To play or not to play the 'moral hazard card': Germany and the European response to the Covid-19 crisis

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Abstract:
The need to avoid moral hazard has been a recurrent argument of those European Union (EU) member state governments seeking to limit their financial liability vis-à-vis other member states and to limit the development of European level financial support mechanisms. Germany has been the traditional leader of these member states. However, in reaction to the Covid-19 pandemic, the German federal government supported an EU response which included grants and massive debt issuance. What was previously presented as an unacceptable policy option — because of moral hazard concerns — suddenly became the appropriate response. This paper seeks to explain the apparent shift in the traditional position of German governments on moral hazard in EU economic governance. We argue that the emphasis placed on moral hazard in German official discourse has significantly decreased but not disappeared during the Covid-19 crisis. This decrease was not because of a growing challenge to the relevance of moral hazard per se but rather because German policy-makers were discursively constrained by one of the dominant meanings of moral hazard they had imposed during the Eurozone crisis — which lost its relevance in the context of the Covid-19 crisis — and by a changed understanding of the concept 'responsible' government.

Introduction

The creation of the Next Generation European Union's (NGEU) Recovery and Resilience Facility (RRF) is the EU's main financial response to the economic recession and social damage caused by the coronavirus (Covid-19) pandemic that began in March 2020. This response, which includes grants and a borrowing strategy, constitutes a significant shift in the traditional position of creditor member states in general — and Germany in particular — on financial support mechanisms. The risk of moral hazard has been a recurrent argument of the creditor states coalition led by Germany to prevent or severely delimit the development of collective European financial assistance and the mutualisation of risks in the EU. Hence, it might appear that, in the context of the Covid-19 pandemic, creditor states' concern with moral hazard has been shelved. The apparent shift in policy is surprising because in the context of the previous major economic crisis for the Eurozone — the sovereign debt crisis — moral hazard concerns were a major factor shaping collective European policy responses and institution-building.

To address this puzzle, we attempt to explain the manner in which German policy-makers' preoccupation with moral hazard with regard to EU financial support mechanisms shifted since the start of the pandemic. In order to understand this shift, this paper presents a two-stage

argument. First, contrary to appearances, the concept of moral hazard continued to play a central role in shaping German preferences on the European financial response to the coronavirus pandemic. The resilience of moral hazard rests in the ambiguity of the concept which allows actors to strategically adapt its meaning according to different contexts and changing (national) preferences. Second, we argue that the explicit use of the concept of moral hazard in German official discourse declined significantly, reflecting the rise of a new meaning of responsibility — resulting from specific forms of politicisation — which challenged the legitimacy of moral hazard arguments in the context of negotiations leading to the July 2020 agreement on the NGEU. Thus, member state governments — and notably the Dutch — that persisted with an explicit moral hazard discourse attracted considerable opposition and the moral hazard arguments that it presented were widely challenged as illegitimate.

This paper is structured as follows. In the next section, we situate our analysis in relation to existing studies focused on the importance of ideas and notably the concept of moral hazard in shaping German policy-making on the EMU project, reforms adopted after the ratification of the Maastricht Treaty, and financial support mechanisms (often presented as forms of 'solidarity'). We also provide an overview of the recent work which seeks to explain the shift in German policy on financial support mechanism in the context of the Covid-19 crisis. In the third section we elaborate on our own ideational analytical framework which borrows from strategic constructivism and the mixed methods that we apply to identify different meanings of moral hazard and responsibility in the contexts of the Eurozone crisis and the Covid-19 crisis. In the fourth section, we summarise the results of our text analysis demonstrating the different uses of the moral hazard concept with regard to EMU reform as a response to the Eurozone sovereign debt crisis and the adoption of financial support mechanisms prior to and during the Covid-19 pandemic. In the fifth section, we summarise the results of our text analysis demonstrating different uses of the responsibility concept in the context of the Eurozone crisis and the Covid-19 crisis. In the final section, we explain these different uses and conclude.

State of the Art: Germany, Moral Hazard and EU-level Economic Governance

Our analysis draws upon a range of studies on the importance of economic ideas in German policy-making on European integration more generally, and Economic and Monetary Union and EU economic governance more specifically. Preoccupation with moral hazard is a core element of German ordoliberal ideas and shaped the EMU project (Bonatti and Fracasso, 2013; Bulmer 2014; Siems and Schnyder, 2014; Dyson 2021). Indeed, some scholars have described moral hazard as a 'German obsession' (see, for example, Beck and Kotz 2017: 15). A substantial body of academic literature exists demonstrating the longstanding importance of ordoliberal concerns for both the German Ministry of Finance and the Bundesbank — notably the need for sound money and to prevent moral hazard (Marsh 1992, McNamara 1998, Dyson 1994, Dyson 2010, Dyson and Featherstone 1999). A number of additional studies point to the ubiquity of the core elements of ordoliberalism in German public opinion from far right to the far left (Howarth and Rommerskirchen 2016). German moral hazard concerns contributed to the reinforcement of fiscal policy rules in the Stability and Growth Pact in 1996 — to discourage member states from breaking the rules following the start of EMU — and subsequent attempts to reinforce fiscal policy rules and ensure sustainable economic and fiscal policies at the national level (Hallerberg 2014; Nedergaard and Snaith 2015). Howarth and Rommerskirchen (2013) demonstrate the extent to which German governments wielded sound money and other ordoliberal preferences in their policy-making on EU fiscal rules. Thus, there is extensive literature indicating that the prevention of moral hazard has been a governing

principle in the foundation of the monetary and fiscal pillars of EMU and in other areas of EU economic governance. A number of scholars have also emphasized the importance of German government and Bundesbank preoccupation for moral hazard in shaping EMU reform and other policies in the context of the post-2007 financial and economic crises (e.g., Dyson 2014: 43-45) and German government and Bundesbank opposition to ECB sovereign debt purchases (Howarth 2012). More specifically, some authors point to the role of moral hazard arguments in the strengthening of fiscal policy rules and austerity (Blyth 2013), the demise of the Eurobond (Matthijs and McNamara 2015), or the policy outcomes of Banking Union (Schäfer 2016; Howarth and Quaglia 2016). The transformative power of the moral hazard concept in relation to EMU is therefore significant and German policy-makers have been the main champions of this concept in EU level policy and institutional debates.

Since the agreement on the NGEU, a significant number of scholars have attempted to explain the apparent shift in German policy towards European-level financial support mechanisms. Both German and international observers proclaimed 'a huge shift by Berlin' (Fleming and Brunsden 2020), 'one of the biggest U-turns' of Chancellor Merkel's political career (Mallet, Chazan and Flemming 2020) and 'Merkel's change of heart' (Schmidt 2020: 1184). However, the reasons for this change in Germany's European policy are subject to debate. Schmidt (2020: 1184) depicts Merkel's 'cognitive shift' because of the 'political dangers of rising populist discontent'. Matthjis (2020: 21) explains the policy change with reference to the officials in charge and notably 'a shift in thinking brought about by a new finance minister', while Ladi and Tsarouhas see it as a form of 'policy-learning' (2020: 1052). De la Porte and Jensen (2020: 5) similarly argue that Merkel and other senior German policy-making officials had learned from the experience of the sovereign debt crisis. Other observers point rather to Germany's national material interest' (Schramm 2021, 15), economic self-interest (Crespy and Schramm 2021), and the fear of economic collapse in Italy and Spain with economic consequences for German's export-led economy, the integrity of the Eurozone and the Single Market (Baccaro *et al.* 2021). In contrast, Freudlsperger and Jachtenfuchs (2021: 127) fail to recognise 'a fundamental shift in German preferences' and though Howarth and Schild (2021a: 224) note a preference change in German policy, they do not expect a durable shift. These analyses compare Germany's role during the pandemic crisis and its role during the Eurozone sovereign debt crisis. German governments had repeatedly opposed calls for a European or Eurozone fiscal union — including common debt instruments — and advocated instead for reinforced national budgetary discipline and austerity (Howarth and Schild 2021a). In the context of the Covid-19 pandemic, Germany reacted quite differently and accepted both increased loans and grants financed through the issuance of common EU debt. We build on this literature by examining the discourse of Germany's policy shift and comparing the discourse of the sovereign debt crisis and that of the Covid-19 crisis.

Theoretical framework and methods

This paper aims to answer the following research question: *Under what conditions has German emphasis upon moral hazard with regard to financial support mechanisms in EU Economic Governance shifted since the start of the Covid-19 pandemic*? To answer this question, this paper relies on academic literature that focuses on the role of ideas in shaping policy outcomes (McNamara 1998; Hay and Rosamond 2002; Blyth 2013; Carstensen and Schmidt 2016). In particular, we focus on the ambiguity of concepts and how meanings are created, disseminated, imposed, contested, and eventually changed in public discourse. Indeed, while moral hazard has been the subject of research in economics since the 1970s (Arrow 1963; Holmström 1979;

Stiglitz 1983; Prescott 1999), the concept is characterized by fuzzy knowledge (Leaver 2015). In our paper, the fuzziness or ambiguity around the concept of moral hazard is considered as an analytical opportunity. Of particular relevance to our analysis are thus theories in which ideas are strategic resources at the disposal of actors to influence others and help them achieve certain aims — such as in strategic constructivism (Jabko 2066). According to Jabko (2006), the ambiguity of the concept of the 'market' allowed the promoters of Europe to bring together actors with diverse motivations and to build the Single Market and monetary union. The ambiguity of concepts often presents an opportunity to policy-makers (e.g., Crespy and Vanheuverzwijn 2019). However, in this paper, we present a new take on strategic constructivism — which we label 'constrained strategic constructivism'. Instead of arguing that policy-makers used the ambiguity of concepts as a strategic resource, we argue that German policy-makers were constrained in their use of the moral hazard concept in the new circumstances of the Covid-19 crisis. In response to this new context of an exogenous shock where there are no winners and no one is to blame, the political strategy around moral hazard shifted.

The main hypothesis, then, to be investigated in this paper is:

German emphasis on the concept of moral hazard in EU economic governance shifted in order to respond to new circumstances in which one of the previous dominant meanings of moral hazard lost its relevance and the rise of a new meaning of responsibility challenged past moral hazard arguments.

In terms of actors to be considered, this paper focuses on Germany in the context of EU-level policy-making and examines how key German policy-makers from the federal government — notably the Chancellor and the Minister of Finance —and the Bundesbank have wielded the concept of moral hazard in the contexts of the Eurozone sovereign debt crisis and the Covid-19 crisis. Comparing uses of moral hazard over time in Germany is of particular interest for at least four reasons. First, moral hazard was a traditional concern for German policy-makers with regard to the design of EMU and EU economic governance. Second, in particular, the Bundesbank was considered the bastion of ordoliberalism both in Germany and Europe (Dyson 2010). Third, Germany enjoys a 'constrained veto power' in European negotiations and thus has an important degree of influence on EU policy and institutional outcomes (Bulmer and Paterson 2013). Fourth, as noted above, during the Covid-19 crisis, the German government appears to have shifted away from the 'disciplinary' coalition of northern Eurozone member states which also suggests a shift in its position on moral hazard (Howarth and Schild 2021b).

The testing of our hypothesis requires us to identify meanings of moral hazard over time, more specifically between the contexts of the Eurozone crisis and the Covid-19 crisis. To do this, a selection of press documents[1] was made based on the following cumulative criteria: the author of the document is (or has been) a policy-maker from the federal government or the Bundesbank;[2] the topic of the Eurozone crisis or the Covid-19 crisis is present in the document;[3] and there is at least one occurrence of the term 'moral hazard' or a proxy of moral

[1] The data was collected in mid-January 2022. The corpus of press documents is composed of speeches, interviews, guest contributions, declarations, and press releases (expressing an opinion).
[2] The press documents are available on the respective institutional websites and personal webpages.
[3] Keywords search to filter by topic: Eurozone crisis [eurozone crisis, euro crisis, euro area crisis, debt crisis]; Covid-19 crisis [corona, covid].

hazard in the document.[4] The result is a corpus of 86 press documents:[5] 61 documents are associated with the topic of the Eurozone crisis and 25 documents with the Covid-19 crisis. We place our detailed data in the appendices (Figure 1 describes the distribution of documents by topic and by institution). It is worth mentioning that among these 86 press documents, 50 contain at least one direct reference to moral hazard:[6] 40 of these documents are from policy-makers of the Bundesbank, the other 10 are from Wolfgang Schäuble, the former federal Minister of Finance and current President of the Bundestag. These results allow us to draw two initial conclusions: first, German central bankers placed more emphasis on moral hazard than political leaders from the federal government; and second, references to moral hazard were significantly more frequent in the context of the Eurozone crisis than in the Covid-19 crisis.

Yet, despite a decrease in the references to moral hazard in the context of the Covid-19 crisis — particularly noteworthy in the case of the federal government — the moral hazard concept is not absent. To achieve a better representation of how the question of moral hazard manifests itself in the context of the Covid-19 crisis, the corpus has been complemented by a selection of newspaper articles from the *Financial Times* and *Politico*, where the term 'moral hazard' and the topic of the Covid-19 crisis are present: 57 newspaper articles were added to the corpus. Hence, the corpus contains in total 143 documents. While not exclusively focused on EU-level policy-making and Germany, the selected articles from the *Financial Times* and *Politico* offer an international perspective on the question of moral hazard and the response to the Covid-19 crisis. This international perspective is of interest to our analysis as it might influence German policy-makers in their use of the moral hazard concept.

To identify meanings of moral hazard in the contexts of the Eurozone crisis and the Covid-19 crisis, we first created datasets of moral hazard and proxy occurrences in their textual context — 1 sentence before and after. The result is 120 direct occurrences and 57 indirect occurrences. To infer meanings from these occurrences and compare various sorts of similarities and differences in how the concept is presented, our analysis uses a mix of inductive methods, namely content analysis and grounding techniques. On the one hand, we looked at the semantic fields of moral hazard (i.e., word clouds, synonymous and antonymous concepts); on the other hand, we manually coded the descriptions of moral hazard according to four main dimensions: 'what it is', 'what causes it', 'what it does', and 'how to deal with it'. The text analysis is made using the software MAXQDA. This text analysis has been combined with the findings from four semi-structured interviews with members of the Advisory Board to the German Federal Ministry of Finance.

The second part of our analysis aims to identify and compare meanings of responsibility in the contexts of the Eurozone crisis and the Covid-19 crisis. The analysis has been conducted on the same corpus as described above, plus twelve press documents from the federal government in which the topic of the EU response to the Covid-19 pandemic is present (thus 155 documents in total). The analytical techniques employed to identify meanings of responsibility are similar to those employed to identify meanings of moral hazard. First, we looked at the semantic fields (focusing on word clouds). Second, we manually coded the occurrences of

[4] List of proxies based on synonymous and antonymous concepts: incentive [wrong, weaken, adverse, reduce, misguided, false, disincentives, for excessive risk, for risk taking, for debt *versus* correct, appropriate, right, for sound public finances, for fiscal consolidation, for reform]; ownership.
Each occurrence of proxies has been manually filtered to ensure that there is indeed a relation with moral hazard.
[5] The corpus is made of documents in English and in German. When necessary, translation tools have been used.
[6] A direct reference means an explicit occurrence of the term 'moral hazard', while an indirect reference means a proxy of moral hazard (36 documents of the corpus contain at least one proxy).

‘responsibilty’/’responsible’ in their textual contexts — a sentence before and after — according to different types of responsibility and to different established definitions of responsibility.

The hypothesis will be validated if two conditions are met: first, we find variation in meanings of moral hazard between the contexts of the Eurozone crisis and the Covid-19 crisis; and, second, we can relate this variation to different meanings of responsibility. The empirical results are presented in the next sections.

Moral Hazard in German public discourse on the Eurozone crisis and the Covid-19 crisis

Semantic fields of moral hazard in the corpus

This paper defines a semantic field as a group of related words. To determine the semantic field of moral hazard by case study, we focused on three types of word-relations: words that are frequently used around moral hazard; words described as having the same or similar general sense as moral hazard; and words described as having an opposite meaning to moral hazard. Figure 2 and Figure 3 present the word clouds of moral hazard respectively in the case of the Eurozone crisis and the Covid-19 crisis. The top three most frequently used words next to moral hazard in the context of the Eurozone crisis are: problem/Problematik, risk, and government. The top five most frequently used words next to moral hazard in the context of the Covid-19 crisis are: risk, not, have, systemic, and argument. There are similarities and differences in these results. In both cases, moral hazard is strongly associated with the word ‘risk’, which refers to the possibility of something (most usually of something bad). Thus, moral hazard relates to something uncertain (and unwelcome). When it comes to differences, the frequency of the word ‘problem’ next to moral hazard in the context of the Eurozone crisis seems to indicate that it is not just an unwelcome risk but something harmful that needs to be overcome. In contrast, in the context of the Covid-19 crisis, the word ‘argument’ is frequently used next to moral hazard, which suggests that instead of being a (consensual) problem, moral hazard is something subject to debate — where negations of moral hazard seem relatively frequent (frequency of the word ‘not’ next to it). In addition, moral hazard appears as essentially an attribute of a government in the context of the Eurozone crisis, while no specific actor is frequently associated with moral hazard in the case of the Covid-19 crisis.

The second type of word-relations we are interested in comparing are synonyms. Table 1 (in the appendix) presents the list of words and expressions that are described in the corpus as being close in meaning to moral hazard. In both cases, moral hazard is the same or similar to disincentives, wrong incentives, and irresponsibility (or paralyzed individual responsibility). Thus, moral hazard is considered both as a type of incentive, and as a personal attribute or character. These synonyms suggest nuances in terms of the universality of moral hazard: as a type of incentive, moral hazard could affect all actors, whereas as a personal attribute or character, moral hazard is specific to certain actors. When it comes to differences between case studies, moral hazard is interpreted in terms of two public policy problems in the context of the Eurozone crisis: the ‘too-big-to-fail’ problem and the problem of time inconsistency. In the context of the Covid-19 crisis, moral hazard is interpreted in terms of wrong or bad behaviour (e.g., abuse, fraud).

Finally, the last type of word-relations we are interested in comparing are antonyms. Table 2 (in the appendix) presents the list of words and expressions that are described as being opposed in meaning to moral hazard. In both cases, moral hazard is the opposite of individual responsibility, accountability for one's conduct (i.e., liability, ownership, internalized externalities), and caution or prudence. When it comes to differences between cases, moral hazard is also presented as the opposite of credibility and trust in the context of the Eurozone crisis. In the context of the Covid-19 crisis, a situation in which there is no one to blame (e.g., exogenous or external shock, no one's fault) is the opposite of moral hazard.

In sum, the analysis of the semantic field of moral hazard in the cases of the Eurozone crisis and the Covid-19 crisis allows us to draw some preliminary conclusions about the meanings of moral hazard in our corpus. There are various kinds of difference between cases: a difference in the consensual nature of moral hazard (problem versus argument), a difference in the specificity of actors concerned (governments versus undetermined), a difference in the type and significance of the issue (public policy problem versus problematic individual behaviour), and a difference in the emphasis on the allocation of blame (requires the identification of guilty actors or not necessarily).

Coding moral hazard

To identify how the concept of moral hazard is wielded in the context of the Eurozone crisis and the Covid-19 crisis, we complement the analysis of the semantic fields with a coding exercise. The aim is to determine 'it' (i.e., moral hazard) with the greatest possible precision. To do so, each (direct and indirect) occurrence of moral hazard in its textual context has been coded in relation to the four dimensions mentioned in the previous section (the results are presented in Tables 3-6).

The coded segments that are indicative of 'what moral hazard is' present variability. In total, we found seventeen codes – each code presenting similarities and differences with each other (see Table 3 in the appendix for a detail of codes by case study). In other words, there are seventeen ways — in our corpus — to answer the question 'what is moral hazard?'. In the context of the Eurozone crisis, the most frequent answers are: 1) 'a situation in which there are incentives for a reckless action or behaviour' and 2) 'a situation in which positive (potential) outcomes are privatized and negative (potential) outcomes are socialized'. In the context of the Covid-19 crisis, the most frequent answers are: 1) 'the fact of rewarding a reckless action or behaviour' (in newspaper articles) and 2) 'a situation in which there are incentives for a reckless action or behaviour' (in German public discourse). When comparing these answers, both elements of consistency and variance can be found: 'a reckless action or behaviour' is a common element of the most frequent answers. However, there are differences between these two answers: in the most frequent answer found in the case of the Eurozone crisis, a reckless action is a potential outcome; whereas in the most frequent answer found in the case of the Covid-19 crisis, a reckless action is an actual outcome, and moral hazard is not the materialization of this reckless action or behaviour but the fact of rewarding such action. This suggests that in the context of the Eurozone crisis, the subject responsible for moral hazard is the actor that (potentially) acts recklessly; while in the context of the Covid-19 crisis, the subject responsible for moral hazard is the actor that rewards such action (not the actor that behaved recklessly). In terms of consistency in German discourse, we found that German policy-makers (specifically central bankers) continued to emphasize the importance of incentives in the context of the Covid-19 crisis. However, moral hazard as an unfair distribution

of costs and benefits among members of a community has disappeared from the German discourse on the Covid-19 crisis.

The results of 'what moral hazard is' frequently point towards specific actions or behaviours, and incentives for a specific conduct. It is therefore of interest to look more closely into what, and whose, actions, behaviours, and incentives (see tables 3.1 and 3.2 for a detail of codes by case study). Here again, we found elements of consistency and variance. All specified actions or behaviours are reckless in a sense (be it because 'irresponsible, disregard for consequences or danger', or 'lacking in prudence or caution', or 'willing to take risks'). In both cases, the most frequent specified actions relate to policies that are in the hands of governments: in the case of the Eurozone crisis, the emphasis is on structural reforms, while in the case of the Covid-19 crisis, the emphasis is on sound fiscal policy. When it comes to the question of who is subject to moral hazard, in both cases financial market participants appear as the actor most prone to moral hazard, followed closely by public authorities — in particular, governments. In the context of the Covid-19 crisis, we also found a relatively more frequent emphasis on actors from the 'real economy', such as compagnies and people (in newspaper articles).

To have a better view of what moral hazard means in the context of the Eurozone crisis and the Covid-19 crisis, we then turned to the analysis of 'what causes moral hazard' (see Table 4 in the appendix for a detailed list of causes by case study). In the case of the Eurozone crisis, the most frequent causes of moral hazard are the ECB (e.g., accommodative monetary policy, non-standard measures, and the lender of last resort function), the mutualization of debt, and a situation where action and liability are not aligned. All these causes relate to something that reduces the exposure to consequences. In the case of the Covid-19 crisis, the most frequent causes of moral hazard are supportive measures in bad times from other actors than central banks (e.g., support mechanisms to private sector, bailouts and assistance programmes), and central bank actions (e.g., monetary financing). Here too, all these causes relate to something that reduces the exposure to consequences. When looking at the most frequent causes of moral hazard that German policy-makers highlighted in the context of the Covid-19 crisis, we found monetary financing, non-standard measures, and institutional causes such as the combination of monetary union and weak fiscal rules. In both crises, in the views of German policy-makers, the currency union and its institutional characteristics play an important role in the emergence of moral hazard. However, the issue of debt mutualization has disappeared from the German discourse in the context of the Covid-19 crisis.

One of the possibilities to determine what is something in opposition to other things, is to look at its effects. We therefore coded answers to 'what moral hazard does' (see Table 5 in the appendix for a detailed list of effect by case study). If we analyze these results in terms of similarities and differences between case studies, several remarks come to mind. First, all effects relate to something negative or unwelcomed, and most effects are explicitly about negative social or collective consequences. In the case of the Eurozone crisis, the most cited effects are instability, the ineffectiveness of solidarity, and financial or banking crises. In the case of the Covid-19 crisis, the most cited effects are the weakening of the disciplining effect of market forces and the increase of vulnerabilities. In both crises, moral hazard is therefore presented as a collective problem. In the case of the Eurozone crisis, the collective problem took the form of economic instability combined with the ineffectiveness of a possible solution to the problem (i.e., solidarity); in the case of the Covid-19 crisis, the collective problem is about losing one of the mechanisms supposed to maintain order in the system.

The last dimension under scrutiny in this analysis of how moral hazard is presented in the contexts of the Eurozone and the Covid-19 crises is 'how to deal with it'. There are numerous policy prescriptions in the corpus on how to deal with moral hazard (see Table 6 in the appendix for a detailed list of policy prescriptions by case study). The most frequent policy prescriptions in the case of the Eurozone crisis are a balance between collective solidarity and individual responsibility, strict conditionality, and resolution. The explicit emphasis on individual responsibility as a solution to moral hazard is absent in the case of the Covid-19 crisis. Instead, most frequent policy prescriptions relate to pillars of Banking Union (i.e., regulation and supervision).

Elucidating the moral hazard concept by interviewing

When asked if moral hazard is the main cause of the European sovereign debt crisis, the four members of the Advisory Board to the German Federal Ministry of Finance interviewed were mostly reluctant to answer in the affirmative. Two out of the four interviewees answered yes but only in the case of Greece: to them, the fact of lying or cheating in relation to the actual levels of public debt and deficit was a reflection of moral hazard (interviews 2 and 3). In contrast, for another interviewee, Greece did not act differently than other countries and did not qualify this episode as moral hazard (interview 4). Instead, this interviewee described moral hazard issues in European sovereign debt in relation to a bail-out expectation signalled by market prices and the reaction of politicians to these market prices in terms of indebtedness. This interviewee did not perceive moral hazard as a deliberate act of cheating but rather as a simple reaction to market prices.

Finally, one interviewee argued that there is probably no moral hazard in the literal sense in relation to public finances because the deficits of governments are observable. To qualify as moral hazard in its original meaning, the interviewee emphasized the condition of hidden action. To this interviewee, 'this moral hazard slogan has become very prominent … is often used in other contexts and it is not the same as in the original sense' (interview 1). In contrast to the German discourse in the context of the Eurozone crisis, where moral hazard was strongly emphasised and described as a major source of instability, the interviewed members of the advisory board to the German Federal Ministry of Finance were reluctant to describe moral hazard as a major cause of the European sovereign debt crisis.

When asked if there was moral hazard associated with the EU's financial response to the Covid-19 crisis, most of German policy-makers interviewed started their answer by emphasizing the exogenous nature of the shock (interviews 1, 2 and 3) and the conditionality attached to NGEU to limit moral hazard (interviews 2, 3, and 4). Most of the interviewees answered that there was uncertainty on whether NGEU would lead to moral hazard in the future and were in favour of a 'wait and see' attitude (interviews 1, 2, and 3). In contrast, one of the interviewees challenged the claim that there was no moral hazard because the pandemic was an exogenous shock as a nonsense and argued that 'the moral hazard is not the event — rather the event is exogenous or not — but how you deal with it. That is where moral hazard evolves, not on the event side' (interview 4). For this interviewee, the way NGEU was set up is indicative that there was moral hazard: the provisions on how to spend the money, the process of surveillance, and the legal provision that ensures that the debt cannot be extended forever are meant to fight moral hazard (interview 4). Most of the German policy-makers interviewed were therefore rather optimistic and do not perceive moral hazard as something inevitable that would necessarily arise from the EU's financial response to the Covid-19 crisis, given the exogenous nature of the shock and the conditionality attached to the programme. Most interviewees were willing to give EU

member states the benefit of the doubt in relation to moral hazard and to see how the situation evolved. Only one interviewee opposed this position by arguing that moral hazard was present, and that the nature of the event was not relevant to assess whether there was moral hazard or not. This view is worth stressing as it reveals that if moral hazard was not presented as a major issue in the case of the EU's financial response to the Covid-19 crisis in German public discourse, it was not because moral hazard was obviously irrelevant but because — in contrast to the Eurozone crisis — German political leaders chose not to emphasize moral hazard.

In sum, German officials from the federal government and the Bundesbank wielded the concept of moral hazard differently in the Eurozone crisis and the Covid-19 crisis. In terms of frequency, references to moral hazard in German discourse declined significantly between the two crises, especially in press documents by federal government policy-makers. In terms of meanings, there is an element of consistency about what moral hazard is for German policy-makers: in both crises, the most frequent answer in German discourse is 'a situation in which there are incentives for a reckless action or behaviour'. However, in the case of the Eurozone crisis, moral hazard was also often described as 'a situation in which positive (potential) outcomes are privatized and negative (potential) outcomes are socialized'. This interpretation — absent from the case of the Covid-19 crisis — might explain why references to moral hazard in the German discourse significantly declined: moral hazard is no longer presented as a matter of social justice in the context of the Covid-19 crisis. In addition, in newspaper articles, moral hazard is often described as 'the fact of rewarding a reckless action or behaviour' in the case of the Covid-19 crisis. This meaning of moral hazard presupposes that a reckless action or behaviour is a necessary condition to qualify something as moral hazard and thus helps negate the relevance of moral hazard in the context of the Covid-19 crisis. Although less present, moral hazard is not absent from the German discourse in the context of the Covid-19 crisis. However, there is a significant shift in terms of how moral hazard is wielded. Instead of emphasizing structural reforms, the risk of mutualizing debt, the counter-productive effect of solidarity, and the need to strengthen individual responsibility, German policy-makers (and particularly central bankers) emphasized sound fiscal policy, the risk of wrong incentives in the monetary union, and the weakening of market forces' disciplining effect.

The comparison of moral hazard meanings between the Eurozone crisis and the Covid-19 crisis allows us to conclude that there is variation in the way German policy-makers wielded the concept of moral hazard between the two crises. The next part of our empirical analysis focuses on the associated concept of responsibility. Different presentations of the concept of responsibility might explain the rise and fall of moral hazard as a matter of social justice.

Moral hazard and the concept of responsibility

The concept of responsibility is a core concept associated with moral hazard: depending on the meaning attached to responsibility, the meaning of moral hazard might vary. To identify and compare meanings of responsibility in the context of the Eurozone crisis and the Covid-19 crisis, we first looked at words that are frequently used next to responsibility (see figures 4 and 5 in the appendix for word clouds for the two crises). In terms of similarities, in both cases, responsibility is often used next to words such as 'national', 'fiscal', 'policy', and 'Europe'. These results suggest that the issue of national responsibility for fiscal policy in Europe is a constant feature of the public discourse in times of crisis. However, we also found significant elements of difference: in the case of the Eurozone crisis, responsibility is most frequently used next to 'individual', 'personal' or 'principle'. This suggests that in the context of the Eurozone crisis, German policy-makers emphasized the principle of individual responsibility — linked

to meeting the macroeconomic convergence criteria agreed in the Maastricht Treaty ('Maastricht' is also often used next to responsibility). This result suggests that responsibility in this context often means honouring previous commitments. In contrast, in the case of the Covid-19 crisis, responsibility is frequently used next to 'common', 'union', 'generations', or 'future'. Here, the meaning of responsibility points towards responding to a moral obligation vis-à-vis future generations. Depending on the context, the concept of responsibility was wielded to relate to both past and future obligations.

Second, we coded occurences of 'responsibility'/'responsible'. It is worth stressing that the frequency of the term 'responsibility'/'responsible' significantly declined between the two crises: while there are more documents regarding the Covid-19 crisis, the number of occurrences is only 46 as opposed to 156 during the Eurozone crisis. Thus, there is a positive correlation between the frequency of the terms moral hazard and responsibility in our corpus.

The first step of our coding exercise was to code different types of responsibility (see Table 7 in the appendix). In both cases, we found elements that relate to individual responsibility — i.e., individual, national, personal, self, and domestic — and collective responsibility — i.e., collective, joint, global, shared, social, and common. However, 'individual responsibility' represents eighty per cent of German coded segments that are indicative of a type of responsibility in the context of the Eurozone crisis, while only twenty per cent of the German coded segments in the context of the Covid-19 crisis. These results suggest that German policy-makers stopped emphasizing individual responsibility in the context of the Covid-19 crisis.

The second step of our coding exercise was to code 'responsibility'/'responsible' occurrences according to different established definitions of responsibility, namely: 'the fact of being in charge of', 'to behave correctly', 'the fact of being accountable', and 'the fact of being the cause of' (see Table 8 in the appendix). In both cases, the most frequent meaning of responsibility is 'the fact of being in charge of' and the least frequent meaning is 'the fact of being the cause of'. However, in the context of the Eurozone crisis, the emphasis is on being in charge of 'taking decisions' while in the context of the Covid-19 crisis the relative emphasis is on being in charge of 'Europe' and 'financial stability'. In addition, in the case of the Eurozone crisis, the second most frequent meaning of responsibility is 'the fact of being accountable' while it is 'to behave correctly' in the case of the Covid-19 crisis. In particular, in the case of the Eurozone crisis, German policy-makers insisted on responsibility as 'to bear the consequences of one's actions'. In the context of the Eurozone crisis, we found a discursive construction of responsibility as a coin with two sides: 'taking decisions' and 'to bear the consequences'. This discursive construction of responsibility is absent in the context of the Covid-19 crisis.

In sum, the analysis of meanings of moral hazard and responsibility in the context of the two crises presents evidence of both continuity and change in the German discourse: moral hazard as 'a situation in which there are incentives for a reckless action or behaviour' is a constant feature, as opposed to moral hazard as 'a situation in which positive outcomes are privatized and negative outcomes are socialized'. In the context of the Eurozone crisis, German policy-makers constructed moral hazard as a matter of social justice, where being responsible often meant taking decisions and bearing the consequences of these decisions. Moral hazard and individual responsibility were frequently used concepts in the case of the Eurozone crisis. In contrast, the use of these concepts declined in the context of the Covid-19 crisis, in which the framing of moral hazard as a matter of social justice is no longer relevant. Instead, the meaning of responsibility became closer to the realm of moral obligation vis-à-vis the future. We

therefore found evidence of a correlation between the frequency of moral hazard and of individual responsibility in German official discourse. The end of the emphasis on individual responsibility goes hand in hand with a decline in the use of moral hazard. However, moral hazard has not disappeared from German official discourse in the context of the Covid-19 crisis: there is a meaning of moral hazard employed by German central bankers that maintains its relevance — an understanding that is irrespective of the cause of the crisis. The question of incentives for future action and behaviour is still important in German official discourse. We argue that the strong emphasis on moral hazard as a matter of social justice and individual responsibility in the context of the Eurozone crisis — which lost its relevance in the context of the Covid-19 crisis — discursively constrained the ability of German policy-makers to openly make the case for moral hazard as 'a situation in which there are incentives for a reckless action or behaviour'. This constraint is reinforced by the dominant meaning of moral hazard found in newspaper articles — i.e., the reward of a reckless action — which helps negate the issue of moral hazard in the context of the Covid-19 crisis. But these discursive constraints do not mean that moral hazard has disappeared from German official discourse or that moral hazard no longer plays a significant role in the determination of German preferences on EU economic governance. The meaning attached to the concept of moral hazard varies according to the context, but some elements remain constant.

Conclusion

There were two frequent ways that the concept of moral hazard was wielded by German policy-makers in the context of the Eurozone crisis. First, it was used to denote a situation in which there are incentives for reckless action or behaviour. Second, it was wielded to indicate a situation in which positive outcomes are privatized and negative outcomes are socialized. The first was still present in the context of the Covid-19 crisis but the second was absent. We argue that emphasizing moral hazard as a matter of social justice (the second meaning) during the Eurozone crisis constrained the capacity of German policy-makers to make the case for moral hazard as a matter of efficiency (the first meaning) — which, contrary to the second meaning, was still wielded by German officials in the context of their response to the Covid-19 crisis. On the concept of responsibility, during the Eurozone crisis, German official discourse was dominated by individual responsibility and the construction of responsibility as 'taking decisions' and 'bearing the consequences of these decisions'. During the Eurozone crisis, German policy-makers presented the concept of responsibility in terms directly linked to moral hazard as a matter of social justice and fairness. German policy-makers were far less likely to wield this version of the concept of responsibility during the Covid-19 crisis. German policy-makers were more likely to wield the concept of responsibility vis-à-vis the future rather than responsibility in relation to past decisions and commitments.

We conclude from these findings that German policy-makers perceived both different causes of the two crises and different acceptable solutions in terms of European / collective financial support mechanisms. Our findings make an important contribution to the literature on both German policy-making and EU economic governance and, more generally, the political economy of European integration. First, an understanding of how important (political economy) concepts of moral hazard and responsibility were wielded by German policy-makers helps researchers trace shifts in German policy-making on EU-level financial support mechanisms from the early 2010s to the 2020s and the ideational factors behind that shift. Second, by pointing to shifts in both German federal government usage of these concepts and German Bundesbank usage, we demonstrate that the shift should not be ascribed to either domestic or intergovernmental political factors per se. The German Bundesbank — widely

seen as the bastion of ordoliberalism in the German public sector (Dyson 2010) — was more immune to such political considerations. Rather the shift in how these concepts were wielded demonstrates how German policy-makers perceived the causes of the two crises and the appropriate EU-level responses. We do not claim to definitively explain why German policy on financial support mechanisms shifted in 2020. However, our analysis provides additional depth to understanding the cognitive shift that took place and the revised manner in which German policy-making elites perceived national economic interests. Whether or not the creation of the NGEU can be described as a 'Hamiltonian moment' is beyond the scope of this paper to examine. However, the decision on the need to create the NGEU and its RRF can certainly be described as a 'Eureka moment' for German government policy-makers.

Interviews

1. Member of the Advisory Board to the Federal Ministry of Finance, online via Webex, 22 February 2022.
2. Member of the Advisory Board to the Federal Ministry of Finance, online via Webex, 21 March 2022.
3. Member of the Advisory Board to the Federal Ministry of Finance, Berlin, 22 March 2022.
4. Member of the Advisory Board to the Federal Ministry of Finance, online via Webex, 24 March 2022.

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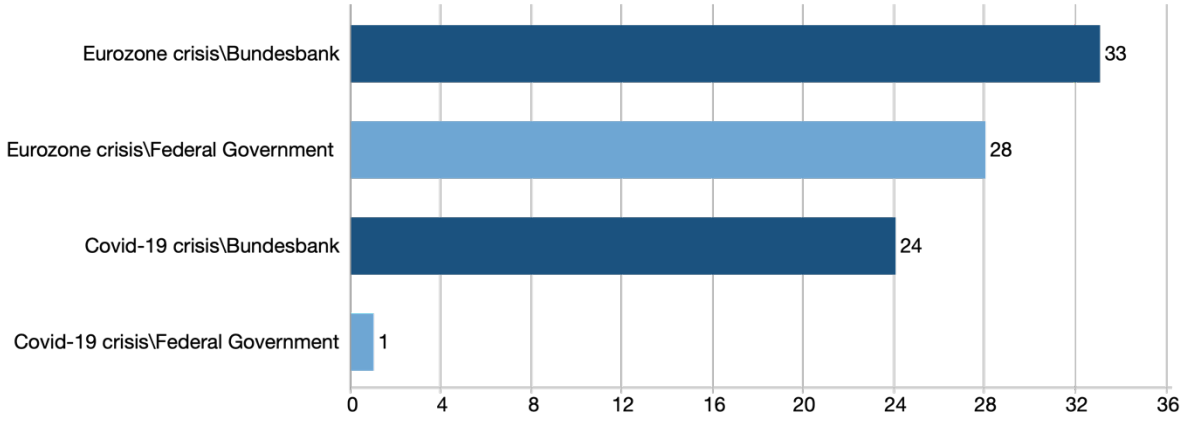
Figure 1. Number of documents, by topic, and by institution



Source: Authors.

Figure 2. The word cloud of moral hazard in the context of the Eurozone crisis, by frequency of words[7]

Source: Authors.

[7] Minimum frequency: 2; top 31 words displayed. The size of a word represents its frequency.

Figure 3. The word cloud of moral hazard in the context of the Covid-19 crisis, by frequency of words [8]

Source: Authors.

Table 1. List of close synonyms, by case study

Eurozone crisis	Covid-19 crisis
Disincentives	Abuse
False incentives	Adverse incentives
Paralyzed individual responsibility	Bad behaviour
The 'too-big-to-fail' problem	Disincentives
Time inconsistency	Fraud
Wrong incentives	Irresponsibility
	Irresponsible behaviour
	Misguided incentives
	Undesirable incentives
	Weaken incentives
	Wrong incentives

Source: Authors.

Table 2. List of anti-concepts (antonymous), by case study

Eurozone crisis	Covid-19 crisis
Caution	Exogenous or external shock
Credibility	Individual responsibility
Individual responsibility	Internalized externalities
Liability	No one's fault
Ownership	Prudence
Responsible behaviour	
Right incentives	
Stability	
Strong incentives	
Trust	

[8] Minimum frequency: 2; top 45 words displayed. The size of a word represents its frequency.

Source: Authors.

Table 3. What it is, by case study

	Eurozone crisis	Covid-19 crisis	Total
A situation in which there are incentives for a reckless action or behaviour	7	7 (4) *	14
The fact of rewarding a reckless action or behaviour	0	8 (8)	8
A situation in which positive (potential) outcomes are privatized and negative (potential) outcomes are socialized	4	0	4
A situation in which there are incentives to take on debt	0	3 (1)	3
The fact of acting recklessly	2	0	2
A situation in which incentives for a responsible action are weaken	1	1	2
The risk of rewarding bad behaviour	0	2 (2)	2
The negative impact of easy money on behaviour	0	1 (1)	1
'Heads, I win; tails, you lose' strategies	0	1 (1)	1
The seduction caused by false incentive systems when risk and liability diverge	1	0	1
The expectation that others will bear the consequences of one's own action	1	0	1
To set the wrong incentives	1	0	1
To separate decision from liability, opportunity from risk	1	0	1
The fact of helping foreign actors at the expenses of local actors	0	1 (1)	1
When somebody takes your money and is not responsible for it	1	0	1
A situation in which public bailouts are not first directed to those who need help more	0	1 (1)	1
A situation in which one's liquidity risk is not fully internalized	0	1 (1)	1
SUM	19	26	45
N = Documents	61	82	143

Source: Authors. The numbers indicate the frequency of coded segments.
* The number in parentheses in the case of the Covid-19 crisis indicates the frequency of coded segments in newspaper articles. The difference between the two numbers is therefore indicative of the frequency of coded segments in Germany (Bundesbank and Federal Government).

Table 3.1 What actions or behaviours / what incentives, by case study

	Eurozone crisis	Covid-19 crisis	Total
(Not) sound fiscal policy	2	16 (4) *	18
Taking too much risks	1	7 (3)	8

(Not) reforming	8	0	8
Taking risks or more risks	2	4	6
Manage its own financial affairs	0	1	1
SUM	13	28	41
N = Documents	61	82	143

Source: Authors. The numbers indicate the frequency of coded segments.
* The number in parentheses in the case of the Covid-19 crisis indicates the frequency of coded segments in newspaper articles. The difference between the two numbers is therefore indicative of the frequency of coded segments in Germany (Bundesbank and Federal Government).

Table 3.2 Whose actions or incentives, by case study

	Eurozone crisis	**Covid-19 crisis**	**Total**
Financial market participants			
SIFIs	10	6	16
Banks	5	5 (2) *	10
Financial markets	2	1 (1)	3
Hedge fund industry	0	1 (1)	1
Financial institutions	1	0	1
High risk takers	0	1	1
Private investors	1	0	1
	19	14	33
Public authorities			
Governments	8	7	15
Countries	1	3 (2)	4
Member States	0	2	2
Policymakers	1	0	1
	10	12	22
Actors from the 'real economy'			
Compagnies	0	2 (2)	2
People	0	2 (2)	2
Owners	1	0	1
Insurance policyholder	1	0	1
Insolvent groups	0	1 (1)	1
	2	5	7
Actors			
Individuals or compagnies	0	1 (1)	1
Governments, firms, and households	1	0	1
Institutions	1	0	1
Criminals	0	1 (1)	1
	2	2	4
SUM	33	33	66
N = Documents	61	82	143

Source: Authors. The numbers indicate the frequency of coded segments.
* The number in parentheses in the case of the Covid-19 crisis indicates the frequency of coded segments in newspaper articles. The difference between the two numbers is therefore indicative of the frequency of coded segments in Germany (Bundesbank and Federal Government).

Table 4. What causes it, by case study

	Eurozone crisis	Covid-19 crisis	Total
Supportive measures in bad times			
Support mechanisms to private sector	0	6 (5) *	6
Bailouts and assistance programmes	1	4 (3)	5
(Un)employment aid	0	3 (3)	3
Solidarity	2	1 (1)	3
Debt relief	1	1 (1)	2
Unconditional support	0	2 (2)	2
Providing relief	0	1 (1)	1
Lasting support	1	0	1
	5	18	23
Central bank actions			
Non-standard measures	2	4 (1)	6
(Asymmetric) Accommodative monetary policy	4	2	6
Monetary financing	0	4	4
Federal Reserve	0	4 (4)	4
Lender of last resort	2	0	2
	8	14	22
Mutualization of debt	6	6 (6)	12
Assumption or expectation of public support	4	3 (1)	7
When action and liability are not aligned	6	1	7
Institutional causes			
The currency union	3	1	4
Asymmetric decision-making setup between different levels	0	1	1
Relying on policymakers to ensure fiscal discipline	1	0	1
Weak fiscal rules	0	1	1
	4	3	7
Ex ante approach (e.g., public guarantees and backstop; insurance scheme)	3	3 (2)	6
(Fiscal) transfers	4	1	5
Easy money	0	4 (4)	4
State intervention	1	1 (1)	2
A collective solution	0	1 (1)	1
Same treatment, regardless of effort	0	1 (1)	1
Naturalising the undocumented	0	1 (1)	1
Ill-designed remuneration schemes	1	0	1
IMF's General Special Drawing Rights (SDR) issuance	0	1 (1)	1
Own weak loss potential	1	0	1
The Structural Funds and the Cohesion Fund	1	0	1
Wrong risk assumption of housing loans	1	0	1
Common exposure to aggregate or macroeconomic risks	1	0	1
Insufficient risk and liquidity management	1	0	1
SUM	47	58	105

N = Documents	61	82	143

Source: Authors. The numbers indicate the frequency of coded segments.
* The number in parentheses in the case of the Covid-19 crisis indicates the frequency of coded segments in newspaper articles. The difference between the two numbers is therefore indicative of the frequency of coded segments in Germany (Bundesbank and Federal Government).

Table 5. What it does, by case study

	Eurozone crisis	**Covid-19 crisis**	**Total**
Instability	5	1	6
Weakens the disciplining effect of market forces	0	4	4
Makes solidarity ineffective	3	0	3
Financial or banking crisis	3	0	3
Increase vulnerabilities	0	2	2
Fiscal or financial dominance	1	1	2
Unfair distribution of costs	2	0	2
Unintended effects that worsen the situation	0	1	1
Moral and political problems	0	1 (1) *	1
Reduce credibility	1	0	1
Systemic threats	1	0	1
High leverage (excesses)	1	0	1
Failure	1	0	1
Recession	1	0	1
Debt union	1	0	1
Threaten public finances	1	0	1
Weaken efforts to reform	1	0	1
SUM	22	10	32
N = Documents	61	82	143

Source: Authors. The numbers indicate the frequency of coded segments.
* The number in parentheses in the case of the Covid-19 crisis indicates the frequency of coded segments in newspaper articles. The difference between the two numbers is therefore indicative of the frequency of coded segments in Germany (Bundesbank and Federal Government).

Table 6. How to deal with it, by case study

	Eurozone crisis	**Covid-19 crisis**	**Total**
(Prudential) Regulation	5	6	11
Resolution	7	3	10
(European) Solidarity and individual responsibility in balance	10	0	10
Supervision	4	5	9
(Strict) Conditionality	7	1 (1) *	8
Help conditional on individual responsibility	5	0	5
Fiscal rules	2	2 (1)	4
Limits on bonds' purchases	2	2	4
TBTF reforms	0	3	3

Discipline from financial markets	1	2	3
Strengthen the liability principle	0	3	3
Not permanent	2	1	3
Standards for compensation practices	0	3	3
No monetary financing	2	0	2
Reduction of legacy risks	2	0	2
Rights of intervention and control	2	0	2
Commercial insurance scheme	2	0	2
Macroprudential policy	1	1	2
Consistent monitoring	2	0	2
No bail-out	2	0	2
Sanctions	2	0	2
Ownership	2	0	2
Rebalancing actions and liability	1	1	2
Funds limited to joint investments for economic recovery	0	1 (1)	1
Standards, values, institutions	1	0	1
Lend only against adequate collateral	1	0	1
A specific governance system	0	1 (1)	1
Criteria for activation	1	0	1
Incentive systems	1	0	1
SUM	67	35	102
N = Documents	61	82	143

Source: Authors. The numbers indicate the frequency of coded segments.
* The number in parentheses in the case of the Covid-19 crisis indicates the frequency of coded segments in newspaper articles. The difference between the two numbers is therefore indicative of the frequency of coded segments in Germany (Bundesbank and Federal Government).

Figure 4. The word cloud of responsibility in the context of the Eurozone crisis, by frequency of words, and by language

Source: Authors.

Figure 5. The word cloud of responsibility in the context of the Covid-19 crisis, by frequency of words, and by language

Source: Authors.

Table 7. Types of responsibility, by case study

	Eurozone crisis	Covid-19 crisis	Total
Individual responsibility	48	2	50
Collective responsibility	9	3	12
Ecological responsibility	2	0	2
Fiscal responsibility	0	2	2
Primary responsibility	0	1	1
Security responsibility	0	1	1
Economic responsibility	0	1	1
Financial responsibility	0	1 (1) *	1
Special responsibility	0	1 (1)	1
Direct responsibility	0	1 (1)	1
Leadership responsibility	1	0	1
SUM	60	13	73
N = Documents	61	94	155

Source: Authors. The numbers indicate the frequency of coded segments.
* The number in parentheses in the case of the Covid-19 crisis indicates the frequency of coded segments in newspaper articles. The difference between the two numbers is therefore indicative of the frequency of coded segments in Germany (Bundesbank and Federal Government).

Table 8. Meanings of responsibility, by case study

	Eurozone crisis	Covid-19 crisis	Total
The fact of being in charge of / duty for	5	0	5
Europe	6	3 (2) *	9
Taking decisions	8	1	9
Economic and fiscal policies	6	2	8
Prudential policy	5	1	6
Economic growth / convergence / employment / competitiveness	5	0	5
Financial stability	2	3	5

Economic and fiscal surveillance	3	1	4
World (peace) / global order	2	2	4
Monetary policy	2	1	3
Price stability	0	2	2
The future / future generations	2	1	3
The euro	2	0	2
	48	17	65
To behave correctly	10	0	10
To make sound decisions	13	5 (3)	18
To do what was agreed / asked / follow the rules	4	2 (2)	6
Be honest / true	0	2	2
	27	11	38
The fact of being accountable			
To bear the consequences of one's actions	16	1	17
Not passing on liabilities / assume liability	11	3 (2)	14
Be allowed to fail financially	2	0	2
	29	4	33
The fact of being the cause of	1	0	1
A crisis	2	2 (2)	4
	3	2	5
SUM	107	34	141
N = Documents	61	94	155

Source: Authors. The numbers indicate the frequency of coded segments. Minimum frequency of coded segment:2.
* The number in parentheses in the case of the Covid-19 crisis indicates the frequency of coded segments in newspaper articles. The difference between the two numbers is therefore indicative of the frequency of coded segments in Germany (Bundesbank and Federal Government).

Corpus of press documents and newspaper articles

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