due to lacking assets (type 2)

Notes: \*see English translation of German terms in Panel B, Table A1.

## Panel B: English translations of German terms

English term	German term
Creditors of the insolvency proceedings	Insolvenzgläubiger
Creditors' committee	Gläubigerausschuss
Department of Justice	Justizministerium
Discontinuation due to lacking assets (type 1)	Einstellung mangels Masseunzulänglichkeit
Discontinuation due to lacking assets (type 2)	Einstellung mangels Masse
Discontinuation due to satisfaction	Einstellung nach Gläubigerbefriedigung
Estate creditors	Massegläubiger
Federal Statistical Office	Statistisches Bundesamt
Final distribution	Schlussverteilung
Final insolvency proceedings (FIP)	Insolvenzverfahren
Illiquidity	Zahlungsunfähigkeit
Insolvency administrator	Insolvenzverwalter
Insolvency application	Insolvenzantrag
Insolvency court	Amtsgericht
Insolvency estate	Insolvenzmasse
Insolvency ground	Eröffnungsgrund
Insolvency Law	Insolvenzordnung (InsO)
Insolvency plan	Insolvenzplan
Insolvency quota	Insolvenzquote
Insolvency trustee	Sachwalter
Lower-ranking creditors	Nachrangige Gläubiger
Notification of lacking assets during FIP	Masseunzulänglichkeit
Out-of-court proceedings	außergerichtliche Verfahren
Over-indebtedness	Überschuldung
Partial distribution	Abschlagsverteilung
Pending illiquidity	Drohende Zahlungsunfähigkeit
Preliminary insolvency proceedings (PIP)	Vorläufiges Insolvenzverfahren
Rejection due to lacking assets	Abweisung mangels Masse
Report meeting	Berichtstermin
Restructuring Law	Unternehmensstabilitäts- und Restrukturierungsgesetz (StaRuG)
Right to separate satisfaction	Absonderungsberechtigte Gläubiger
Safety measures	Sicherungsmaßnahmen
Secured creditors	Gläubiger mit Sicherungsrechten
Self-administration	Eigenverwaltung
Umbrella proceedings	Schutzschirmverfahren
Unsecured creditors	Gläubiger ohne Sicherungsrechte
Verification meeting	Prüfungstermin

**Table A2: Main insolvency legislation changes**

<b>Time</b>	<b>Regulations implemented</b>	<b>Aims</b>	<b>Major changes</b>
1999	The Insolvency Law (InsO, <i>Insolvenzordnung</i> ) becomes effective	Equal satisfaction of creditors of the insolvency proceedings	<ul style="list-style-type: none"> <li>• Incentives for early filing</li> <li>• Insolvency proceedings for private individuals</li> <li>• Implementation of self-administration</li> </ul>
29.05. 2000	Approval of EU Regulation No. 1346/2000 (EUInsVO)	Facilitation of insolvency proceedings at an international level	Principles regulating conflicts of jurisdictions
01.03. 2012	Approval of Law of Facilitation of Restructuring (ESUG, <i>Gesetz zur weiteren Erleichterung der Sanierung von Unternehmen</i> )	<ul style="list-style-type: none"> <li>• Strengthening of creditor rights to actively participate in the insolvency proceedings</li> <li>• Strengthening of debtor rights to actively organize the insolvency proceedings</li> </ul>	<ul style="list-style-type: none"> <li>• Existence of a preliminary creditors' committee</li> <li>• Existence of preliminary self-administration</li> <li>• Granting a 3-month period for preparation of insolvency plan</li> </ul>
25.05. 2015	Approval of EU Regulation No. 2015/848 (EUInsVO)	Facilitation of insolvency proceedings at an international level	<ul style="list-style-type: none"> <li>• Creation of an EU-wide system of web-based insolvency registers</li> <li>• Extension of its application to pre-insolvency proceedings</li> </ul>
22.10. 2020	Approval of Law for Development of Restructuring and Insolvency Law (SanInsFoG, <i>Sanierungs- und Insolvenzrechtfortentwicklungsgesetz</i> )	Implementation of new Restructuring Law (StaRuG) for firms with pending illiquidity within the next 24 months without opening of insolvency proceedings	<ul style="list-style-type: none"> <li>• Over-indebtedness:               <ol style="list-style-type: none"> <li>1) period for going concern forecast 12 months</li> <li>2) extension of period to file for insolvency to 6 weeks</li> </ol> </li> <li>• Pending illiquidity:               <ol style="list-style-type: none"> <li>1) period for going concern forecast 24 months</li> </ol> </li> <li>• Preparation of self-administration plan which is to be handed in with the request of ordering of self-administration</li> </ul>

Notes: The table only presents permanent changes in German insolvency legislation. It is based on Reischl (2020), Kramer and Peter (2012), Deutscher Bundestag (2015), Deutscher Bundestag (2020), European Parliament and Council of the European Union (2015).

**Table A3: Distribution of insolvency cases and additional documents in the sample used for manual content check**

<b>Federal state</b>	<b>Number of insolvency courts</b>	<b>Number of insolvency cases</b>	<b>Number of additional documents</b>
Baden-Württemberg	24	26	5
Bavaria	29	29	4
Berlin	1	8	2
Brandenburg	4	4	7
Bremen	2	4	9
Hamburg	1	5	9
Hesse	18	22	7
Mecklenburg West-Pomerania	4	4	7
Lower Saxony	33	33	6
North Rhine-Westfalia	19	36	2
Rheinland-Palatinate	23	23	6
Saarland	1	3	5
Saxony	3	2	8
Saxony-Anhalt	4	6	6
Schleswig Holstein	13	15	4
Thuringia	4	6	4
<b>Total</b>	<b>183</b>	<b>226</b>	<b>91</b>

**Table A4: Identification of categories and target phrases from documents**

**Panel A: Identification of categories: examples of safety measures**

<b>1 Court: Siegen</b>	<b>Categories - Federal state North Rhine-Westphalia:</b>
<b>Class: Safety measures</b>	
In dem Insolvenzeröffnungsverfahren über das Vermögen der ... ist am [Date], um [Time] Uhr angeordnet worden (§§ 21, 22 InsO):	General
Zum vorläufigen Insolvenzverwalter wird Rechtsanwalt ... bestellt.	Appointment of preliminary insolvency administrator
Verfügungen der Schuldnerin über Gegenstände ihres Vermögens sind nur noch mit Zustimmung des vorläufigen Insolvenzverwalters wirksam (§ 21 Abs. 2 Nr. 2 InsO).	Right of disposal
Den Schuldner der Schuldnerin (Drittschuldner) wird verboten, an die Schuldnerin zu zahlen.	Obligations debtors of the debtor
Der vorläufige Insolvenzverwalter wird ermächtigt, Bankguthaben und sonstige Forderungen der Schuldnerin einzuziehen sowie eingehende Gelder entgegenzunehmen.	Permissions of preliminary insolvency administrator
Die Drittschuldner werden aufgefordert, nur noch unter Beachtung dieser Anordnung zu leisten (§ 23 Abs. 1 Satz 3 InsO).	Obligations debtors of the debtor
Maßnahmen der Zwangsvollstreckung einschließlich der Vollziehung eines Arrests oder einer einstweiligen Verfügung gegen die Schuldnerin werden untersagt, soweit nicht unbeweglich Gegenstände betroffen sind; bereits begonnene Maßnahmen werden einstweilen eingestellt (§ 21 Abs. 2 Nr. 3 InsO).	Enforcement measures
<b>2 Court: Bamberg</b>	<b>Categories - Federal state Bavaria:</b>
<b>Class: Safety measures</b>	
In dem Verfahren über den Antrag d... auf Eröffnung des Insolvenzverfahrens über das eigene Vermögen - Beschluss:	General
Zur Sicherung des Schuldnervermögens vor nachteiligen Veränderungen wird am [Date] um [Time] Uhr vorläufige Insolvenzverwaltung angeordnet, § 21 Abs. 2 S. 1 Nr. 1 InsO.	
Zum vorläufigen Insolvenzverwalter wird bestellt: Rechtsanwalt ...	Appointment of preliminary insolvency administrator
Es wird gemäß § 21 Abs. 2 S. 1 Nr. 2 Alt. 2 InsO angeordnet, dass Verfügungen der Schuldnerin nur mit Zustimmung des vorläufigen Insolvenzverwalters wirksam sind.	Right of disposal
Unter diese Anordnung fällt auch die Einziehung von Außenständen.	Permissions of preliminary insolvency administrator
<b>3 Court: Bremen</b>	<b>Categories - Federal state Bremen:</b>
<b>Class: Safety measures</b>	
In dem Insolvenzantragsverfahren über ... ist am [Date] um [Time] Uhr die vorläufige Verwaltung des Vermögens der Antragstellerin angeordnet worden.	General
Verfügungen der Antragstellerin sind nur mit Zustimmung des vorläufigen Insolvenzverwalters wirksam.	Right of disposal
Zum vorläufigen Insolvenzverwalter ist Rechtsanwalt ... bestellt worden.	Appointment of preliminary insolvency administrator

## Panel B: Combining target phrases of specific categories

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### Category: General

- In dem Insolvenzantragsverfahren über ... ist am [Date] um [Time] Uhr die vorläufige Verwaltung des Vermögens der Antragstellerin angeordnet worden.
- In dem Verfahren über den Antrag d... auf Eröffnung des Insolvenzverfahrens über das eigene Vermögen - Beschluss:
- Zur Sicherung des Schuldnervermögens vor nachteiligen Veränderungen wird am [Date] um [Time] Uhr vorläufige Insolvenzverwaltung angeordnet, § 21 Abs. 2 S. 1 Nr. 1 InsO.
- In dem Insolvenzeröffnungsverfahren über das Vermögen der ... ist am [Date], um [Time] Uhr angeordnet worden (§§ 21, 22 InsO):

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### Category: Appointment of preliminary insolvency administrator

- Zum vorläufigen Insolvenzverwalter ist Rechtsanwalt ... bestellt worden.
- Zum vorläufigen Insolvenzverwalter wird bestellt: Rechtsanwalt ...
- Zum vorläufigen Insolvenzverwalter wird Rechtsanwalt ... bestellt.

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### Category: Obligations debtors of the debtor

- Den Schuldner der Schuldnerin (Drittschuldner) wird verboten, an die Schuldnerin zu zahlen.
- Die Drittschuldner werden aufgefordert, nur noch unter Beachtung dieser Anordnung zu leisten (§ 23 Abs. 1 Satz 3 InsO).

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### Category: Permissions of preliminary insolvency administrator

- Der vorläufige Insolvenzverwalter wird ermächtigt, Bankguthaben und sonstige Forderungen der Schuldnerin einzuziehen sowie eingehende Gelder entgegenzunehmen.
- Unter diese Anordnung fällt auch die Einziehung von Außenständen.

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### Category: Right of disposal

- Verfügungen der Antragstellerin sind nur mit Zustimmung des vorläufigen Insolvenzverwalters wirksam.
- Es wird gemäß § 21 Abs. 2 S. 1 Nr. 2 Alt. 2 InsO angeordnet, dass Verfügungen der Schuldnerin nur mit Zustimmung des vorläufigen Insolvenzverwalters wirksam sind.
- Verfügungen der Schuldnerin über Gegenstände ihres Vermögens sind nur noch mit Zustimmung des vorläufigen Insolvenzverwalters wirksam (§ 21 Abs. 2 Nr. 2 InsO).

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### Category: Enforcement measures

- Maßnahmen der Zwangsvollstreckung einschließlich der Vollziehung eines Arrests oder einer einstweiligen Verfügung gegen die Schuldnerin werden untersagt, soweit nicht unbewegliche Gegenstände betroffen sind; bereits begonnene Maßnahmen werden einstweilen eingestellt (§ 21 Abs. 2 Nr. 3 InsO).
-



**Table A5: Extract from list of regular expressions**

**Examples - Requirement of approval**

<b>Regular expression</b>	<b>Target phrases</b>
mit genehmigung der vorläufigen mit genehmigung des vorläufigen	<ul style="list-style-type: none"> <li>• es wird angeordnet, dass die für die schuldnerfirma handelnden personen nur noch <u>mit genehmigung des vorläufigen</u> insolvenzverwalters über gegenstände des firmenvermögens verfügen und forderungen der firma einziehen dürfen</li> </ul>
mit zustimmung der vorläufigen mit zustimmung des vorläufigen	<ul style="list-style-type: none"> <li>• verfügungen der schuldnerin über gegenstände ihres vermögens sind nur noch <u>mit zustimmung des vorläufigen</u> insolvenzverwalters wirksam</li> <li>• trifft die schuldnerin verfügungen so sind sie nur <u>mit zustimmung des vorläufigen</u> verwalters wirksam</li> <li>• verfügungen der antragsgegnerin über vermögensgegenstände auf dem gebiet der bundesrepublik deutschland sind nur <u>mit zustimmung des vorläufigen</u> insolvenzverwalters wirksam</li> </ul>

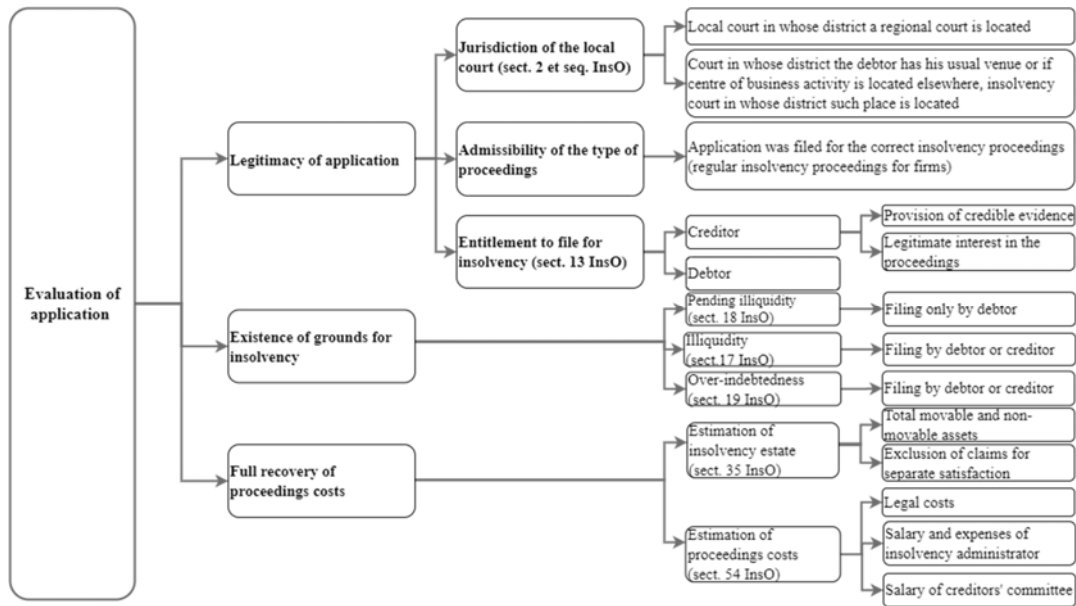
**Examples - Permissions preliminary insolvency administrator**

<b>Regular expression</b>	<b>Target phrases</b>
chtigt auskünfte über.+?bei dritten einzuholen	<ul style="list-style-type: none"> <li>• er ist <u>berechtigt auskünfte über</u> die schuldnerischen vermögensverhältnisse <u>bei dritten einzuholen</u></li> <li>• er wird <u>ermächtigt auskünfte über</u> die vermögenslage der schuldnerin <u>bei dritten einzuholen</u></li> </ul>
einsicht in.+?bücher und geschäftspapiere	<ul style="list-style-type: none"> <li>• schuldnerin hat dem vorläufigen insolvenzverwalter <u>einsicht in bücher und geschäftspapiere</u> zu gestatten</li> <li>• die schuldnerin hat ihm <u>einsicht in die bücher und geschäftspapiere</u> zu gestatten</li> <li>• schuldner-geschäftsführer haben dem vorläufigen verwalter <u>einsicht in bücher und geschäftspapiere</u> der schuldnerin zu gestatten</li> </ul>
ist berechtigt die geschäftsräume.+?betreten.+?nachforschungen	<ul style="list-style-type: none"> <li>• der vorläufige verwalter <u>ist berechtigt die geschäftsräume</u> der schuldnerin zu <u>betreten</u> und dort nachforschungen anzustellen</li> <li>• der vorläufige insolvenzverwalter <u>ist berechtigt die geschäftsräume</u> und betrieblichen einrichtungen der schuldnerin einschließlich der nebenräume zu <u>betreten</u> und dort <u>nachforschungen</u> anzustellen</li> </ul>
zutritt zu den geschäftsräumen	<ul style="list-style-type: none"> <li>• dem sachverständigen ist ungehindert <u>zutritt zu den geschäftsräumen</u> und einsicht in die geschäftsunterlagen und sonstige unterlagen zu gewähren und zutritt zu allen vermögenswerten zu gestatten</li> </ul>

**Table A6: Relevant steps and events for classifications of documents**

Relevant steps and events	Number of regular expressions
Step 3.4: Opening of FIP (opening order)	57
Step 7: Final meeting of creditors	35
Event A: Implementation or discontinuation of safety measures	33
Step 3.3: Rejection due to lacking assets	10
Event D: Further verification meetings	22
Event C: Further meetings of creditors	23
Step 6: Distribution	14
<b>Total</b>	<b>194</b>

**Figure A1: Criteria for evaluation of the insolvency application**



Notes: The figure is based on Reischl (2020), sect. 2 et seqq. InsO, sect. 13 InsO, sect. 17 et seqq. InsO, set 25 InsO, sect. 54 InsO.

## Tables

**Table 1: Groups of creditors classified by the rights to satisfaction of their claims**

<b>Creditor groups*</b>	<b>Characteristics of claims</b>	<b>Satisfaction</b>
1 Creditors entitled to release of property from the estate	Creditors who own assets used by the debtor Claims are not part of the insolvency estate	Right to release from property Satisfaction in full
2 Estate creditors	Financial claim on the debtor's assets exists after opening of the insolvency proceedings	Preferred satisfaction
3 Creditors entitled to separate satisfaction**	Creditors who have a right of lien on movable or non-movable assets	Preferred satisfaction
4 Creditors of the insolvency proceedings**	Financial claim on the debtor's assets exists before the opening of insolvency proceedings	Insolvency quota Satisfaction only if claim was filed with the administrator and determined (Sect. 174 InsO)
5 Lower-ranking creditors	Filing of claims with the administrator only after an explicit request by the court	Satisfied only if creditor groups 1-4 were satisfied (insolvency quota of 100%)

Notes: \*Group 1 has the highest satisfaction rights and group 5 has the lowest satisfaction rights.  
\*\*Entitlement to participate in meeting of creditors and vote on decisions. Table is based on Reischl (2020), sect. 38 et seq. InsO, sect. 49 et seqq. InsO.

**Table 2: Implementation or discontinuation of safety measures**

1 Appointment of preliminary insolvency administrator*	Sect. 21 Para. 1 No. 1 InsO
2 Consent of preliminary insolvency administrator necessary*	Sect. 21 Para. 1 No. 2 InsO
3 Prohibition of disposal*	Sect. 21 Para. 1 No. 1 InsO
4 Insights into the business accounts*	Sect. 22 Para. 3 No. 2 InsO
5 Permission to enter business premises and conduct investigations*	Sect. 22 Para. 3 No. 2 InsO
6 Cancellation of enforcement measures	Sect. 21 Para. 1 No. 1 InsO
7 Cancellation of enforcement of property	Sect. 30 Para. 4 ZVG
8 Other safety measures	Sect. 21 Para. 1 No. 4 InsO

Notes: \*A document is published by the insolvency court for these measures. Table is based on Kramer and Peter (2012), sect. 21 et seq. InsO.

**Table 3: Information required in the opening order**

Dates (Sect. 27,29 InsO)	<ul style="list-style-type: none"> <li>• Hour when the insolvency proceedings were opened</li> <li>• Date, place and agenda for report meeting (Sect. 74 InsO)</li> <li>• Date for the verification meeting</li> </ul>
Basic firm information (Sect. 27 InsO)	<ul style="list-style-type: none"> <li>• Business name</li> <li>• Branch of business or occupation</li> <li>• Commercial establishment or place of abode or debtor</li> </ul>
Appointment of insolvency administrator	<ul style="list-style-type: none"> <li>• Name and address of the insolvency administrator</li> <li>• Reasons why court deviated from proposal of preliminary creditors' committee on the person of the administrator (if applicable)</li> </ul>
Information to creditors (Sect. 28 InsO)	<ul style="list-style-type: none"> <li>• Creditors are requested to file their claims within a time limit defined by the court (between 2 weeks and 3 months)</li> <li>• Secured creditors are informed about duty to notify administrator about any existing rights towards the debtor's assets</li> </ul>

Notes: Table is based on set. 27 et seqq. InsO.

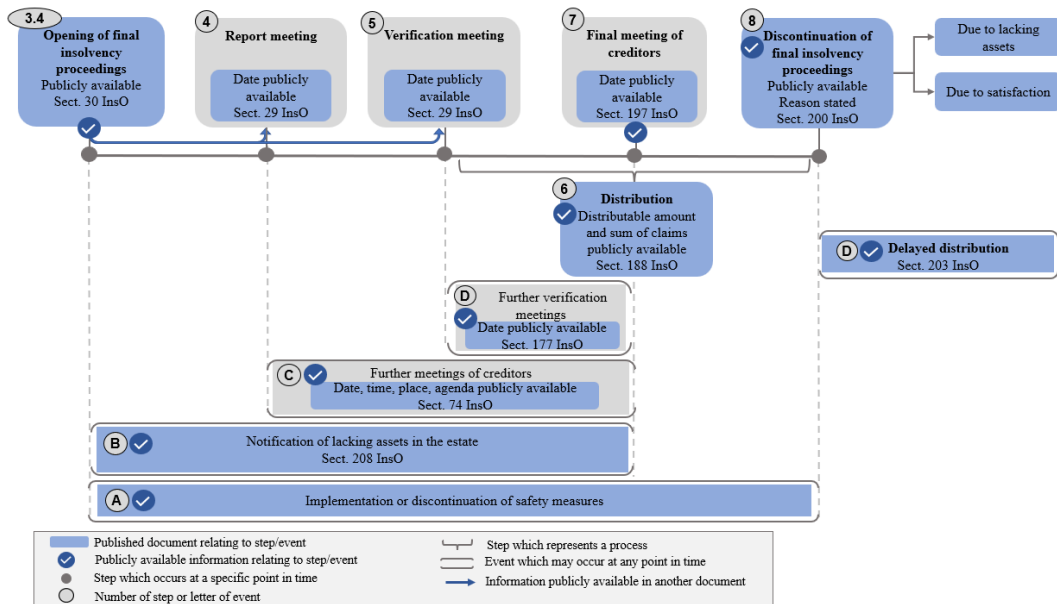
**Table 4: Sample selection**

	Insolvency cases	Insolvency documents
<b><i>insol database</i></b>	156,227	723,719
Less cases outside period 01/2005 - 12/2019	-52,522	-286,007
Less cases with more than 12 documents	-1,088	-16,570
Less cases containing the following:		
• Self-administration and insolvency plan proceedings	-1,905	-15,229
• Documents which could not be classified	-1,124	-6,252
	99,588	399,661
Less cases not starting with event A, step 3.3 or step 3.4	-16,966	-50,453
	82,622	349,208
• Less cases starting with event A Safety measures but not ending with either:		
Step 3.3 Rejection due to lacking assets	-21,318	-81,986
Event A Discontinuation of safety measures		
Step 8.1 Discontinuation due to satisfaction*		
Step 8.2 Discontinuation due to lacking assets (type 1)*		
Step 8.3 Discontinuation due to lacking assets (type 2)*		
• Less cases starting with step 3.4 Opening order but not ending with either:		
Step 8.1 Discontinuation due to satisfaction	-12,642	-28,222
Step 8.2 Discontinuation due to lacking assets (type 1)		
Step 8.3 Discontinuation due to lacking assets (type 2)		
• Less cases starting with step 3.3 Rejection due to lacking assets but also including other documents (which is mutually exclusive)	-919	-5,035
Less cases with steps 8.1, 8.2 and 8.3 (which are mutually exclusive)	-340	5,145
Less cases with steps 3.3 and 3.4 (which are mutually exclusive)	-92	-927
<b>Final sample</b>	<b>47,311</b>	<b>228,893</b>

Notes: \* if insolvency case ends with step 8.1, 8.2 or 8.3 it must contain step 3.4

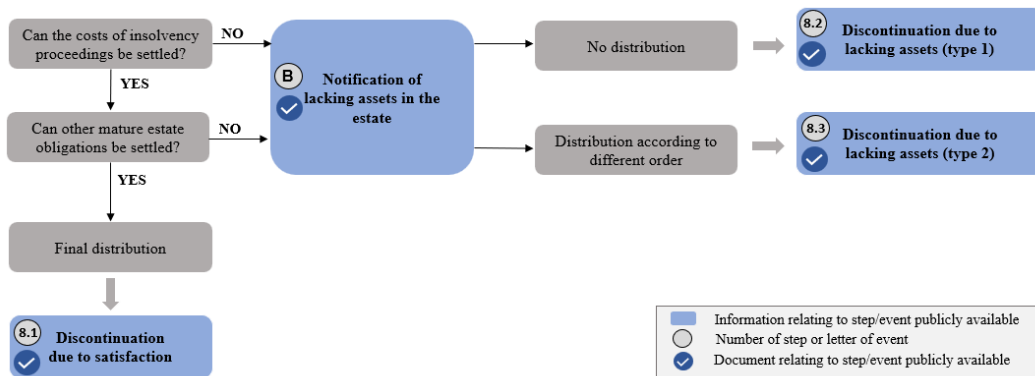


**Figure 3: Documents available in the final insolvency proceedings**



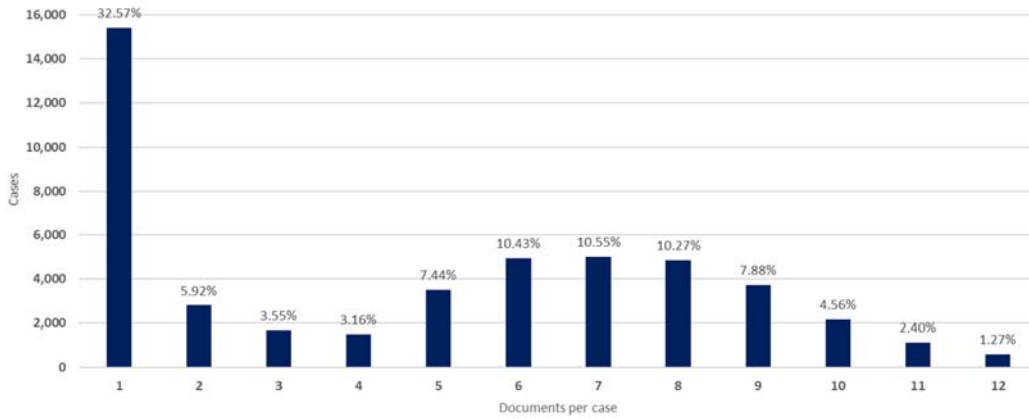
Notes: Figure is based on Reischl (2020), sect. 21 InsO, sect. 29 et seq. InsO, sect. 74 InsO, sect. 177 InsO, sect. 188 InsO, sect. 200 InsO, sect. 203 InsO, sect. 208 InsO.

**Figure 4: Documents available at discontinuation of the insolvency proceedings**

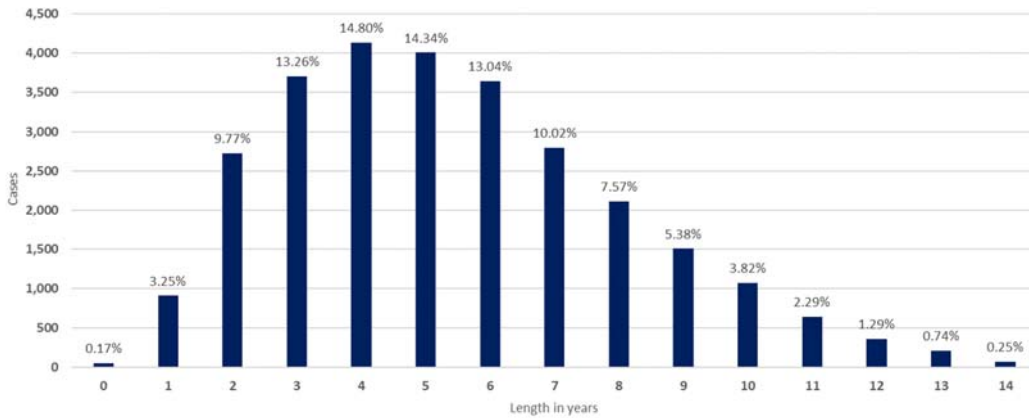


Notes: Figure is based on Reischl (2020) and sect. 207 et seqq. InsO.

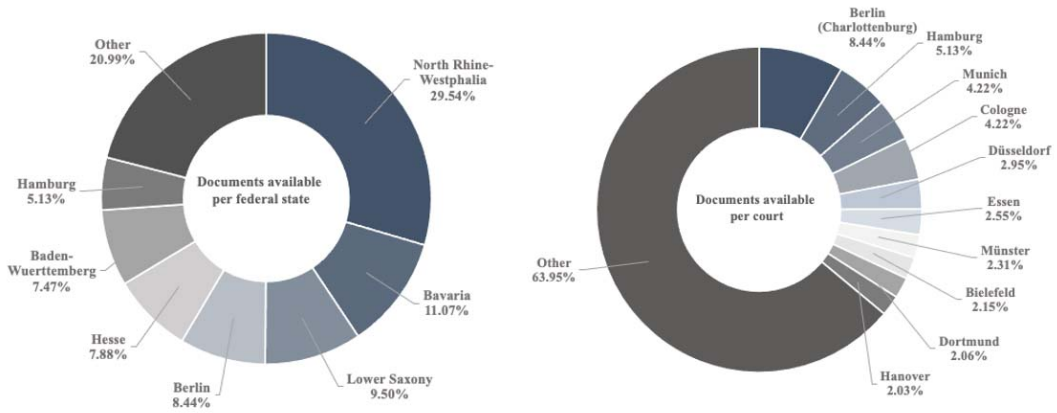
**Figure 5: Documents per insolvency case**



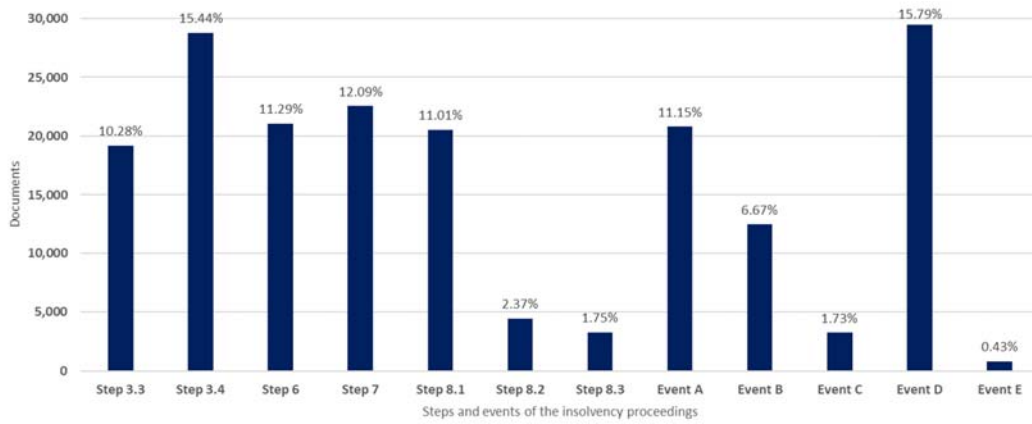
**Figure 6: Length of final insolvency proceedings in years**



**Figure 7: Documents per courts and federal states**

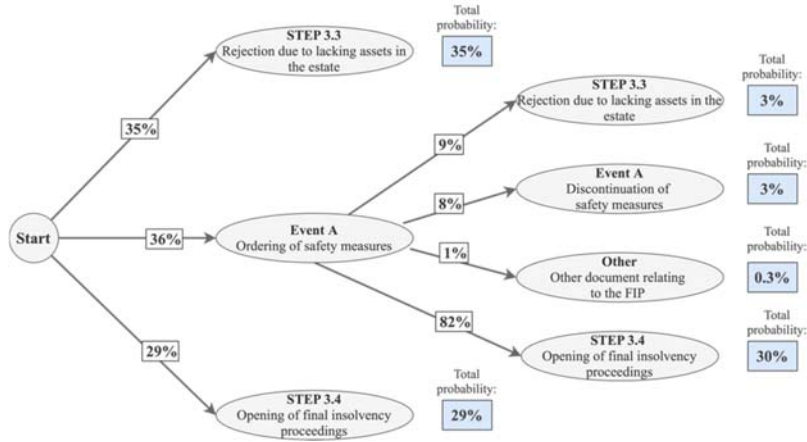


**Figure 8: Documents per steps and events**



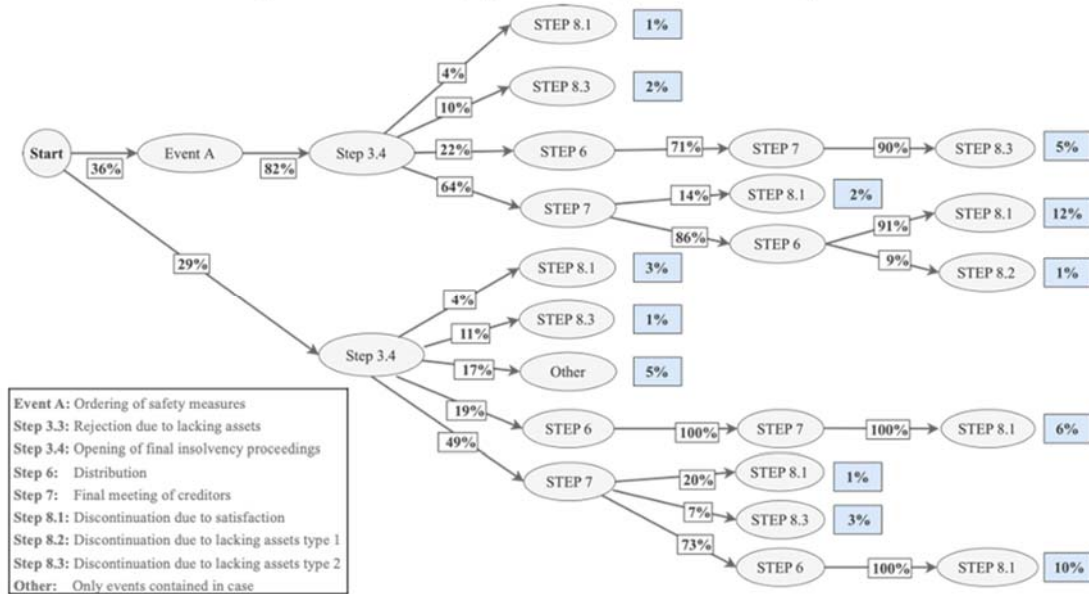


**Figure 9: Paths during preliminary insolvency proceedings**



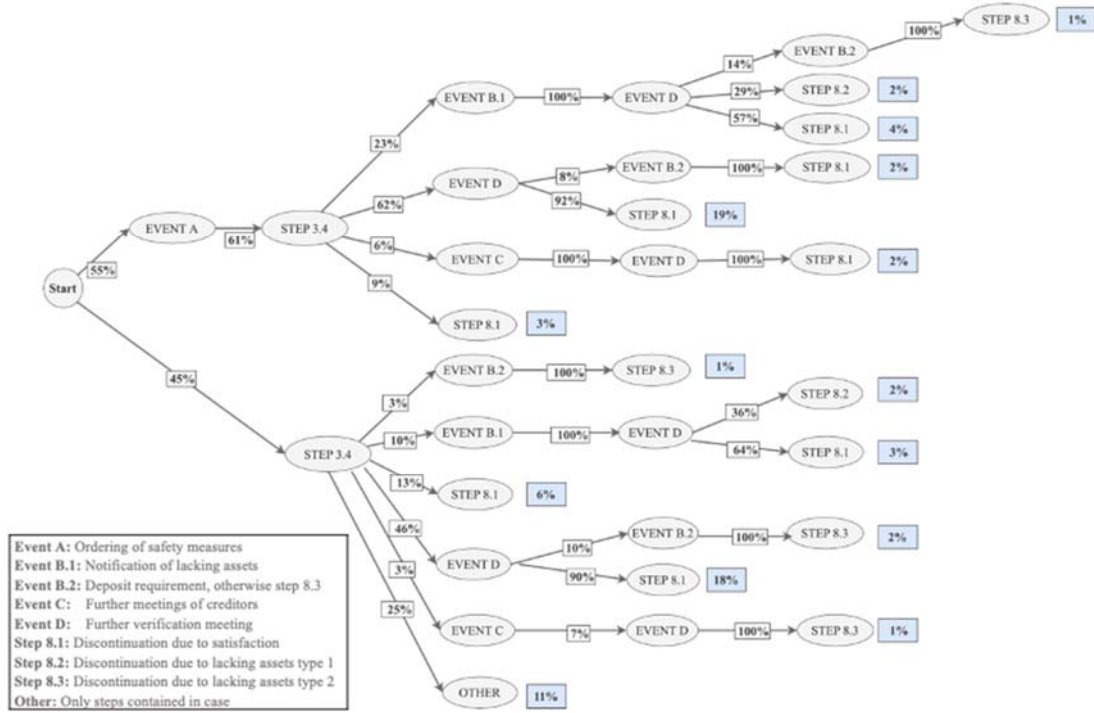
Note: Paths which contain step 3.4 continue with the FIP.

**Figure 10: Paths during final insolvency proceedings**  
**Panel A: Paths during final insolvency proceedings based on steps**



Note: Probabilities are based on paths which contain at least 500 cases. This visualization contains only opened cases.

**Panel B: Paths during final insolvency proceedings based on events**



Note: Probabilities are based on paths which contain at least 250 cases. This visualization contains only opened cases.