

# Did pandemic responses trigger corruption in public procurement? Comparing Italy and Germany

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## ABSTRACT



Public procurement is crucial for effective crisis responses, but is also prone to corruption. To ensure a swift provision of medical supplies in the COVID-19 pandemic, the public procurement regulations were dramatically relaxed. However, the implications for corruption require attention. This paper analyses how the regulatory responses to the crisis affected the risks and perceptions of corruption, by changing public-private interactions and the regulatory environment for public procurement. We compare the contrasting cases of Italy and Germany and triangulate legal analyses, secondary contract and survey data, and an online survey of public administrations ( $N = 445$ ) and businesses ( $N = 175$ ). Unexpectedly, in both countries, objective risks of corruption increased similarly. Sector-specific corruption perceptions stem from a low competitiveness of procedures, rule ambiguity, and a politicised bureaucracy. To avoid wasting resources and losing trust, regulatory responses to the crisis should include clear rules that safeguard competitive public procurement procedures and preserve bureaucratic independence.

**KEYWORDS** Public sector corruption; public procurement; COVID-19; crisis management; politicisation

## Introduction

This paper analyses how the regulatory responses to the COVID-19 crisis affected risks and perceptions of corruption in public procurement. In crises, governments are expected to protect the security and survival of society. Public procurement—the purchase of goods, services and works by governments and state-owned enterprises—is a crucial tool to respond to crises with a swift provision of essential goods, equipment, infrastructure,

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and expertise (Baranek & Titl, 2021). As public procurement accounts for a substantial portion of taxpayer money, governments must comply with high standards of efficiency and conduct (Bauhr et al., 2020). At the same time, direct economic interactions between public and private actors are prone to corruption (Charron et al., 2017; Dávid-Barrett & Fazekas, 2020). Moreover, crises create an environment of resource availability, disorder, and confusion that is conducive to corruption (Gugiu & Gugiu, 2016; Nikolova & Marinov, 2017; Schultz & Søreide, 2008). Corruption, in turn, implies a waste of public resources that are needed to ensure effective crisis responses and public safety (Abdou et al., 2022; Dikmen & Çiçek, 2022; Sanz et al., 2022). Therefore, corruption in public procurement during a crisis is an important problem that deserves close scrutiny.

Fast-developing public health emergencies like the COVID-19 pandemic can create a sudden, extraordinary demand for short-in-supply medical supplies and services (Seabrooke & Tsingou, 2019). In April 2020, the European Commission (EC) recommended facilitating procurement efforts for a coordinated European pandemic response. Relaxing requirements for competitive tendering, the EC provided 'options and room for manoeuvre' allowing the use of accelerated forms of open and restricted procedure, negotiated procedures without prior publication, and alternative solutions for engaging with the market, such as the direct award to a pre-selected economic operator. Many European countries reacted quickly to the crisis and to the EC's communication to remove unnecessary burdens and allow discretion on the procurement of supplies, services, and work.

While necessary and largely without alternatives, these simplifications, designed to ensure efficiency, drastically lowered core international public procurement standards: transparency, equal competitive access, equal treatment of businesses, best value for money, and efficiency (Bauhr et al., 2020). Worldwide, the procurement for pharmaceuticals and medical devices became vulnerable to corruption, as several 'face mask scandals' illustrate (Teremetsky et al., 2021). Corruption in public procurement happens when insiders manipulate parts of the awarding procedure in order to steer the contract to the preferred bidder without detection, while receiving some sort of favour in exchange for it.

However, the link between regulatory crisis management and corruption in public procurement is rarely analysed systematically and across diverse contexts, considering effects on rules, behaviour, and perceptions. This is a significant research gap because crises exacerbate the inherent trade-off between discretionary administrative problem-solving and corruption (Bandiera et al., 2021; Eckhard et al., 2021; Folliot Lallion & Yukins, 2020; Schultz & Søreide, 2008). If attempts to manage the crisis through flexible public procurement foster corruption, then resources are lost, potentially undermining an effective crisis response (Davidovitz et al., 2021; Duit, 2016). It is estimated

that ‘worldwide, 500 billion dollars of 7.5 trillion dollars spent on health is lost due to corruption each year’ (Transparency International, 2021). However, we do not know how exactly well-intentioned regulatory responses to the crisis may contribute to corruption in public procurement and exacerbate these problems (Dunlop & Radaelli, 2019). Our study analyses changes in the European Union (EU) regulatory system on public procurement during the Covid-19 crisis and the unintended consequences of its ‘differentiated implementation’ in member states (Pircher, 2022; Zhelyazkova et al., 2023), together with those of independent domestic-level legal changes.

This paper analyses how public procurement rules and procedures affect risks and perceived levels of corruption in public procurement, considering the case of the COVID-19 pandemic, and both health and non-health sectors. We assess the robustness of these effects in the two contrasting cases of Italy, a ‘likely case’ for corruption, and Germany, traditionally less corrupt. Drawing on the extant corruption literature, we model the effects of the regulatory responses to the crisis via changes in public-private procurement interactions and regulatory environment. Our analysis combines changes in legal rules and procedures with secondary sources on changes in corruption risks, interactions and regulatory environments over time. We study implications for perceived levels of corruption through an online survey among bureaucrats and businesses involved in public procurement conducted in mid – 2022.

Next, we theorise how the regulatory responses to the crisis may have affected perceived corruption levels during the pandemic. We then discuss how we combine legal, administrative and survey data and methods to obtain a robust assessment. We subsequently present our results regarding the hypothesised changes and their effects. In conclusion, we discuss how such adverse effects from crises can be avoided.

## **Crisis, public procurement, and corruption**

The COVID-19 pandemic challenged the capacity of European public health systems in unprecedented ways. Crises like this require governments to make difficult decisions to ensure prevention, preparedness, response, and reconstruction. Public procurement played a significant role in governments’ responses to the pandemic (Folliot Lallion & Yukins, 2020; Hoekman et al., 2021), when face masks, anti disinfectants, testing centres, protective gear and respirators had to be made swiftly available.

In this challenging context, the Commission issued a guidance in April 2020 clarifying the options available in the EU for the purchase of the supplies, services, and works to enable fast procurement without procedural constraints (Arrowsmith, 2021; Pircher, 2022). Under extreme and unforeseeable urgency, the contracting authorities could legitimately deviate from the

usual advertising and competitive tendering requirements. The new guidance allowed direct contracting for the first time and facilitated derogations (Pircher, 2022). Accordingly, many governments introduced derogations—partly prior to the EC’s communication. Both Italy and Germany increased the thresholds for direct awards and lowered the minimum number of participants required by competitive procedures, with a general favour for flexibility and less open and transparent procedures (Bandiera et al., 2021) (see online appendix). This loosening of requirements significantly lowered the international standards for transparency and integrity of public procurement processes (Bauhr et al., 2020; World Bank, 2021). Specifically, ‘the acceleration of procurement procedures and the introduction of new practices led to a sharp increase in the number of contracts awarded on the basis of only a single bidder or via direct contracting without any calls for bids’ (Pircher, 2022, p. 139). What were the potential unintended effects of these lowered procurement standards on corruption?

### ***(How) did the regulatory crisis response affect corruption?***

Following Mikkelsen (2013), corruption is the misuse of public office for the purpose of private—individual or collective—material gain. Public procurement during emergencies is particularly prone to corruption (Schultz & Søreide, 2008). Evidence is mounting that corruption in healthcare increased with the pandemic (Teremetsky et al., 2021)— especially in public procurement. First, corruption tends to thrive in times of crisis (Gugiu & Gugiu, 2016; Nikolova & Marinov, 2017; Sanz et al., 2022). Second, public-private interactions in procurement offer heightened opportunities for corruption (Bauhr et al., 2020; Charron et al., 2017; Dávid-Barrett & Fazekas, 2020; Fazekas & Kocsis, 2020). Third, the health sector is especially vulnerable to corruption: in the EU, 28 per cent of health-related corruption cases are related to procurement of medical equipment (Dikmen & Çiçek, 2022; Vian, 2007).

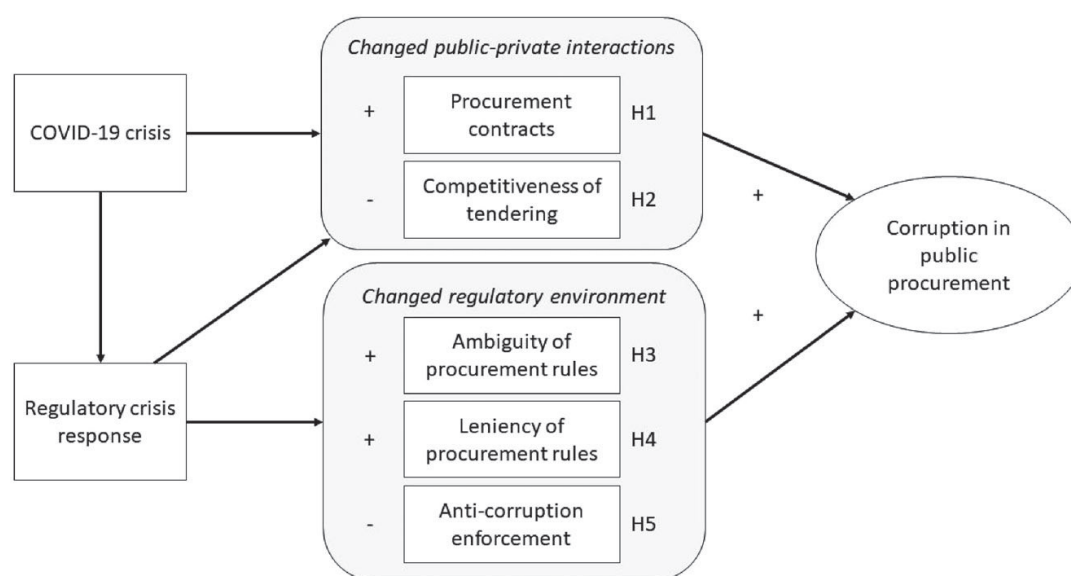
Corruption in public procurement can occur when insiders manipulate different parts of the awarding procedure to their own material advantage. According to Fazekas and Kocsis (2020, pp. 155–156),

The aim of corruption [in public procurement] is to steer the contract to the favoured bidder without detection. This is done in a number of ways, including avoiding competition through, for example, unjustified sole sourcing or direct contracting awards; or favouring a certain bidder by tailoring specifications, sharing inside information, etc.

For example, tenders may be narrowly or ambiguously specified so that only one company would meet the conditions (Goldman et al., 2013), or advertised only for a short time so that only companies with advance knowledge can submit a bid.

By lowering the usual integrity standards and increasing discretion in public procurement processes (Bandiera et al., 2021), the regulatory responses to the crisis at EU and country level have arguably increased *corruption risks*. The term ‘corruption risks’ captures granted leeway and ambiguity in legal rules, procedures, institutional arrangements, and contracts that are commonly associated with corruption (Fazekas & Kocsis, 2020), such as the lack of ex-ante transparency standards (Bauhr et al., 2020). Corruption risks constitute opportunities rather than actual corrupt behaviours. These opportunities have demonstrably been exploited by some businesses, bureaucrats, and politicians involved in public procurement processes (Bandiera et al., 2021). We thus expect that the regulatory responses to the crisis have increased risks of corruption. We advance the literature by studying both corruption risks in rules, behaviour, and perceptions of sector-specific actors, rather than just the general population (Bello y Villarino, 2021; Chabova, 2017; Fazekas & Kocsis, 2020), and by comparing two contrasting cases.

A regulatory change can only be one among many triggers of corruption (De Graaf, 2007; Dunlop & Radaelli, 2019; Treisman, 2000). We depart from the theoretical assumption that there is a small share of ‘bad apples’ in the public sector with a predisposition for engaging in corruption (De Graaf, 2007). These choices are affected by the surrounding structure of rules and institutions (Collier, 2002). Thus, we analyse the situational, sector-specific interactions and regulatory changes that characterised the context of the pandemic (see Figure 1). We model the effects of the regulatory response on perceived corruption as resulting from a changed frequency and competitiveness of public-private procurement interactions, on the one hand, and a



**Figure 1.** Theoretical expectations.

changed regulatory environment, seen in terms of rule ambiguity, stringency, and enforcement (Dunlop & Radaelli, 2019), on the other. These five variables created both *opportunities* and *incentives* for engaging in corruption.

While both the crisis and the regulatory responses have affected interactions and regulations, it is not fully possible to disentangle their individual effects (Pircher, 2022). Our analysis controls for other factors, based on extant literature.

### ***Changed public-private interactions***

Public-private procurement interactions may have changed as the frequency of procurement contracts in the public health sector increased, and the competitiveness of procedures has decreased (Fazekas et al., 2021).

The COVID-19 crisis, in conjunction with the regulatory response, has affected the frequency of public-private interactions in public procurement. Heightened demand for medical equipment and facilities coupled with looser procedures (Folliot Lallion & Yukins, 2020), we expect a rise in the *number of procurement contracts* that are issued particularly in the public health sector (see Figure 1). The EC communication allowed reliance on established national emergency contracting rules that envisage flexible options for rapid response thanks to the direct interaction with potential contractors. Mathematically, by creating more public-private interactions, a higher number of procurement contracts increases the opportunities for corruption. This increase in contracts did not necessarily go along with higher chances for individual businesses to get a contract, because traditional standards ensuring fair competition were simultaneously lowered (e.g., direct award, negotiated procedures without prior publication) (Folliot Lallion & Yukins, 2020). The related acceleration of procurement procedures further led to bids only being advertised for short periods. Therefore, individual businesses had an incentive to bribe to get considered for one of those many contracts.

H1: During the COVID-19 crisis, a higher number of procurement contracts is associated with higher levels of corruption.

A higher number of procurement procedures could have increased competition in the procurement sector. The risk of being detected is higher in a large, competitive market than in a monopoly market (Goel & Nelson, 1998). However, especially early in the pandemic, a higher demand for procurement contracts did not come with a corresponding rise in potentially eligible bidders. With the increased use of single-bid contracts, the procedures may have become less competitive, relying instead on direct awards and restricted or negotiated procedures without prior publication (Pircher, 2022), for instance. The relaxed rules made it easier to intentionally restrict the competitiveness of procurement procedures, as they reduced the minimum number of participants required, shortened the terms for

submitting bids and requests to participate, and were allowed to introduce subjective and hard-to-quantify evaluation criteria. Lower competition creates incentives to bribe to be considered as a bidder. Moreover, higher levels of competition make it harder to hide corrupt payments, because competitors might uncover the corrupt activities. Thus, a decreased *competitiveness of the tendering procedures* would render corruption more likely (see Figure 1) (Treisman, 2000).

H2: During the COVID-19 crisis, lower competitiveness of public procurement procedures is associated with higher levels of corruption.

### ***Changed regulatory environment***

The regulatory environment regarding the clarity and stringency of procurement regulations and the enforcement of anti-corruption measures may have changed (Bauhr et al., 2020; Dávid-Barrett & Fazekas, 2020; Meyer-Sahling & Mikkelsen, 2020).

Corruption is generally facilitated by confusing, complex, and contradictory rules that increase the information asymmetry between citizens and bureaucrats and help institutions avoid accountability (Dunlop & Radaelli, 2019). Crisis responses were meant to simplify procurement rules and procedures for the procurement authorities but may also have generated ambiguity and confusion. For instance, Italy adopted six different pieces of legislation on public procurement regulation from March 2020 to July 2021. The regulatory changes may not have been well communicated or widely known by those being regulated. Moreover, flexibility for the administration may mean less transparency for bidders about how rules are handled. Lower levels of transparency increase information asymmetries, by making rules more ambiguous to their targets (Bauhr et al., 2020). This lack of clarity creates opportunities and incentives to hide or justify illicit activities. We thus expect an increased *ambiguity of procurement rules* in the wake of the crisis, which created an environment conducive to corruption (see Figure 1).

H3: During the COVID-19 crisis, greater ambiguity around the rules for public procurement is associated with higher levels of corruption.

The lowering of procedural standards at national, regional, and local levels has produced more lenient procurement rules that increased bureaucratic discretion (Bandiera et al., 2021; World Bank, 2021). Deregulation and bureaucratic discretion—while necessary to secure a swift crisis response—can facilitate corruption (Dunlop & Radaelli, 2019). We thus expect this *leniency of procurement rules* to present an opportunity for corruption. By making corrupt transactions easier than they would be normally, this relaxation of rules may have incentivized corruption (see Figure 1). For instance, the emergency regulation stated that the causal link between the unforeseen event

and the extreme urgency 'cannot reasonably be doubted' to satisfy the immediate needs of health institutions. In direct awards – where contracts are awarded to a preselected operator without competition – the contracting authority does not have to prove the existence of extreme urgency to justify its discretionary decision.

H4: During the COVID-19 crisis, greater leniency of the rules for public procurement is associated with higher levels of corruption.

Effective law enforcement can reduce the risk that individuals will engage in corrupt behaviour. Organisations can implement mechanisms to prevent and combat corrupt behaviours, entailing guidelines for appropriate behaviour, transparency, accountability, and internal and external control mechanisms, reducing corruption risks (Bauhr et al., 2020). Anti-corruption measures can, however, backfire (Dunlop & Radaelli, 2019) and lead to displacement rather than lower corruption levels unless the root causes are targeted (Dávid-Barrett & Fazekas, 2020). The lowering of procurement standards, increased flexibility, and prioritising getting things done may have effectively reduced the available enforcement toolset—for example, written justification for the use of direct negotiations, or anti-mafia checks that were simplified by the Italian emergency legislation (Schultz & Søreide, 2008—and with it, the likelihood of individuals engaging in corrupt behaviour being detected, reported, and/or punished (see Figure 1).

H5: During the COVID-19 crisis, a lower likelihood of anti-corruption enforcement is associated with higher levels of corruption.

## Data and methods

We test these hypotheses empirically using a multi-methods research design, comparing the two contrasting countries of Italy and Germany and public with private actors. Italy has high perceived *general corruption levels* and low *public procurement performance*, which makes it a 'most likely case' for corruption in public procurement during the pandemic. This outcome is less likely in Germany, which is traditionally seen as having low levels of corruption (Georgieva, 2017; Tänzler et al., 2008), with intermediate performance in the public procurement sector. Comparing 'most different systems' (see Table A1 in the online appendix) helps us assess the robustness of our expectations.

### *Methods of data collection and analysis*

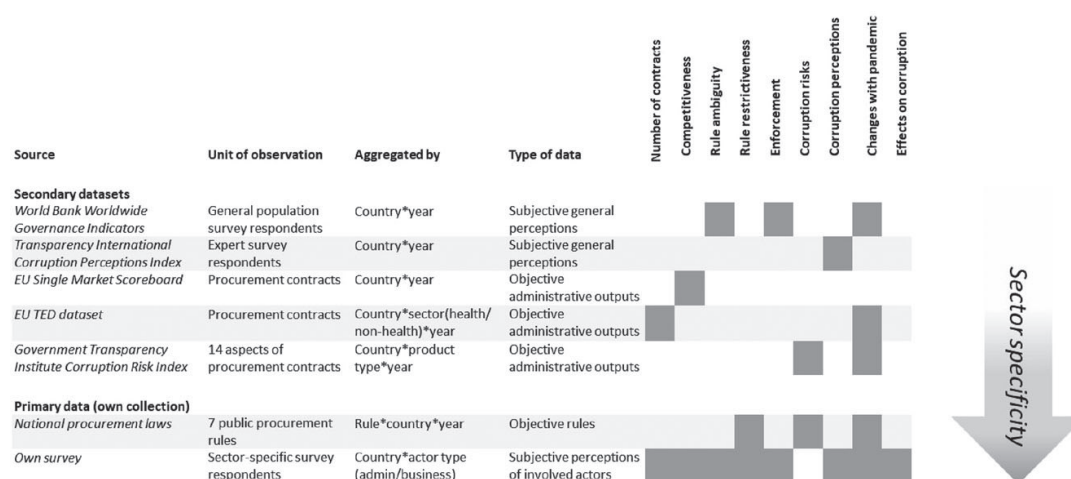
Corruption levels are difficult to detect because corruption is a sensitive and typically hidden behaviour (Blair et al., 2020; Chabova, 2017; Tourangeau & Yan, 2007). To obtain a robust picture of risks, perceptions, and triggers of

corruption, we triangulate legal, contract, and survey data from a variety of secondary sources and from our own primary data collection, as Figure 2 summarises. We use both secondary and primary sources to assess the first part of our hypotheses—whether changes occurred due to the pandemic—and test the second part of our hypotheses—how these variables affected perceived corruption—using our own survey data.

### *Analysing corruption risks and changes during the pandemic*

We first seek to identify whether the regulatory responses to the crisis changed the rule restrictiveness and led to an increased *risk of corruption*. To analyse restrictiveness and corruption risks, we first engage in a qualitative content analysis of the rules and procedures at national, regional, and local level in both countries, focusing on elements indicating an increased risk of corruption (Fazekas & Kocsis, 2020). We coded a) how these elements were regulated before the pandemic, b) whether there has been a change in these elements after the EC communication, and c) whether such changes indicate a changed risk of corruption (for details: Table A3, online appendix). Moving from rules to administrative outputs, we corroborated our legal analysis using contract data from the Government Transparency Institute to identify if specific contract types indicate a heightened risk of corruption.<sup>1</sup> We rely on the corruption risk index (CRI) that aggregates based on 14 risk indicators during the contract submission, assessment, and delivery phase developed by Fazekas et al. (2016), using descriptive statistics of CRI levels over time for different product categories.

We triangulate different secondary sources to obtain a robust picture of the hypothesised changes in our independent variables (Figure 2 and Table A2, online appendix), which we compare with the responses to follow-up questions in our own survey on whether the phenomenon changed as a consequence of the COVID-19 pandemic since April 2020.



**Figure 2.** Data sources, analytic features and purposes.

### ***Analysing corruption perceptions***

We then assess whether corruption risks translated into corruption perceptions. Absent available evidence on *actual* corruption, we measure corruption through *the perceptions* of both bureaucrats and employees of private businesses who engage in public procurement processes either as buyers or bidders (Mikkelsen, 2013). Public procurement is technical, and citizens are unlikely to know about corruption practices. Businesses and public administrations have a better understanding of the practices in public procurement during the crisis. Nevertheless, perception data has well-known weaknesses, as perceived behaviour may differ from actual behaviour (Chabova, 2017; Vian, 2007). Surveys on sensitive behaviours are prone to selection and social desirability bias (SDB) (Blair et al., 2020; Tourangeau & Yan, 2007). To remedy these problems, we employ techniques to address SDB (see below), triangulate legal, contract and survey data to assess changes in corruption levels, and we juxtapose the perspectives of public and private actors involved in procurement interactions. This triangulation allows us to obtain a reasonably robust assessment of corruption (Chabova, 2017; Vian, 2007).

We performed an online survey of bureaucrats and employees of enterprises involved in public tenders that ran for eight weeks in May and June 2022. Reminders were sent after two and four weeks. For the bureaucrats' survey, the unit of analysis is public organisations engaged in public procurement procedures at the federal, regional, and local level. Organisations were contacted directly via e-mail (N in Italy = 7939; N in Germany = 542). We received 321 responses in Italy (response rate 4.04 per cent) and 124 in Germany (response rate 22.9 per cent). For the business survey, we first contacted individuals working in businesses that were engaged in public tender competitions since April 2020 indirectly. However, since none of the 240 Italian business head associations responded, we contacted businesses directly via e-mail (5456 companies contacted and 61 responses received; response rate 1.1 per cent). In Germany, we contacted the head association of chambers of commerce and handicrafts (representing ca. 3.6 respectively 1 million businesses; 114 responses received), who forwarded our request to participate in the online survey to their regional and district-level members. We cannot identify the exact response rate for the German business sample. Despite the low response rates and differences between samples, we have no indications of systematic sampling bias in our surveys (see Table A6, online appendix).

### **Survey measurement and operationalisation**

Respondents, who may want to conceal unethical and sensitive behaviours, are unlikely to admit corruption and also normalise it for themselves (Blair

et al., 2020). To address SDB, we provided only general information about the project without mentioning corruption. We applied question techniques specifically designed to minimise SDB (Tourangeau & Yan, 2007). Rather than direct questions, we asked neutral, indirect questions about referents instead of respondents and avoided the use of sensitive terms (Meyer-Sahling & Mikkelsen, 2020) (Table 1).

Following established literature (Meyer Sahling et al., 2018) we asked about the prevalence of seven concrete examples of corrupt behaviours—see Table 2. We complemented the usual corruption risks (Fazekas & Kocsis, 2020) with further behaviours that an expert from Transparency International indicated to us as being relevant. To minimise the impact of missing data, the seven items were aggregated into an index representing the mean value. Based on this measurement, we tested our hypotheses using ordinary least squares linear regression.

Table 2 summarises how our five independent variables are operationalised.

**Control variables.** Our analysis controls for five factors. First, we account for the frequency of interactions between public and private actors. Second, we consider the levels of *politicization of the bureaucracy*. Public procurement procedures can be manipulated when politicians are able to exercise political influence over bureaucrats that they appoint, as part of socially complex patterns of loyalty and reciprocal obligations. Political appointments, as opposed to appointments based on professional merit, increase the risk of corruption (Bauhr et al., 2020; Charron et al., 2017). Third, we account for different measures in place to prevent corruption (Dávid-Barrett & Fazekas, 2020; Meyer-Sahling & Mikkelsen, 2020). Finally, we control for sector and actor type.

## Results

We start our presentation of results by discussing whether the crisis and regulatory responses instigated a higher risk of corruption.

**Table 1.** Measures of perceived corruption.

| On a scale from 1 (disagree) to 5 (agree), how far are you in agreement with the following statements?<br>'Since April 2020 there have been rumours of one of the following behaviours in my organization/sector'. |   |
|--|---|
| <i>Misuse of office</i>  | Informal advantages are created for preferred bidders to prepare bids<br>Assessment procedures are discretionary / subjective and not subject to accountability   |
| <i>Misuse of office for potential gain</i>   | Competition in bidding procedures is deliberately limited for potential gain<br>Decisions are taken based on assessment of potential gain<br>People involved in the procurement procedure exchange sensitive information for potential gain |
| <i>Violations of law</i>   | Contracts are awarded above market prices to extract rents<br>Legal challenges or violations of law in procurement procedures   |

**Table 2.** Summary of independent and control variables.

| Variable/ hypothesis               | Operationalisation  | Aggregation               |
|------------------------------------|---|---------------------------|
| <b>Public-private interactions</b> |   |                           |
| Number of contracts (H1)*          | In approximately how many public procurement procedures does your organization/company engage per year, on average?<br>1 = none<br>2 = 1–5<br>3 = 6–10<br>4 = 11–15<br>5 = 16–20<br>6 = 21–25<br>7 = 26–30<br>8 = more than 30  | –                         |
| Competitiveness PA (H2)            | In a typical contracting procedure, how many applicants do you have?<br>1 = 1<br>2 = 2–5<br>3 = 6–10<br>4 = More than 10  | –                         |
| Competitiveness business (H2)*     | On a scale from 'disagree' to 'agree', how far are you in agreement with the following statement?<br><i>'There is equal access to public procurement for all qualified firms.'</i><br>5-point Likert scale from disagree to agree   | –                         |
| <b>Regulatory environment</b>      |   |                           |
| Ambiguity (H3)*                    | On a scale from 'clear' to 'ambiguous', please evaluate the clarity or ambiguity of the rules for public procurement in your area of activity since the outbreak of the COVID-19 pandemic in April 2020<br>4-point Likert scale from clear to ambiguous   | –                         |
| Stringency (H4)*                   | On a scale from 'lax' to 'strict', please evaluate the lenience or stringency of the rules for public procurement in your area of activity since the outbreak of the COVID-19 pandemic in April 2020<br>4-point Likert scale from lax to strict   | –                         |
| Anti-corruption enforcement (H5)*  | On a scale from 'disagree' to 'agree', how far are you in agreement with the following statements?<br><i>'If an individual in my organization/company breaks the rules for public procurement, they are very likely to get caught.'</i><br><i>'If an individual in my organization/company breaks the rules for public procurement, they are very likely to be reported.'</i><br><i>'If an individual in my organization/company breaks the rules for public procurement, they are very likely to get punished.'</i><br>5-point Likert scale from disagree to agree | Average score for 3 items |
| <b>Control variables</b>           |   |                           |
| Interaction                        | How much of the working time in your organization/company is approximately spent interacting with stakeholders for procurement-related activities, for example with potential contractors or interest groups / with bureaucrats?<br>1 = Below 10% of our working time<br>2 = Between 11–30% of our working time   | –                         |

(Continued)

**Table 2.** Continued.

| Variable/ hypothesis           | Operationalisation   | Aggregation               |
|--------------------------------|--|---------------------------|
| Politicisation                 | 3 = between 31–50% of our working time<br>4 = More than half of our working time<br>On a scale from 'disagree' to 'agree', how far are you in agreement with the following statements?<br><i>'In my region, politicians have influence over the appointment of bureaucrats.'</i><br><i>'In my region, politicians have influence over public procurement processes.'</i><br><i>'In my region, politicians and bureaucrats tend to help each other out.'</i><br><i>'In my organization, some bureaucrats get their appointments because they are supported by politicians or because they have friends or family in positions of influence.'</i>                                    | Average score for 4 items |
| Prevention                     | 5-point Likert scale from disagree to agree<br>Are the following mechanisms practiced in your organization/company?<br><br>a) Requirement that at least two individuals approve a decision before it can be taken<br>b) Anti-corruption plans/risk maps<br>c) Codes of conduct/ethical charter<br>d) Declaration of conflict of interests<br>e) Third-party due diligence<br>f) Internal control function for ensuring that management actions comply with the laws and regulations in force<br>g) Internal audit department covering public procurement or other high-risk processes<br>h) External auditor<br>i) Whistleblowing systems<br><br>1 = Yes<br>0.5 = Partly<br>0 = No | Added score from 0–9      |
| Health vs other sector (dummy) | Sector(s) in which the organization / business engages in public procurement   | –                         |
| Type of actor                  | Country*business/administration (reference category German business)   |                           |

\*A follow-up question asked whether the occurrence of the phenomenon changed as a consequence of the COVID-19 pandemic since April 2020 (decreased, no significant change, or increased) (results reported in table A2).

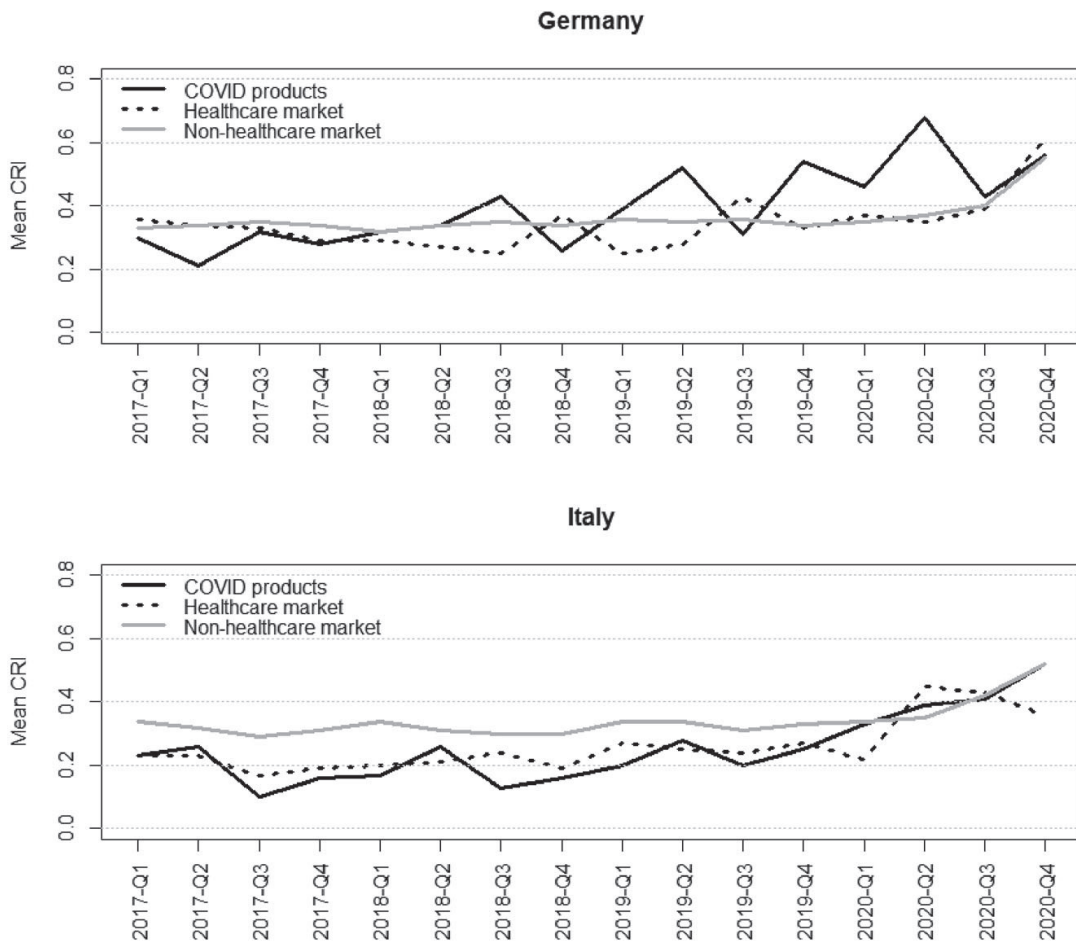
### ***Changes in corruption risks and perceptions***

As Table 3 reveals, how Italy and Germany implemented the EC's crisis response into significantly less restrictive domestic procurement rules indeed increased some corruption risks. We report the detailed legal analysis in Table A3 of the online appendix. In Germany, corruption risks increased due to lower thresholds for the minimum number of participants in the bidding process, the use of less open and transparent procedures, and a shorter advertisement procedure. We see similar developments in Italy, which also allowed the call for tenders not to be published. On balance,

corruption risks increased similarly in both countries, with a higher corruption risk in Italy than in Germany. How did these increased corruption risks play out in practice?

As Figure 3 illustrates, legal opportunities also increased the risk of corruption in actual procurement contracts in both countries. We see a first increase prior to the crisis in 2019, reflecting the effects of EU legislation introduced in 2014 that shortened the advertisement periods and led to an increase in single-bid procedures (Pircher, 2022). In both countries, we then observe another notable increase in corruption risks in early 2020, at the onset of the pandemic. For a brief period, this risk was considerably higher in Germany than in Italy in COVID-related products. By the end of 2020, the risk remained slightly higher in Germany. In summary, the outbreak of the pandemic was associated with a clear increase in corruption risks in both countries. But did this increased corruption risk also result in increased perceived corruption, and why?

We now turn to corruption perceptions. Table A4 in the online appendix describes our survey variables and samples. Our samples are reasonably



**Figure 3.** Corruption risks in Germany and Italy (contract data), 2017–2020.

Source: Corruption Risk Index, Government Transparency Institute.

**Table 3.** Changes in corruption risks and rule restrictiveness in Germany and Italy.

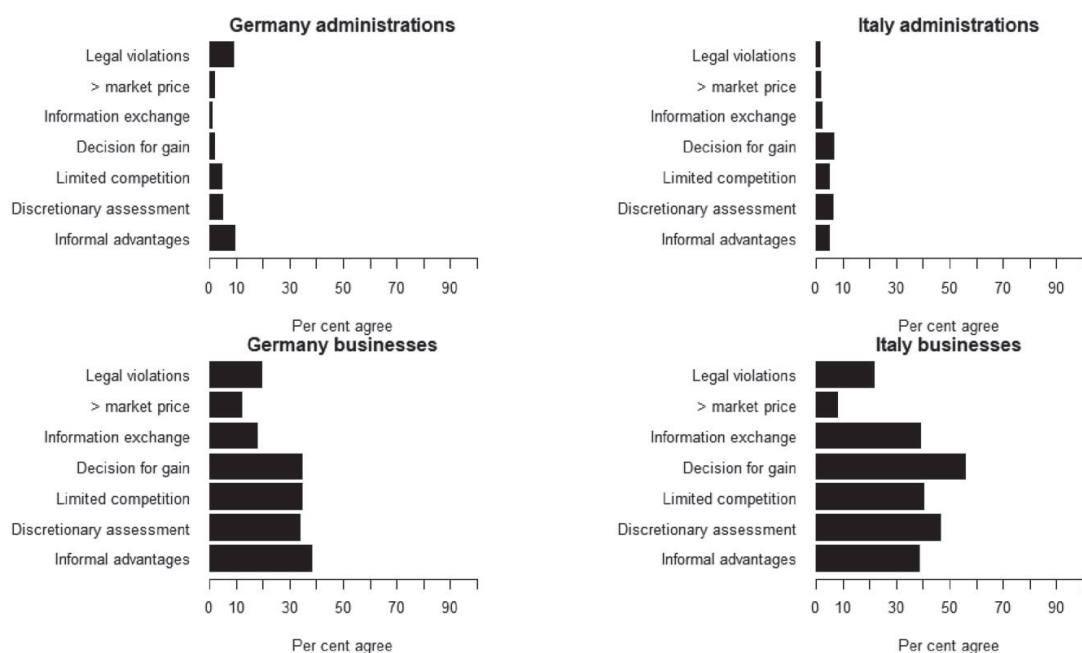
| Corruption risk   | Germany        |              |                |                      | Italy          |              |                |                      |
|---|----------------|--------------|----------------|----------------------|----------------|--------------|----------------|----------------------|
|   | Pre-COVID risk | Post-EC risk | Change in risk | Rule restrictiveness | Pre-COVID risk | Post-EC risk | Change in risk | Rule restrictiveness |
| <i>Single-bidder contract</i>                             | High           | High         | None           | Unchanged            | High           | High         | None           | Unchanged            |
| <i>Minimum number of participants</i>                     | Low            | Intermediate | Increased      | Decreased            | Intermediate   | High         | Increased      | Decreased            |
| <i>No publishing of call for tenders</i>                  | Intermediate   | Intermediate | None           | Unchanged            | Intermediate   | High         | Increased      | Decreased            |
| <i>Use of less open &amp; transparent procedure types</i> | Intermediate   | High         | Increased      | Decreased            | Intermediate   | High         | Increased      | Decreased            |
| <i>Too-short advertisement period</i>                     | Low            | Intermediate | Increased      | Decreased            | Low            | Intermediate | Increased      | Decreased            |
| <i>Subjective, hard-to-quantify evaluation criteria</i>   | Intermediate   | Intermediate | None           | Unchanged            | Intermediate   | Intermediate | None           | Unchanged            |
| <i>Abnormal decision time for submitted bids</i>          | Intermediate   | Intermediate | None           | Unchanged            | High           | Intermediate | Reduced        | Increased            |

Based on Tables A3 and A5, online appendix.

balanced regarding gender (with the exception of the German business survey) but include more responses from local than from regional administrations. Moreover, in both countries the 'richer' regions (German West and Italian North) are overrepresented. This might potentially limit the explanatory power of particular variables. Systematic differences between administrative and business responses suggest limited measurement equivalence between the two samples, possibly due to SDB and the nature of insights that these actors have. Therefore, we estimate separate regression models for administrations and businesses.

**Perceived corruption levels.** We expected increased perceived corruption levels in public procurement due to increased corruption risks, which should be higher in Italy than in Germany. [Figure 4](#) reports overall levels of perceived corruption since the outbreak of the pandemic in April 2020. Perceptions of corruption are non-trivial, ranging from 0.9 to 56 per cent, and differ systematically between public and private actors. Business respondents are more likely than public administration respondents to perceive corruption in public procurement ([Figure A1](#), online appendix). These results could reflect SDB in the administration survey, and a tendency towards 'bureaucrat bashing' among businesses ([Szydłowski et al., 2022](#)). Reflecting the fact that corruption is a relatively rare phenomenon, only a minority of the respondents attribute an increase in perceived corruption directly to the pandemic—again, businesses more than public administrations (14.4 per cent increase in German businesses and 16.6 per cent in Italian businesses) ([Table A4](#), online appendix). This finding suggests that corruption perceptions are relatively robust to events and their medialization, possibly due to a time lag effect. It aligns with the results of Transparency International's CPI, which does not record drastic changes in corruption perceptions over time (also not between 2020 and 2022) ([Figure A2](#), online appendix).

Strikingly, we do not find systematic differences in perceived corruption between the two countries: perceived corruption in public procurement in the wake of the pandemic is no less of a problem in Germany than in Italy ([Georgieva, 2017](#); [Tänzler et al., 2008](#)). This finding contradicts both conventional wisdom and some frequently used general corruption statistics ([Figure A2](#), online appendix). However, it very much aligns with the identified increases in corruption risks (cf. [Figure 3](#) and [table A3](#)). Italy's improvement in the general corruption rankings over the past years and its many efforts in reducing corruption may have led to a less severe impact of the pandemic here than elsewhere ([Severino, 2016](#)). Overall, this suggests that corruption can be a sector- or policy-specific phenomenon: general corruption levels in a country like Germany can be low but still higher in a specific area such as public procurement.



**Figure 4.** Perceived corruption levels since April 2020.

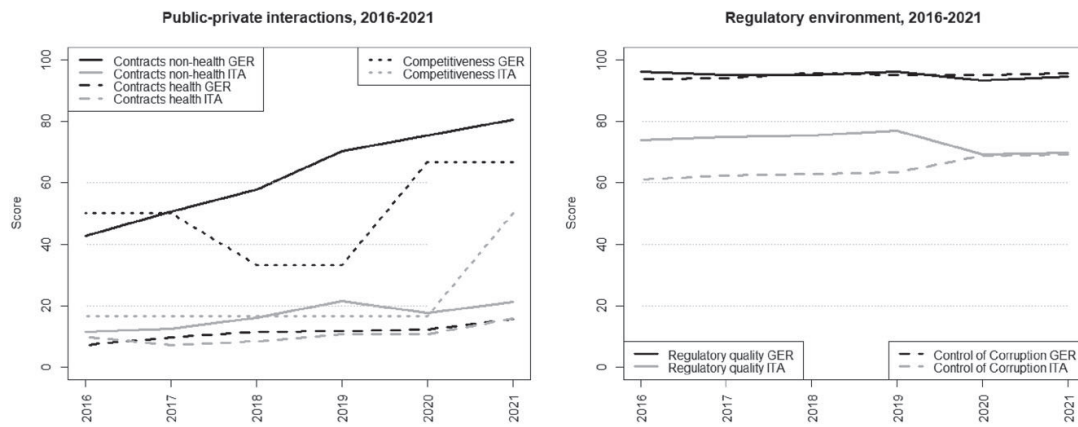
Note: Results reported in per cent of respondents who rather agree or agree with the respective statements.

### ***Changes in public-private interactions and the regulatory environment***

We now turn to the hypothesised changes in public-private interactions and the regulatory environment.

Figure 5 reports the developments between 2016 and 2021 based on general indicators taken from secondary sources, which generally do not suggest a drastic impact of the pandemic on these variables. The exception is the number of contracts, which increased both in Germany and to a lesser extent in Italy's health sector. Contrary to our expectation, according to the EU's single market scoreboard, the competitiveness of public procurement has increased noticeably in Germany and Italy, where it is lower. The regulatory environment appears stable in Germany, while regulatory quality decreased but control of corruption increased in Italy. We now discuss how our own data reflects these developments.

Concerning public-private interactions, respondents in Germany are involved in significantly more *procurement procedures per year* than in Italy, and public administration respondents report being involved in more contracts than businesses (see Figure 6). Public administration respondents report no changes or an increase in the number of contracts because of the pandemic, whereas business respondents tend to report a decrease (Table A4, online appendix). As we expected, respondents from the health sector tend to be engaged in more contracts. In line with the contract data reported in Figure 5, 44.6 per cent of the respondents in the health sector



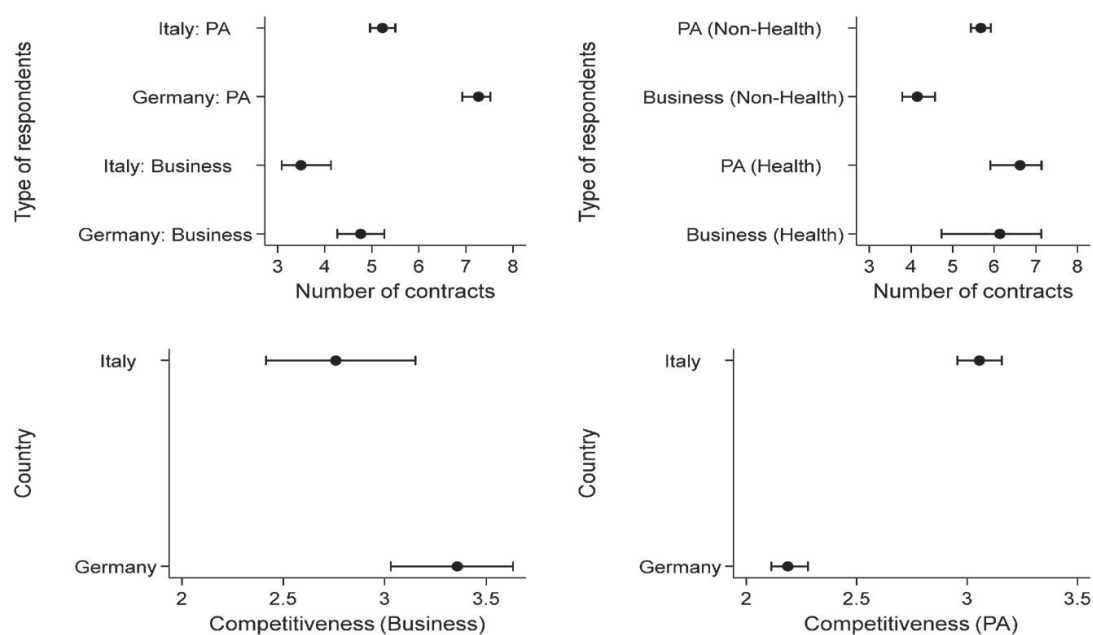
**Figure 5.** Public-private interactions and regulatory environment, 2016–2021.

Sources: TED (number of contracts), EU Single Market Scoreboard (competitiveness), World Bank (regulatory quality and Control of Corruption). Measurement see Table A2, online appendix.

report an increase in the number of contracts, compared to 17.2 per cent of the respondents in the non-health sector. Nevertheless, a significant number of public administrators also report a high number of contracts in non-health sectors.

The *competitiveness of the procedures* was measured differently for the administrations and the businesses. As Figure 6 shows, Italian officials tend to find public procurement procedures more competitive (in terms of the average number of bidders in a procedure) than German officials. Conversely and corresponding with the EU's assessment in Figure 5, more than half of the Italian businesses perceive the procurement procedures to be unfair. This share is much lower, although still higher than 30 per cent, among German businesses. In both countries, about 17 per cent of the business respondents believe that the access of qualified firms to procurement contracts has become less equal because of the pandemic (Table A4, online appendix). This finding contradicts the contract data reported in Figure 5. However, the average number of contracts is not significantly correlated with perceived competitiveness, suggesting that these perceptions do not just express frustration by unsuccessful bidders. Rather, they seem to reflect an informal development that the different contract types in Figure 5 do not capture.

The *regulatory environment* only partially changed in the expected ways due to the pandemic (Table A4, online appendix). Figure 7 illustrates that, except for the German public administrations, respondents indeed tend to find the procurement rules rather ambiguous, with between 21 and 22 per cent reporting increased ambiguity after the pandemic started. Simultaneously, the procurement rules are also perceived as rather strict in both countries alike. As intended and shown in our own legal analysis (Table 4 and A3), the regulatory changes have rendered the rules less stringent for administrations (31.8 per cent in Germany and 35.9 per cent in Italy); but interestingly, not for businesses



**Figure 6.** Public-private interactions. Number of contracts and competitiveness.

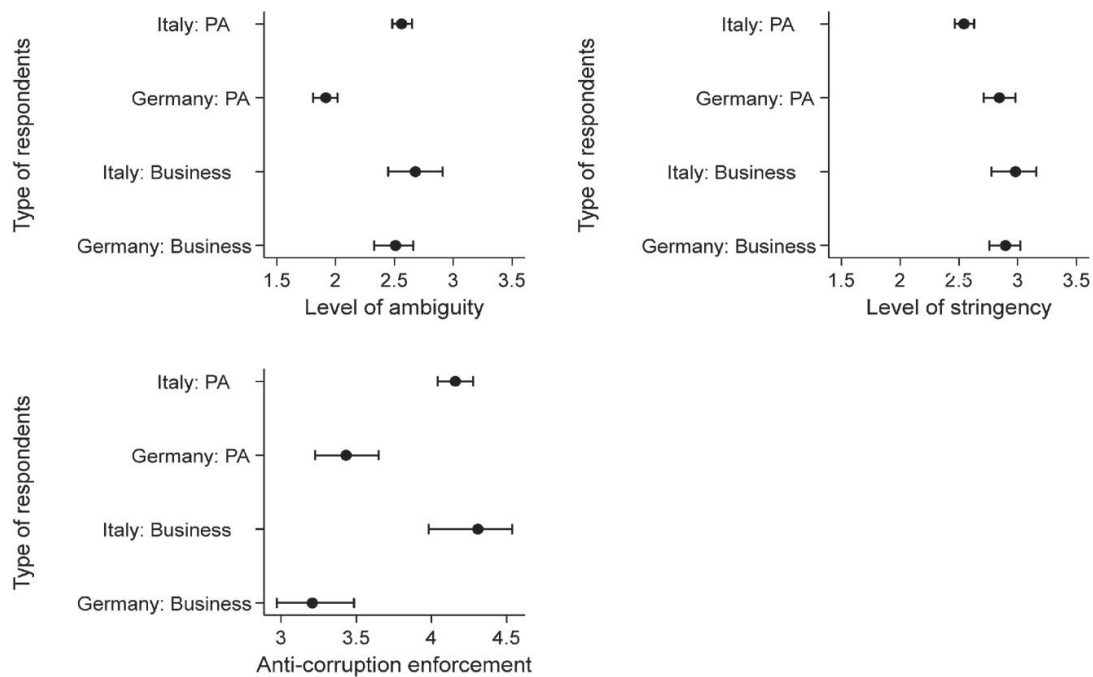
Note: Number of contacts: 1 = none; 2 = 1–5; 3 = 6–10; 4 = 11–15; 5 = 16–20; 6 = 21–25; 7 = 26–30; 8 = more than 30.

(Table A4, online appendix). Finally, the probability of getting caught when engaging in corruption in public procurement is perceived to be high—in fact, significantly higher in Italy than in Germany—and is not perceived to have changed with the pandemic (Table A4, online appendix). The World Bank’s Control of Corruption indicator tends to support that there is stability in enforcement. However, it would suggest a much worse enforcement in Italy than in Germany (mainly because it measures general perceptions of corruption rather than enforcement activities).

In summary, perceptions of public-private interactions have changed as expected: the number of contracts increased in the health sector, while the competitiveness of procedures decreased from a business point of view. Moreover, differences in reported public-private interactions are more pronounced between administrations and businesses than between countries. Particularly for businesses, the regulatory environment has remained more stable. As expected, procurement rules have become more ambiguous, and the simplifications made the lives of the public administrations easier—but not for businesses. Importantly, these changes have not affected the perceived likelihood of getting caught when engaging in corruption. How did these developments translate into perceived corruption levels?

### ***Factors influencing perceived corruption levels***

Table 4 reports the results from the analysis of perceived levels of corruption by public administration and business respondents during the pandemic.



**Figure 7.** Regulatory environment: ambiguity, stringency, and enforcement.

Model 1 tests Hypotheses 1, 3, 4, and 5 on the full sample of respondents (both actor types) and includes all control variables. As the level of competitiveness is measured differently for administration and business, we test Hypothesis 2 separately for the public administration (Model 2) and the business sample (Model 3). Moreover, due to the small number of business respondents, Model 3 reports only the estimates related to the five hypotheses and significant control variables.<sup>2</sup>

We now discuss each hypothesis. We find no statistically significant effects of the number of contracts (H1), rule stringency (H4), or anti-corruption enforcement (H5), which we discuss below.

Model 2 tests our second hypothesis (H2) on the effect of competitiveness on perceived corruption by Italian and German bureaucrats working in the public procurement sector. As hypothesised, the analysis reports a negative relation between levels of competitiveness and corruption levels. However, the effect is only significant under  $p < 0.10$  and it is not robust (Figure 8). When we tested all hypotheses on the sample of business respondents (see Model 3), competitiveness in public procurement contracts has a strong negative effect on perceptions of corruption.

Despite the small sample of observations, the effect remains significant across various models' specifications. One possible reason why competitiveness more strongly affects the perceptions of business respondents pertains to the different measurements in the two samples. Business representatives were specifically asked about their opinion on the access to public procurement contracts of qualified firms, whereas to minimise social desirability,

**Table 4.** Analysis of the effects on perceived corruption in public procurement.

|                               | Model 1<br>(All)     | Model 2<br>(PA only) | Model 3<br>(Business only) |
|-------------------------------|----------------------|----------------------|----------------------------|
| Number of contracts           | -0.014<br>(0.015)    | -0.006<br>(0.015)    | 0.009<br>(0.040)           |
| Competitiveness (PA)          |                      | -0.076*<br>(0.044)   |                            |
| Competitiveness (Business)    |                      |                      | -0.317***<br>(0.073)       |
| Ambiguity                     | 0.173***<br>(0.047)  | 0.075<br>(0.051)     | 0.172<br>(0.121)           |
| Stringency                    | -0.059<br>(0.049)    | -0.095*<br>(0.049)   | 0.120<br>(0.122)           |
| Anti-Corruption Enforcement   | -0.017<br>(0.033)    | -0.018<br>(0.034)    | -0.049<br>(0.071)          |
| Interaction with stakeholders | -0.0307<br>(0.040)   | 0.051<br>(0.042)     |                            |
| Politicisation                | 0.230***<br>(0.032)  | 0.168***<br>(0.033)  | 0.335***<br>(0.085)        |
| Prevention:                   | -0.024<br>(0.163)    | -0.169<br>(0.178)    |                            |
| Health sector (=1)            | -0.055<br>(0.119)    | -0.085<br>(0.116)    |                            |
| Germany (business)            | 0.084<br>(0.151)     |                      |                            |
| Italy (business)              | -0.782***<br>(0.141) | 0.151<br>(0.107)     |                            |
| Italy (PA)                    | -1.038***<br>(0.116) |                      |                            |
| Constant                      | 1.703***<br>(0.283)  | 1.305***<br>(0.301)  | 1.803***<br>(0.672)        |
| Observations                  | 414                  | 286                  | 94                         |
| R <sup>2</sup>                | 0.465                | 0.156                | 0.457                      |
| LR chi2                       | -429.133             | -242.655             | -115.014                   |

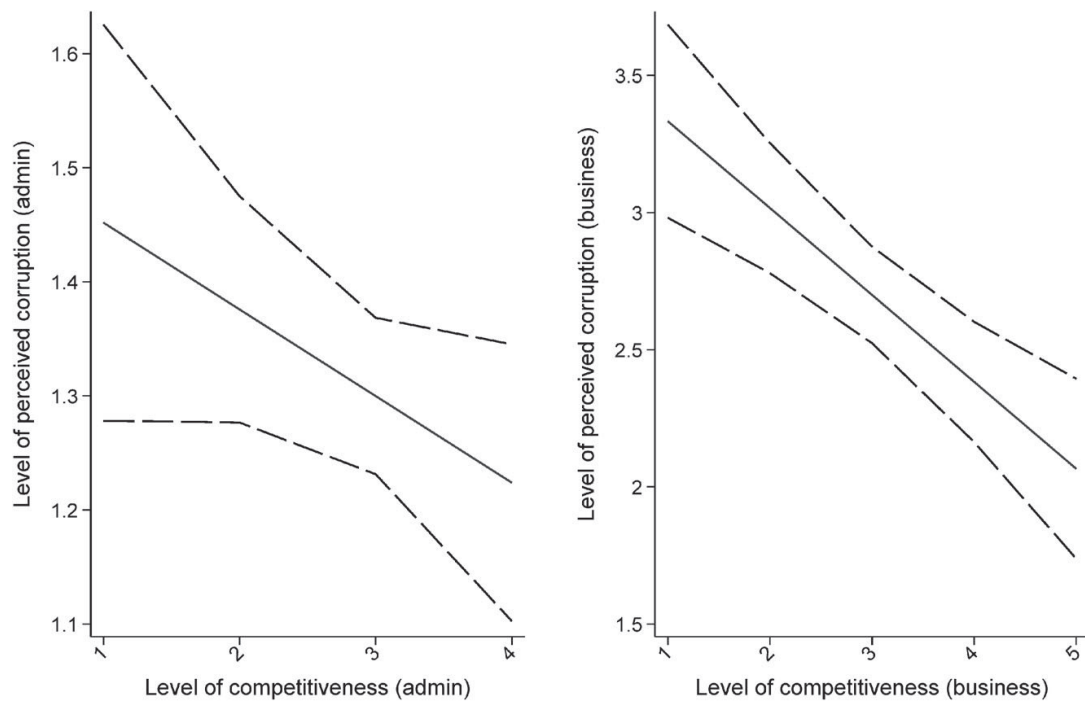
Standard errors in parentheses; reference category is Germany (Business).

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Note: The model on the business sample excludes the control variables, as the small number of observations constrains the degrees of freedom. The effects remain robust when controls are added.

public administrators had to report the number of applications they received. Thus, business attitudes about competitiveness of procurement during the pandemic appear especially relevant for their assessments of corruption.

Model 1 supports H3 regarding the effect of rule ambiguity on perceived corruption. The more respondents consider the public procurement rules to be vague and unclear during the pandemic, the higher the level of perceived corruption (Figure 9). Perceptions of corruption increase by approximately 0.17 points with a one unit increase in rule ambiguity. However, if we control for competitiveness (Model 2), the effect of rule ambiguity is no longer significant. One possible explanation is the reduced number of observations. Alternatively, bureaucrats may be less likely to report high levels of rule ambiguity. For example, only 7 per cent of the public administration respondents considered public procurement rules to be highly unclear, which is substantially lower compared to business respondents (18 per



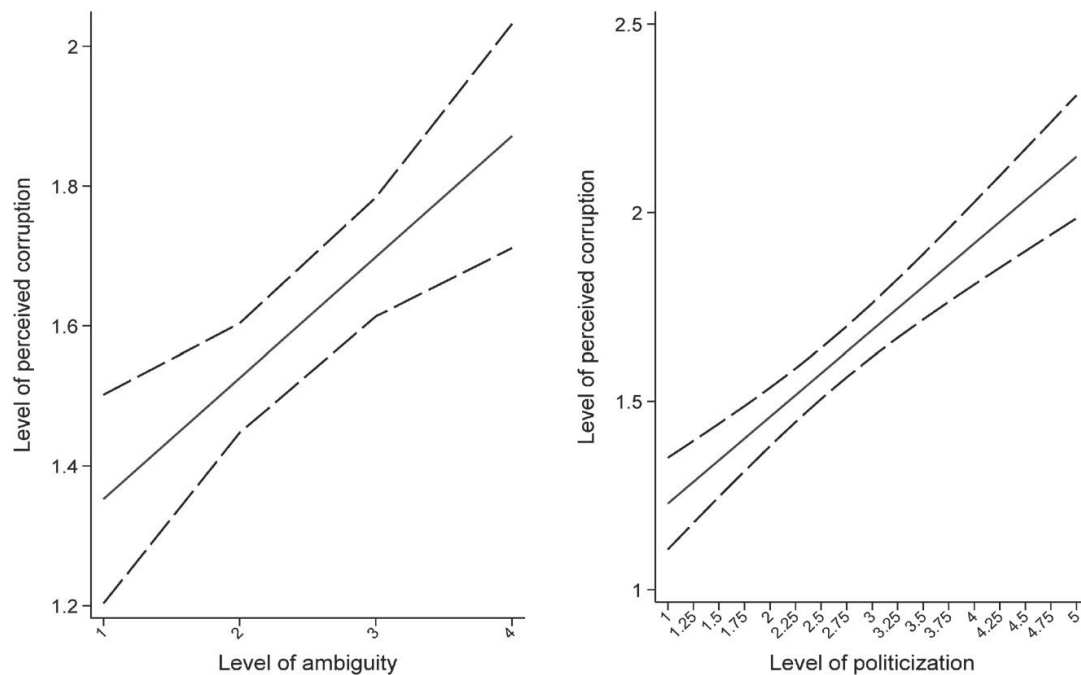
**Figure 8.** Marginal effects of competitiveness on perceived corruption by bureaucrats and businesses.

cent). Similarly, the effect of rule ambiguity is no longer significant in the business sample (Model 3). Further analysis suggested that this is due to the small number of observations ( $N = 95$ ) and the negative association between rule ambiguity and competitiveness, and that rule ambiguity increases perceptions of corruption practices among business respondents who also perceive lower levels of competitiveness.<sup>3</sup>

Turning to our control variables, the only significant effect across all models is that higher politicisation consistently contributes to perceptions of corruption in public procurement. The more respondents believe that politicians influence bureaucratic processes, the more they perceive corrupt practices in public procurement procedures (Figure 9).<sup>4</sup> Indeed, a sizeable share of respondents report relatively high politicisation levels in both countries (Table A4, online appendix). Moreover, Model 1 suggests that both Italian business and public administration respondents perceive less corruption during COVID-19 than German businesses. However, the effect is not stable in the other models.

## Discussion

This study empirically analysed the consequences of the COVID-19 crisis and the regulatory response, aimed at facilitating swift crisis management, on corruption in public procurement, looking at rules, behaviour, perceptions, and their interactions. Public procurement has high economic importance and is generally prone to corruption (Bauhr et al., 2020; Charron et al., 2017; Dávid-



**Figure 9.** Marginal effects of rule ambiguity (left) and politicisation (right) on perceptions of corruption.

Barrett & Fazekas, 2020; Dikmen & Çiçek, 2022; Fazekas & Kocsis, 2020). The inherent tension between discretionary administrative coping and possible unethical behaviour can potentially undermine an effective crisis response if public resources end up in private pockets (Eckhard et al., 2021; Folliot Lallion & Yukins, 2020). We contrasted the two cases of Italy and Germany and triangulated legal analysis, contract data, secondary data sources, and surveys of both businesses and public administrations to provide a robust analysis of both risks and perceptions of corruption and factors affecting them. Results provide four core findings.

First, we find that the crisis and regulatory responses have increased corruption risks and reduced informal competitiveness, restrictions on bureaucracy, and clarity of procurement rules. The findings regarding changes triggered by the pandemic depend on whether we look at general or sector-specific data. When consulting general secondary databases, we do not find any strong impact of the pandemic on public-private interactions and corruption perceptions. If anything, we (paradoxically) see an increase of more competitive contract types, and in Italy a slight decrease in regulatory quality. Regarding corruption perceptions, the World Bank actually found a slight improvement in Italy since the pandemic started, while Transparency International documents no changes since 2019 except for a worsening of Italy's ranking.

In contrast, contract sector-specific secondary data and our own legal and survey analysis show that the crisis affected both public-private interactions, and parts of the regulatory environment for public procurement. The relaxed regulatory responses to the crisis did make the lives of public administrations

easier in. They also reduced the competitiveness of public procurement procedures, allowing for less complicated bidding processes. However, these changes have also reduced the clarity of these rules, especially for businesses, while anti-corruption enforcement appears unchanged. Importantly, sector specific contract data (Fazekas et al., 2016) and our own legal analysis show a notable increase in corruption risks that can be attributed to the pandemic. Conversely, our survey does support the general finding that corruption perceptions appear relatively robust to specific events. Overall, we see a demonstrable increase of sector-specific corruption risks during the pandemic, even in an otherwise high-integrity country.

Second, we find that low levels of competitiveness and high levels of rule ambiguity increased corruption perceptions in public procurement. This finding begs the crucial question of what an effective regulatory crisis response would look like, without unintentionally fostering corruption. Our findings indicate that the 'mathematical' argument that an increased number of contracts would translate into increased corruption levels falls short. Similarly, rule flexibility itself did not trigger corruption. Instead, the quality of the rules and public-private interactions, in terms of regulatory ambiguity and competitiveness, was more important. Once we account for this quality of interactions and regulations, anti-corruption enforcement itself is no longer decisive. The good news is that the relaxing of the procurement rules recommended by the EU itself was not a problem and has not impacted anti-corruption enforcement. Rather, the problem seemed to be the lack of clarity of the resulting national procurement rules, and the lack of competition and checks on company guarantees. This suggests that relaxing procurement rules should be done in ways that do not affect the clarity of rules and preserve levels of competitiveness.

Third, our sector-specific analyses suggest that corruption in public procurement is equally an issue in Italy and in Germany. Combining legal analysis, contract data, and surveys of relevant actors with 'insider knowledge', we find that the two countries have comparable corruption risks and perception levels. These findings contrast ideas of Germany being relatively immune to threats to bureaucratic integrity and corruption (Georgieva, 2017; Tänzler et al., 2008) as well as general population-level or expert surveys provided by the World Bank and Transparency International. Such general surveys may be more vulnerable to stereotypes (Bello y Villarino, 2021), and do not reflect sector-specific developments. These results could indicate that the pandemic may have worsened corruption in the specific public procurement sector even in countries traditionally considered to be more immune to it. The crisis may have impacted countries less that, like Italy, have had to actively establish resilience structures against organised crime and corruption (Di Cataldo & Mastrorocco, 2020).<sup>5</sup> Italy has made efforts to promote and enforce a culture of legality and integrity through structural reform in the

public sector (Severino, 2016). Such efforts and structures are lacking almost entirely in Germany, whose bureaucracy relies on a reputation for integrity and independence. Yet, our results show that corruption is not just about individual or cultural norms (De Graaf, 2007), but is facilitated by institutions and rules (Collier, 2002). Hence, a global effort against corruption requires shared and internationally agreed practices considering the social and political causes of corruption (Dávid-Barrett & Fazekas, 2020).

Finally, both businesses and public administration respondents associate the involvement of politicians in bureaucratic public procurement rules and practices with corruption. Results also show that both countries' bureaucracies are similarly highly politicised. Previous research has highlighted the adverse impacts of a politicised bureaucracy on corruption (Charron et al., 2017; Goldman et al., 2013). Politicisation makes it easier for corrupt politicians to delegate discretion to bureaucrats, which reduces clarity of responsibility and blurs lines of accountability (Loftis, 2015). Thus, bureaucratic independence is important to combat corruption (Fazekas et al., 2021). More research should consider political-bureaucratic relations and the management of the bureaucracy when looking at how to reduce corruption (Meyer Sahling et al., 2018). Future research should also consider how politicisation affects the EU's crisis management. As EU policies are increasingly contested by domestic political elites, politicisation could lead to watered down EU crisis responses. However, such ambiguity may increase corruption risks in the context of public procurement rules.

Our study has limitations. Our surveys have limited representativeness, with uneven and rather low response rates. SDB has likely affected the stark public-private differences we find. Future research should rely on larger samples to scrutinise regional differences in corruption perceptions and their drivers. Our triangulation of different data sources allows for a more robust assessment, but the general datasets also paint a different picture than sector-specific data. While our own survey did measure specifically corruption perceptions that are attributable to the pandemic, it did not contain a robust measure to attribute changes in corruption perceptions to the pandemic. A more conclusive identification strategy than our cross-sectional survey would entail a time-series analysis using repeated data points before, during and after the crisis. We therefore cannot infer longer-term effects of the crisis.

## Conclusions

Our study has important implications for crisis policy-making. When the pandemic hit, regulatory responses were crafted hastily and intended to be exceptional (Arrowsmith, 2021). However, the pandemic turned out to be more 'slow-burning' (Seabrooke & Tsingou, 2019). How a crisis develops is often unknown, and a 'quick and dirty' approach may prove risky. Resilient, sustainable

regulatory solutions and coordinated enforcement efforts should enable swift procurement while preserving bureaucratic autonomy, and unambiguous, and competitive public procurement procedures (Arrowsmith, 2021; Baranek & Titl, 2021). The current economic crises underline the need for resilient supply chains. Facilitating faster and more flexible procedures during crises should preserve traditional norms of transparency, competition, and integrity in order to avoid possible abuses of the emergency procedures and ensure appropriate resilience (Dikmen & Çiçek, 2022; Duit, 2016). Digitalisation of some phases of the tender life cycle may help to reduce corruption risks.

While being the exception rather than the rule, corruption in public procurement during moments of crisis is a serious problem. First, it has costs (Abdou et al., 2022) and amplifies the negative effects of crises (Sanz et al., 2022). Second, corruption can have long-term damaging effects on the reputation of and trust in the public administration and undermine democratic accountability (Morris & Klesner, 2010). Especially in times of crises, taxpayers should be able to expect both effective administrative coping and an efficient and targeted use of public money. To better understand the trade-offs, more research should tackle how both regulatory and systemic factors, such as politicisation of the bureaucracy, have changed in the wake of recent crises, and analyse their implications for corruption—in public procurement and beyond.

## Notes

1. <https://public.tableau.com/app/profile/gti1940/viz/CorruptionCostTracker> (last accessed 4.8.2022).
2. Organization size does not have a significant effect on perceived corruption (Table A6 online appendix). The results remain robust when including all control variables and insignificant effects (Table A7 online appendix).
3. Rule ambiguity and rule stringency are only weakly correlated with each other.
4. The results remain robust if the fourth item (nepotism) is dropped from the politicisation index.
5. See <https://globalinitiative.net/wp-content/uploads/2021/09/GITOC-Global-Organized-Crime-Index-2021.pdf>.

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## Disclosure statement

No potential conflict of interest was reported by the author(s).

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