The occupational gradient in public sector corruption:
Explaining bribery and favouritism in the European Union

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Abstract

Purpose. The purpose of this study is to investigate if occupational status is a determinant of individual level petty corruption, focusing specifically on the engagement in bribery and favouritism in the public sector. Another contribution is made by comparing national levels of corruption and their influence on this relationship. **Theories.** This research theorises that individual corrupt behaviour is rooted in rational choices people make by weighing the potential costs and benefits of corrupt actions. It is expected that the economic and social capital that come with occupational status influences this balance and leads to a greater likelihood of engaging in bribery and favouritism. It then adds context to this model by arguing that an individuals' decision to engage in corruption is also driven by national corruption, which is expected to weaken the positive relation. **Design.** A fixed effects binary logistic regression is utilised to test these mechanisms, using cross-sectional survey data from the Global Corruption Barometer and the Corruption Perceptions Index. Over 16,000 individuals from all 27 European Member States are included in the analysis. **Findings.** Findings show that people with a higher occupational status are indeed more likely to engage in bribery, but this effect is absent for favouritism. National corruption does not weaken the effects. **Conclusion.** This study suggests that occupational status increases the likelihood to bribe, though it remains unclear whether the reason is a greater willingness, ability, or exposure to bribery. The role of social capital on favouritism remains blurred and requires more research. **Practical implications.** Monitoring and speak up procedures may increase the costs of bribery. E-governments may prevent in-person bribery and favouritism.

Key words: occupational status, corruption, Europe, public sector, bribery, favouritism, rational choice, collective action

Introduction

Corruption represents a challenging problem for countries worldwide. It has become a prominent concept in the social sciences, and the harmful effects on societies are now widely recognised by scholars and politicians (Charron & Bågenholm, 2015). Within public institutions alone one can observe phenomena such as paying grease money, bribery, the revolving door phenomenon, and favouritism (De Graaf & Wiertz, 2019). These issues can lower the legitimacy of the government and its political institutions, forming a great threat to democracy. The latest attempt to estimate the costs of corruption in the European Union found that, all indirect costs included, the GDP suffers up to €990 billion annually (Hafner et al., 2016). To combat corruption, it is essential to understand its causes. This paper explores the relationship between occupational status and individual level petty corruption, focusing specifically on the engagement in bribery and favouritism in the public sector. Another contribution is made by outlining how differences in national level corruption might affect the individual level relationship.

Over the years corruption received an increasing amount of attention from international organisations, politicians, and the media, landing it on the social and political agendas worldwide. This has led to a growing number of international anti-corruption legislation, adopted especially by the Council of Europe and the United Nations (Bakowski, 2022). Furthermore, international organisations have started campaigns to address corrupt practices. Despite these developments, corruption rates have been resistant to change (Heath et al., 2016). The World Bank's Worldwide Governance Indicators (WGI) and Transparency International's Corruption Perceptions Index (CPI) bring out yearly studies on the current state of corruption per country (Bakowski, 2022). They show that countries with the lowest corruption rates in the European Union have stopped making progress in the past decade, whereas in others it has even increased (Transparency International, 2022). That corruption rates have stagnated despite interventions causes reason for concern amongst scholars and politicians. It underlines that the issue needs urgent addressing.

The concept of corruption can take many forms, ranging from 'economic corruption' like bribery and fraud to 'social corruption' such as favouritism and cronyism (Holmes, 2015). Academics generally agree that corruption has a negative effect on economic outcomes at the macro level (Ivlevs & Hinks, 2015). The literature suggests that it can hinder economic growth (Akinci et al., 2022), hamper international trade, discourage foreign investment (De Jong & Bogmans, 2011), is associated with reduced tax collection, and can give a misleading impression of the public expenditures (Khlif & Amara, 2019). Furthermore, corruption can be harmful for a range of social factors. According to Pellissery and Bopaiah (2023), a higher level of corruption in a society is associated with a lower quality of life for its citizens. Along with decreasing the trust in

government institutions, it can undermine people's generalised trust and perceptions of fairness (You, 2017). When this happens, it can create a vicious circle in which corruption, inequality and low levels of trust reinforce each other (Rothstein & Varraich, 2017, You, 2017). This is what Uslaner (2009) calls the inequality trap. Though corruption is a major problem in the poorer regions of the world, it is a widespread issue that affects both developed and developing countries, be it to varying extents (Jha & Sarangi, 2018, Schram et al., 2021). The literature on corruption in developing countries is expansive, though it is questionable if these results can be generalised to developed countries (Heath et al., 2016). For one, countries in the European Union generally have a longer history of bureaucratic systems in the public sector. To further the knowledge on corruption in developed countries, this study takes European societies as its main perspective.

Corruption is a multifaceted phenomenon that keeps puzzling the social sciences (Ellis, 2019, Heath et al., 2016). Most literature comes from economics and politics, but fields like criminology, law, international relations, and psychology also made contributions. Still, sociological publications on corruption are rather limited and the mechanisms not well understood (Heath et al., 2016). Hence, more sociological research is needed. Consequently, this study explores sociological mechanisms that may cause corrupt behaviour. It does so by focusing on individual corrupt behaviour within the European Union context, taking a micro-macrolevel approach.

The role of occupation in individual level corruption is studied from different perspectives. Many academics investigate occupational corruption from within a specified field of the public sector, such as law (Lawson et al., 2022), health care and administration (García, 2019, Vian, 2020), or police corruption (Dzhekova et al., 2013, Garduno, 2019). Furthermore, Goel et al. (2016) investigated which public officials most often requested a bribe across occupations. However, as Jancsics (2019) states as well, the influence of a citizens' occupation on corrupt deals seems to be understudied. In an effort to better understand the social dynamics of micro level corruption, this paper investigates the role of the client when encountering public officials. I thereby follow the idea that they are equally important actors in corrupt interactions (Jancsics, 2019). Thus, do certain societal groups, *i.e.,* individuals with a certain occupational status, engage in petty corruption more often when they encounter public officials than others?

Recent studies have only partially addressed the correlation between occupational status and corrupt behaviour. Though income and education are often studied as socio-economic indicators of micro-level corruption (Goel et al., 2016, Mangafić & Veselinović, 2020), few authors emphasise occupational status. However, a recent case study found that the opportunity for engaging in micro-level corruption was increased by occupational status, as the offender had a more privileged position to commit and conceal a crime (Gottschalk, 2020). Although this is an

example from the private sector, it is interesting to explore this mechanism further for public sector interactions. This paper follows up on this lead and aims to expand the understanding of a possible occupational determinant in public sector corruption, *i.e.,* within government offices, police, courts, public education, and public healthcare.

Over the past decades many research designs used public opinion as an indicator of corruption (Wysmulek, 2019). Though this is valuable information in its own right, it often emphasises a person's tolerance of corruption, but fails to capture an individual's behaviour (Dormaels, 2015). Moreover, studies using data on public perceptions often investigate corruption in a broad and general manner (Dormaels, 2015), instead of addressing specific forms of corruption. According to Jancsics (2019), researching specific types of corruption helps in tailoring good anti-corruption strategies. To attend to this knowledge gap, this paper investigates two measurable acts of individual level corruption: bribery and favouritism. Additionally, social problems are often analysed at different levels of society: macro level context, meso level structures, and micro level determinants (Mangafić & Veselinović, 2020). Though cross-level interactions are not new in corruption research, articles often use indicators like quality of government (Charron et al., 2013), post-communism patterns (Holmes, 2013), or income inequality (Bašná, 2019). However, researching the effect of national corruption on individual corrupt acts is, to my knowledge, not done before. Using a fixed effects approach I combined an expert-based country level index of corruption with a cross-national social survey to investigate this effect.

Summing up, the purpose of this study is to identify individual level mechanisms that may explain an individuals' engagement in bribery or favouritism when they come into contact with the public sector. It does so by investigating differences in occupational status. Additionally, this study seeks to understand how societal level corruption influences this relationship by including a cross-level interaction. To shape European policies and transpose them into national policies it is necessary to have a full understanding of the underlying mechanisms of corruption. This aim results in multiple research questions:

Descriptive question

- What is the prevalence of bribery and favouritism in European Member States?

Explanatory questions

- To what extent does occupational status predict the engagement in bribery and favouritism?

- To what extent do national levels of corruption influence the relationship between occupational status and bribery or favouritism?

Policy question

- What tools can be used to discourage engagement in bribery and favouritism in public sector contact?

Theory

Even within the European Union, countries differ in what behaviour they legally proscribe and consider as corrupt. This is one of the reasons why corruption is difficult to pin down into a precise definition (Rothstein & Varraich, 2017). Therefore, I choose not to rely on legal criteria in defining corruption, which empirically enables an international comparison of European countries. Corruption here is defined as "the abuse of power for private gain" (Mungiu-Pippidi, 2011, Transparency International, 2023a). An important notion is that there is a clear distinction between public and private interests (Brandt & Svendsen, 2013). It comes down to unethical behaviour in which public servants are not first and foremost motivated to serve the public interest (Mungiu-Pippidi, 2011, Ripoll, 2019). Additionally, this definition assumes public sector officials act under the norm of ethical universalism, in which corruption is seen as a deviation of this norm, regardless of legality. Nearly all developed states today proclaim their principles of good governance and sign treaties on human rights, which makes the definition befitting for the scope of this paper (Mungiu-Pippidi, 2011).

Public sector corruption involves government officials, bureaucrats, or politicians. Researchers differentiate between grand corruption and petty corruption (Bahoo et al., 2020, Jancsics, 2013). In the case of grand corruption a few high-level individuals abuse their power, in which often large sums of money are involved. Corruption is considered petty when it involves public officials who abuse their power in everyday dealings with citizens (Bahoo et al., 2020). Small gifts and favours are exchanged to get access to basic goods and services of the public sector. This paper builds its theoretical foundation of petty corruption around two common forms: bribery and favouritism. Bribery can be defined as a form of deviant behaviour in which money or favours are given to a public officer in order to obtain public privileges (Brandt & Svendsen, 2013). Favouritism in the public sector occurs when public officials misuse their position and the privileges that come with it to favour members of their personal network (Della Porta & Vannucci, 2012).

Principal-agent model

One can understand petty corruption, *i.e.,* bribery and favouritism, at the micro level by approaching it as an agency problem (You, 2017). The principal-agent model focuses on authority structures to explain how individual actors behave and interact. It posits that principals employ agents to fulfil certain tasks in return for a reward (De Graaf & Wiertz, 2019). The principal provides rules and incentives for the agent. In return, the agent executes the task and reports back to the principal. Importantly, both actors have their own interests, which do not necessarily align

(Brandt & Svendsen, 2013). The public sector harbours many different power structures and relationship dynamics, including interactions between public officers and citizens. The process of individual corrupt acts can therefore best be explained by the extended principal-agent-client model, which is used to analyse multiple layers of relationships (You, 2017).

For instance, high-level bureaucrats (principal) provide public officers (agent) with instructions to perform certain tasks, during which they have to deal with citizens (client) (De Graaf & Wiertz, 2019). But instead of following the instructions, a public officer receives a bribe or gives a favour to regular citizens, thereby deviating from the rules that were assigned to him by his principal (Marquette & Peiffer, 2017). Since the public officer is under duty not to do this, he will not inform the principal about his actual behaviour (Dzhekova et al., 2013). As the principal does not have sufficient means to monitor everything the agent does, petty corruption has free rein. This information asymmetry and inability to monitor is at the core of the corruption problem.

The principal-agent-client model emphasises the rational choice a public officer or citizen makes when engaging in corruption (Marquette & Peiffer, 2017). When citizens interact with public sector officials, they have two basic strategies they can choose (De Graaf & Wiertz, 2019). Either they approach the situation in a formal and impersonal manner, or they try to build or use a personal relationship with the public officer, which may involve bribery or favouritism. Individuals from different occupational groups can have differing incentives that steer their behaviour. This may influence the strategy they choose when interacting with public services.

Rational choice theory

An approach in explaining the variability in petty corruption between occupational groups is by rational choice theory. Rational choice theory emphasises the agency of individuals in making decisions. It states that all individuals are after maximising utility (Kebede, 2014). According to this theory individuals act out of self-interest and choose their behaviour based on a balance of the expected costs and benefits it might have. When perceived benefits exceed perceived costs of bribery or favouritism, people partake in it (Klitgaard, 1988, Rose-Ackerman, 1978). Of course, in most situations, people are bound by their cognitive limits and are subject to cognitive biases (Kahneman, 2011). These factors influence people's perception of the costs and benefits and enriches explaining corrupt behaviour (Dimant & Schulte, 2019).

Potential costs of engaging in petty corruption may be the risk of detection, legal penalties, reputational loss, or the expected effort to get access to public services (Carson, 2014, Juraev, 2018). Potential benefits are quicker or better access to public services, overlooking of illegal activities, or obtaining some form of a special license or other privileges (Carson, 2014, Juraev,

2018). Members of different occupational groups can perceive these costs and benefits of corrupt actions differently, which guides their actions.

A starting point in examining the engagement of a citizen in bribery is by analysing the expected costs and benefits for different occupational groups (Juraev, 2018). In general, individuals with a high occupational status possess more economic capital than those with a lower status (Pop, 2012, Reinikka & Svensson, 2002). Because high-status groups tend to have more monetary means, they simply have a better ability to pay a bribe (Ivlevs & Hinks, 2015), which gives them the upper hand in buying the advantages they want for themselves (Pop, 2012). Additionally, a high status often comes with more bargaining power, which puts individuals in a position to benefit from corruption (Ryvkin & Serra, 2012, Swamy et al., 2001). These resources may reduce the negative consequences that can follow from corrupt behaviour and help preventing discovery. From this perspective people with a higher occupational status are better able to mitigate the potential costs of bribery, thus the perceived gains may be given most weight. In contrast, low status groups are often less able to afford being caught and may deem the risk of paying a fine too high (Dong & Torgler, 2009, Pop, 2012). Therefore, it is likely that they are more risk averse towards bribery. Finally, public officers may see a citizen's high status as a signal of a potential bribe giver, knowing that it can form an ability and willingness to pay a bribe (Goel et al., 2016). It is therefore likely that citizens with a higher status are more often exposed to bribe requests (Dong & Torgler, 2009). Findings of Hunady (2017) showed that being more often exposed to bribery increased the incidence of corrupt acts. These arguments combined lead to the expectation that high-status occupational groups are more likely to engage in bribery.

Hypothesis 1a. Occupational groups with a higher socio-economic status are more often involved in bribery than occupational groups with a lower socio-economic status.

Rather than unfairly providing goods and services to those who pay most regardless of connections, favouritism relies on the proximity of resourceful social ties (De Sousa, 2008). For that reason, social capital plays a central role in favouritism. Social capital is defined as the resources and other valuable assets that individuals can access through their social network (Lin, 2001). Following the forms of capital by Bourdieu (1986), social capital emphasises the importance of who you know rather than what you have.

The influence mechanism of social capital is most relevant for the effect of occupational status on favouritism. To exert social influence to one's advantage an individual requires contacts with relative power or authority (Hällsten et al., 2015). Having many of these contacts in one's

personal network allows someone to deal with inadequate public services (Jancsics, 2014). For instance, network members can get granted with resources like a bureaucratic favour or admission to a good school. Members of informal networks often see this behaviour as "just helping a friend". Since individuals with a high socio-economic status often possess more social capital than those with a low status, this gives them more opportunity to receive such unfairly preferential treatment in the public sector services (Jancsics, 2014). Knowing many people of importance among the police, in public office, or in the educational sector eases the way to use influence peddling or ask for favours from friends (De Sousa, 2008). This means that the effort that an individual has to put in to "pull some strings" is lower for high status occupational groups, which is likely to reduce the perceived costs of engaging in favouritism. Based on the above I argue that occupational groups with higher socio-economic status are more likely to engage in favouritism than occupational groups with low socio-economic status.

Hypothesis 1b. Occupational groups with a higher socio-economic status more often engage in favouritism than occupational groups with a lower socio-economic status.

Thus, in conclusion for both bribery and favouritism, it is expected that the unequal distribution of economic and social capital among citizens is an underlying influence. Occupational groups with a higher status generally have more resources that they can mobilise, thereby producing more opportunities and increasing the benefits of engaging in petty corruption (De Sousa, 2008).

Collective action problem

All European citizens are embedded in a country level context, which shapes their values, beliefs, norms, and behaviour. Because individuals interact with their direct environment rational choices do not occur in a vacuum (Marquette & Peiffer, 2017). This means that the relationship between occupational status and bribery or favouritism may differ across contexts. To fully understand the individual actions of occupational groups, rational actor approaches need to be supplemented with an actor-in-context approach.

A complementary theory to explain determinants of bribery and favouritism is by seeing corruption as a collective action problem (Persson et al., 2013, Uslaner & Rothstein, 2016). This theory emphasises group dynamics in which institutional structures influence an individual's choice to engage in petty corruption. It thereby places the acts of bribery and favouritism within a wider perspective than just the individual level determinant of occupational status. There are several underlying mechanisms that are unavoidably interlinked with national level corruption (Banuri &

Eckel, 2012), and which may affect the relationship between occupational status and petty corruption.

An essential mechanism is the issue of free riding, where individuals benefit from the public good without bearing the costs of generating it (Olsen, 1965). Free riding occurs when a person does not act in the interest of the group but prefers behaviour that gives the greatest personal benefits (Van Tubergen, 2020). Low national corruption is such a public good, and it is in the public interest to act with integrity (De Graaf & Wiertz, 2016). All citizens have the choice to either comply with this or to 'free ride' by engaging in corrupt activities. As explained with the rational choice mechanism, it depends on an actor's perceived costs and benefits whether free riding seems like the most rational option (Carson, 2014, Juraev, 2018). Though it is expected that individuals with a high occupational status are more likely to see bribery or favouritism as the most beneficial option, high corruption levels may affect this relationship by making free riding more attractive to the whole population (Rothstein, 2011). This is because the people who do not pay bribes or get favours are often worst off when corruption is widespread (De Graaf & Wiertz, 2016). They must, for instance, wait the longest to get a license. Rothstein (2011), who thoroughly investigated systemic corruption, argues that when national level corruption increases, even individuals who wish to behave with integrity have less incentives to do so. Noncorrupt behaviour then becomes the irrational choice (Rothstein, 2011). Hence, when corruption levels are higher, this increases the likelihood of freeriding among the entire population, reducing occupational differences.

Related is the sociological idea that contextual factors give rise to belief-formation mechanisms (De Graaf & Wiertz, 2019). Collective action theory states that the perception of what others do influences the choices of the individual (Jancsics, 2014). It is therefore not only the price of corruption that influences the cost-benefit analysis, but also an individual's response to the decisions of others (Jancsics, 2019). As corruption becomes more widespread, citizens are more likely to think that bribery and favouritism are normal means in public sector interactions. These social norms are predictive for one's own corrupt behaviour, but people's decisions are also guided by their perceptions of others in their community (Carson, 2014). The belief that others will do the same is a leading factor: "If everyone does it, why not I?" (Jancsics, 2019). This increases the likelihood of acting corrupt for all citizens, weakening the initial differences between occupations.

The national quality of government is a contextual background that is inevitably intertwined with corruption. Quality of government can be defined as the impartiality of government institutions in the exercise of governmental power (Rothstein & Teorell, 2012). This builds on the idea that impartiality makes the actions of a government more predictable, reliable,

and indiscriminatory for citizens. Many countries with high levels of national corruption have low quality governments (De Graaf & Wiertz, 2019). This will influence the cost-benefit analysis of occupational groups at the micro level. In countries with higher quality of state, there is a higher probability to be detected with corrupt behaviour and suffer the consequences (D'Souza & Kaufmann, 2013). In contrast, the chance is lower to be penalised when corruption is ingrained in the government system. Expectations that the government will fulfil its tasks will be lower, and thorough monitoring is likely to be absent (De Graaf & Wiertz, 2019). Additionally, the probability is higher to get access to what you need by using bribery and favouritism, making it more likely that corrupt acts are successful (Carson, 2014, Dong & Torgler, 2009). This leads to the same expectation as in the previous sections: the difference across individuals with varying occupational statuses in petty corruption becomes smaller as country level corruption increases.

Though the aforementioned mechanisms of collective action emphasise different things, they are all interrelated and have overlaps. Consequently, they all come to the same conclusions: that increased national corruption fuels bribery and favouritism among all citizens (Carson, 2014, De Graaf & Wiertz, 2019, D'Souza & Kaufmann, 2013, Rothstein, 2011). I argue that this will reduce the differences between individuals of varying occupational statuses in their petty corruption engagement. This is a mechanism that we observe more often with other phenomena, for instance when the overall level of educational attainment increases, leading to less inequality in educational attainment by social origin (Hadjar & Gross, 2016). Thus, based on the collective action theory, I expect that the effect of occupational status becomes less strong when corruption on the national level increases. Figure 1 gives insight in all mechanisms combined.

Hypothesis 2. A higher level of corruption on the country level weakens the relationship between occupation and (a) bribery or (b) favouritism respectively.

Figure 1

Conceptual model of the whole theoretical framework

Individual level

| | + | |
| Occupation | $\longrightarrow$ | Bribery / favouritism |

Country level

−

| Level of corruption |
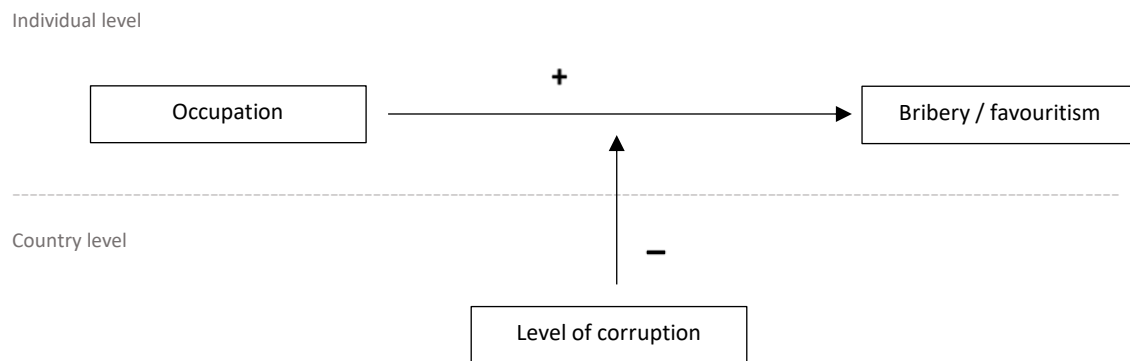
Note. The expected effect of occupational status on bribery and favouritism, moderated by country level corruption.

Method

This study used a quantitative methodological approach to test the derived hypotheses. In order to connect the main micro- and macro level mechanisms, two existing data sets were combined. Individual level data was retrieved from the Global Corruption Barometer (GCB), which measures a participants' experience of bribery and favouritism in six different fields of the public sector. Country level data was retrieved from the Corruption Perceptions Index (CPI), which provides a measure of the overall level of corruption per European Member State. To make the data sets compatible, all data was collected in the same year; 2020. Furthermore, both data sets are derived from Transparency International, which has the advantage of combining data sets that use the same definition of corruption.

Data collection

Before proceeding, it is important to pay some attention to the nature of data on corruption, and the discussion about whether it can be objectively measured. Measuring corruption is a challenging task because of its clandestine character (Mocetti & Orlando, 2019, Heath et al., 2016). As most illegal activities corruption occurs covertly. Therefore, observable, quantifiable data is hard to come by. The result is that all data sources linked to corruption have their shortcomings (Ivlevs & Hinks, 2015). Nonetheless, there are several approaches available.

To measure individual level corruption, this study used the social survey from the GCB. For sociological research on a cross-national scale, a survey-based method is a good option to get a representative sample. The GCB identifies experiences of individual level petty corruption, *i.e.*, bribery and favouritism. Asking questions about actual experiences are more promising than the often-used questions about perceptions of corruption, because they are much less open to interpretation (Heath et al., 2016). However, with self-reporting illegal behaviour, respondents are likely to underreport their participation in bribery and favouritism, which may bias the results (Ivlevs & Hinks, 2015). Nevertheless, since the goal of this study is to investigate an individual's involvement in petty corruption, measuring behaviour fits better than measuring perceptions.

As a country-level measure of corruption, I used the expert-based measurement of the CPI from Transparency International. The index is built up out of several indicators, mostly based on the perceptions of international businessmen (Ivlevs & Hinks, 2015). Some academics are sceptical towards the CPI and question how well it measures the real incidence of corruption (Heywood & Rose, 2014). Among other things, it is argued that businessmen are biased towards a free market ideology, which might create an over-estimation of corruption in low-income countries (Razafindrakoto & Roubaud, 2010). Since this paper focuses on developed countries in the

European Union, I expect relatively low over-estimation. Regardless of the critique on the CPI, there are also academics who advert that it is the best option out of many imperfect alternatives (Treisman, 2000, Uslaner & Rothstein, 2016).

Study population and sampling

The European Union data set of the GCB consists of a survey assessing experiences with and opinions on corruption (Transparency International, 2021). The questionnaire was conducted by the research agency Kantar on behalf of Transparency International, an anti-corruption non-governmental organisation (NGO). Data was gathered in all 27 European Union Member States, targeting Europeans aged 18 years and older. Fieldwork dates were between 12 October 2020 and 6 December 2020, with only slight differences in this time span between countries.

A questionnaire with structured interviews was held via computer-assisted telephone interviews (CATI), using an overlapping dual frame design of both landlines and mobile phones. Probability samples were drawn using random-digit dialling (RDD), elevating the external validity of the data. Sample sizes were adjusted per country to achieve a representative number of respondents of each regional population. Regions were based on the Nomenclature of Territorial Units for Statistics (NUTS) classification scheme. The risk of excluding participants without a phone is minor, as the share of people having access to a mobile phone in European Union households already reached 93% by 2015 (Statista, 2023). The overall response rate was 5.2% (*N*=40,663). A weighting approach was used to correct for this. The questionnaire was translated into the main languages of each country to adapt to the target groups. The final samples included only respondents with valid scores on all variables measured in the statistical analysis. Answer categories 'do not know' and 'refused' were not included in the final sample. After listwise deletion this resulted in a sample of *N*=16,624.

At the national level, corruption is measured by the Corruption Perceptions Index (CPI), which is a ranking based on the scores given by multiple experts and businesspeople. The CPI 2020 is derived from 13 data sources that were used as indicators to construct a final index (Transparency International, 2020). The indices consist of surveys that asked international businessmen about their perceptions of corruption. These surveys are conducted by other organisations, for instance by the World Bank or the World Economic Forum. The full list of data sources can be found in Appendix A. The indicators are the basis of an integrity scale that ranges from 0 to 100, which produces a score for each country. Scores close to 100 corresponds to high integrity, whereas scores close to 0 correspond to high corruption.

The full methodologies of the GCB and CPI are accessible via the data availability statement.

Operationalisation

All micro level indicators, both dependent and independent, were retrieved from the GCB. Country specific variables were gathered from the CPI. The descriptive statistics of all included variables are shown in Table 1.

Dependent variables

For both dependent variables, respondents were asked whether they had had contact with any of the following public services in the past 12 months in their country: a public school; a public clinic or hospital; a government office in order to get an official document, such as a birth certificate, driver's license, passport or voter's card, or a permit; a government office in order to get unemployment or other social security benefits; the police; or the courts. All items were taken together to reflect the total public sector. Only respondents who actually came into contact with public sector services in the past year were included.

Favouritism was measured by asking respondents how often they had to use personal connections in order to get the assistance or services they needed. Answer categories existed of the following: (1) never; (2) once or twice; (3) a few times; and (4) often. The answers were recoded into a binary variable with the following indicators: (0) didn't use personal connections; and (1) used personal connections. Respondents were placed in the last category if they used their connections in any of the services at least once, which consisted of 34.4% of the final sample.

Bribery was measured by asking respondents how often they had to pay a bribe, give a gift, or do a favour in order to get the assistance or services they needed. Answer categories existed of the following: (1) never; (2) once or twice; (3) a few times; and (4) often. The answers were recoded into a binary variable with the following indicators: (0) didn't pay a bribe; and (1) paid a bribe. Respondents were placed in the last category if they paid a bribe in any of the services at least once. Only 6% of the participants indicated they were involved in a bribe over the past 12 months, against 94% who did not pay a bribe (See Table 1). The question does not indicate whether the respondent was the initiator or the co-conspirer of the bribe, which must be taken into account when interpreting the results.

Favouritism was more common than bribery among the European population. Whereas 7.7% of the final sample engaged in bribery, this was more than for times higher for favouritism with 33.8%. Figure 2 shows the prevalence of bribery and favouritism per European Member State. It shows that more than half of the respondents in Czechia (58.5%) and Portugal (52.5%) engaged in favouritism. In Estonia (13.6%), Sweden (17%), and the Netherlands (18.5%) this was less than a fifth of the population. Engagement in bribery was especially high in Bulgaria (20.6%)

and Romania (21.8%), where over a fifth of the population paid a bribe. In Denmark and Finland this was only 0.6%.

Figure 2

Share of the population that engaged in favouritism or bribery over the past 12 months.
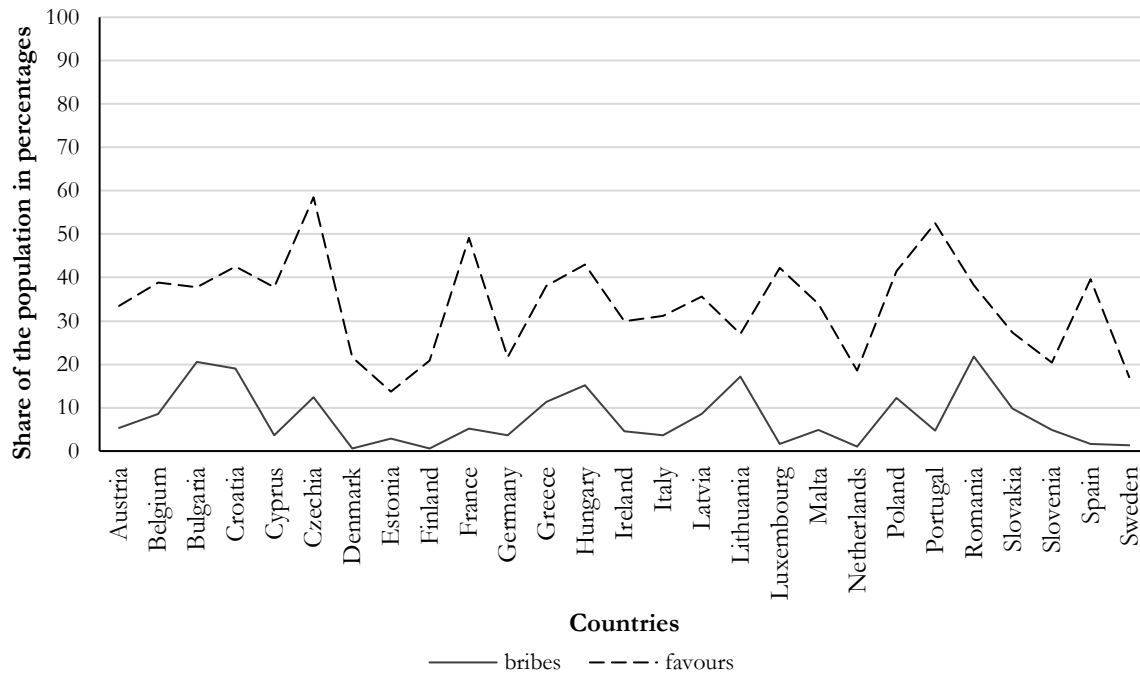
Note. Data retrieved from the Global Corruption Barometer EU (Transparency International, 2021).

Micro independent variables

Occupational status, the main independent variable, was based the question: 'What is your main occupation?'. The original answer categories were ordered by occupational titles. To make these titles meaningful and internationally comparable, they were recoded into a hierarchical classification scheme. To fit the objective of this study, occupations were arranged by their socio-economic status, varying from: (1) low socio-economic status; (2) middle socio-economic status; and (3) high socio-economic status. Merely 7.8% fell in the category low occupational status, against 62.3% who had a middle- and 29.9% who had a high status (See Table 1). How the original occupational titles were standardised is included in Appendix B.

Age is generally found to be an important indicator of corrupt behaviour (Hunady, 2017). It was measured as a continuous variable by asking the question: 'How old are you…?' and ranges from 18 to 64, as this can be considered the working age population (OECD, 2023). The mean age was 42,67 (SD=11.36).

Income is found to positively affect an individuals' engagement in bribery (Mangafić & Veselinović, 2020). Unfortunately, actual income was not measured in the data set. Therefore, I used a question about perceived purchasing power as a proxy for household income. This was measured by the question: 'Thinking about the income your household earns, would you say that in your household …?'. Answer categories were as follows: (1) you can't buy at all what you would need; (2) you need to borrow or spend savings to buy things you need; (3) you can manage with difficulties; (4) you have just enough to buy what is needed; and (5) you have enough to buy what you want. This was recoded into a dummy variable with: (0) difficulties; and (1) enough. The category 'difficulties' consisted of options 1 till 4, the category 'enough' consisted of option 5 only. Both categories contained nearly the same number of respondents (See Table 1).

Gender may predict corrupt behaviour. Influential studies from Dollar et al. (2001) and Swamy et al. (2001) state that women are less prone to corruption, though more recent research finds that this relationship differs per institutional context (Barnes & Beaulieu, 2019, Esarey & Chirillo, 2013). Hence, gender is taken into account as a dummy variable: (0) male; and (1) female. The final sample contained approximately equal numbers of men and women (Table 1).

Educational level is controlled for, since several academics stated that the higher educated are more likely to engage in corruption (Hunady, 2017, Mangafić & Veselinović, 2020). It was measured by the following question: 'What is your highest level of education?'. There were only two categories that came forth out of this question, of which a dummy variable was made: (0) primary, secondary, or higher secondary; and (1) tertiary. This might result in less accurate findings than a variable with more refined categories, but it is preferable over excluding it. There were more low educated (62.8%) than high educated (37.2%) respondents.

Institutional trust negatively affects the probability of getting involved with corrupt acts (D'Souza & Kaufmann, 2013, Ivlev & Hinks, 2015). Institutional trust was measured by asking respondents to what extent they had trust in the national government, local government, European Union institutions, courts, and police. The answer categories were measured as follows: (1) no trust at all; (2) not very much trust; (3) a fair amount of trust; and (4) a great deal of trust. All items were scaled on the mean scores, with a Cronbach's alpha of α=.766, indicating an acceptable internal consistency to combine variables. Table 1 shows that the mean score is 2.76 (SD=0.64).

Macro independent variable

Country level corruption was measured by the CPI, which measures corruption on a scale from: (0) high corruption; to (100) high integrity. Thus, a high score means a low level of corruption. Scores per country were merged into the GCB data set as a new variable, ranging from 44 to 88 with a mean of 62.45 (SD=13.92).

Table 1
Descriptive statistics

	Range	Proportion (%)	Mean	Std. Dev.	Observations
Level 1 individual					
Occupational status	1-3				16,624
Low		7.8			
Middle		62.3			
High		29.9			
Bribery (1=yes)	0-1	6			16,624
Favouritism (1=yes)	0-1	34.4			16,624
Educational level (1=high)	0-1	37.2			16,624
Gender (1=female)	0-1	47.6			16,624
Income (1=enough)	0-1	49.7			16,624
Age	18-64		42.67	11.366	16,624
Trust	1-4		2.764	0.643	16,624
Level 2 country					
CPI	44-88		62.45	13.917	27

Notes. Range, proportion (%), mean, standard deviation, and total observations.

Data analysis / Analytic model

The dependent variables in all analyses are binary thus I chose a binary logistic regression to test the hypotheses. The data analysis proceeded in several steps. First, the overall bivariate relationships between occupational status and bribery or favouritism were investigated using a simple bivariate logistic regression. The odds ratios of bribery and favouritism by occupation were analysed to see if any initial effect was present. Second, the model was extended by controlling for the factors presented in the previous section, and then by testing for interactions between occupation and country CPI. In addition, I did robustness checks to account for possible bias. IBM SPSS Statistics version 28 was used to calculate all estimates.

Because individuals are embedded in countries, the model consists of two levels. To fit the hierarchical structure of the data I used a fixed effects approach. This allows for controlling country level heterogeneity by using dummy variables (Möhring, 2012). Because of the small number of countries in the analysis, this is a good alternative for the often-used multi-level modelling and avoids omitted variable bias.

When accounting for both levels and the interaction effect, the model used was:

$$\text{Bribery}_{ij} = \beta_0 + \beta_1 \text{Occupation}_{ij} + \beta_2 \text{Occupation}_{ij} + \beta_3 \text{Education}_{ij} + \beta_4 \text{Gender}_{ij} + \beta_5 \text{Age}_{ij} + \beta_6 \text{Income}_{ij} +$$
$$\beta_7 \text{Trust}_{ij} + \beta_8 (\text{Occupation}_{ij}*\text{CPI}_j) + \beta_9 (\text{Occupation}_{ij}*\text{CPI}_j) + \gamma_2 D_{2i} + \gamma_3 D_{3i} + \ldots + \gamma_n D_{ni} + u_{ij}$$

In this model bribery is the log of the odds as a function of parameters at the individual level (i) and the country level (j). A cross-level interaction is included consisting of occupation and CPI. Dummies were created to control for the country level variations with (γ) representing country fixed effects. Bribery can be used interchangeably with favouritism.

Assumptions

Logistic regression models assume independency of observations. This assumption is violated because of the hierarchical nature of the data. Ignoring the nested structure would likely lead to spurious estimations, as standard errors may be underestimated resulting in falsely significant outcomes. A clear advantage of selecting the fixed effects approach is that it controls for the country heterogeneity, making the violation redundant (Vincens et al., 2018).

Cooks' distance was obtained to look for potential outliers in the independent variable, of which none >1 was found. However, standardised residuals for the dependent variable did show outliers and influential cases. I used the bootstrapping method to account for this and found no large differences (Efron & Tibshirani, 1993). The Box-Tidwell transformation was used to test for linearity of the logit (Box & Tidwell, 1962). It was violated by CPI, age, and governmental trust. Because the sample size was sufficiently large, and bootstrapping resulted in similar results I proceeded with the model (Field, 2018).

Collinearity statistics showed no variance inflation factor of VIF <1, which indicates that the assumption of low multicollinearity was met. A Spearman correlation matrix that illustrates this finding can be found in Appendix C, Table A.3.

Ethics

All individual level data retrieved from the GCB is anonymised and collected with informed consent of its respondents.

Results

The effect of occupation on the likelihood of engaging in bribery and favouritism is tested with logistic regressions. The results are presented as odds ratios. Preliminary to describing the results I want to remind the reader to apply extra caution when interpreting the outcomes of the analyses. The nature of the data is correlational and does not imply causal effects. The empty models (0) of Table 2 and Table 3 are merely calculated to check how much variance the second level explains. They only contain N-1 country dummies. It shows that 10,6% of bribery and 7,6% of favouritism variance is due to the country level (Nagelkerke R^2). In Appendix C, the results of the same analyses can be found without fixed effects (Table A.4 and Table A.5).

Bribery

Table 2 presents the findings of the logistic regression models that measure the effect of occupational status on bribery, and whether this is affected by the overall corruption in a country. To assess if there is a basic relationship between occupation and bribery, I begin with a baseline model (Model 1) which shows an initial positive bivariate relationship. A simple look at the whole sample through a crosstabulation illustrates this correlation and indicates that 5.3% of low status individuals paid a bribe in the last year, against 5.5% of middle status and 7.2% of high-status occupations.

To test hypothesis 1a, the individual level controls are included in Model 2. I find a moderate positive and significant effect for individuals of both middle (OR=1.332) and high occupational status (OR=1.683). The effect is strongest between a high and a low occupational status: individuals with a high occupational status are 1.683 times more likely to engage in bribery than those with a low occupational status. Thus, there is a positive effect of occupation as a whole, and the data thereby supports hypothesis 1a. Model 2 is statistically significant $\chi^2(33)=829.383$, p=<0.001 and explains 13.3% (Nagelkerke R^2) of the variance in bribery.

Given that the level of corruption in a country is expected to be relevant, Model 3 includes the cross-level interaction terms. The predicted odds ratios of the interaction effect are both non-significant, indicating that CPI does not influence the relationship between occupational status and bribery, neither positively nor negatively. Thereby, I find no support for hypothesis 2 in the case of bribery. The model is statistically significant $\chi^2(35)=830.778$, p=<0.001 and explains 13.4% (Nagelkerke R^2) of the variance in bribery. An important side note is that all odds ratios of the significant explanatory variables are close to 1 and are considered small effect sizes (Chen et al., 2010). Other covariates are roughly the same across all models, of which age and trust in the government are both significant predictors of bribery.

Table 2
Logistic regression models for bribery

	Model 0	Model 1	Model 2	Model 3
	Empty	Baseline	+Individual controls	+Interaction
Level 1 individual				
Occupational status				
Low		Ref.	Ref.	Ref.
Middle		1.248 (0.136)	1.332* (0.138)	2.434 (0.726)
High		1.457** (0.139)	1.683** (0.145)	2.161 (0.754)
Educational level			0.874 (0.077)	0.874 (0.077)
Gender			1.100 (0.069)	1.101 (0.069)
Income			1.002 (0.077)	1.001 (0.077)
Age			0.981** (0.003)	0.981** (0.003)
Trust			0.532** (0.060)	0.534** (0.060)
Level 2 country				
CPI × Occupation				
CPI × Low				Ref.
CPI × Middle				0.990 (0.012)
CPI × High				0.996 (0.013)
Model statistics				
χ^2 (df) Model	654.036**(26)	663.274**(28)	829.383**(33)	830.778**(35)
AIC	6933.284	6938.046	6781.937	6784.542
Pseudo R^2	0.106	0.107	0.133	0.134
Ind. Obs. (countries)	16,624 (27)	16,624 (27)	16,624 (27)	16,624 (27)

Notes. Exponentiated coefficients. Country fixed effects included in analysis. Standard errors in parentheses. *p<0.05. **p<0.01. Confidence interval 95%. Educational level: 1=high. Gender: 1=female. Income: 1=enough.

Favouritism

The results for favouritism are shown in Table 3. Variance explained by occupational status only is presented in Model 1, which shows that middle status occupations have significantly lower odds of using personal contacts for private gain than low status occupations. This effect is absent for persons of a high status. Thus, there is a moderate negative – and only partially significant – effect present in the data. An evaluation of the sample illustrates this finding; it shows that 41.1% of low status individuals say they used favours for public services, against 33.2% of middle status and 35% of high-status occupations.

In Model 2, which also includes individual level controls, the main relationship between occupational status and favouritism is reduced to an insignificant effect. Therefore, hypothesis 1b is not supported by the data. The model is statistically significant $\chi^2(33)=1460.081$, p=<0.001 and explains 11.6% of the variance in favouritism. The other covariates are stable across all analyses. In all models, gender has a significant positive effect, whereas income, age, and trust in the government are all significant negative predictors of favouritism.

To evaluate whether country level corruption affects the bivariate relationship between occupation and favouritism, a cross-level interaction is added to the final model. A note for correct interpretation; a high level on the CPI means a low level of corruption. Model 3 shows that country level corruption significantly affects the likelihood of engaging in favouritism for people of middle status occupations (OR=0.982), though this effect is not present for people of high status occupations. Thereby, the likelihood of demonstrating favouritism for middle status individuals appears to differ across countries, whereas the data shows that high status occupations behave similar everywhere. The effect is negative, but must be interpreted as a moderate positive influence of contextual corruption on the relationship between occupation and favouritism. Because hypothesis 2 predicted the interaction to weaken a positive relationship, it is refuted for favouritism as well. Model 3 explains 11.7% (Nagelkerke R^2) of the variance in favouritism and is statistically significant $\chi^2(35)=1472.126$, p=<0.001. All odds ratios of the variables of interest are close to 1 and are therefore considered as small effect sizes (Chen et al., 2010).

Table 3
Logistic regression models for favouritism

	Model 0	Model 1	Model 2	Model 3
	Empty	Baseline	+Individual controls	+Interaction
Level 1 individual				
Occupational status				
Low		Ref.	Ref.	Ref.
Middle		0.831** (0.063)	0.884 (0.064)	2.731** (0.360)
High		0.844 (0.066)	0.942 (0.070)	1.905 (0.376)
Educational level			0.979 (0.039)	0.979 (0.039)
Gender			1.131** (0.035)	1.130** (0.035)
Income			0.915** (0.038)	0.914* (0.038)
Age			0.980** (0.002)	0.980** (0.002)
Trust			0.597** (0.031)	0.598** (0.031)
Level 2 country				
CPI × Occupation				
CPI × Low				Ref.
CPI × Middle				0.982** (0.006)
CPI × High				0.988 (0.006)
Model statistics				
χ^2 (df) Model	945.709**(26)	954.420**(28)	1460.081**(33)	1472.126**(35)
AIC	20501.956	20497.246	20001.585	19993.540
Pseudo R^2	0.076	0.077	0.116	0.117
Ind. Obs. (countries)	16,624 (27)	16,624 (27)	16,624 (27)	16,624 (27)

Notes. Exponentiated coefficients. Country fixed effects included in analysis. Standard errors in parentheses. *p<0.05. **p<0.01. Confidence interval 95%. Educational level: 1=high. Gender: 1=female. Income: 1=enough.

Discussion

The main research objective of this study is twofold: first to examine the relationship between occupational status and two forms of petty corruption in the public sector – bribery and favouritism – and second, to investigate if the overall level of corruption at the country level influenced these relationships.

Theoretical implications

An individuals' occupational status was expected to influence the likelihood of a person engaging in bribery or favouritism respectively. Utilising cross-sectional data this study suggests a moderate occupational gradient in bribery, but not in favouritism.

The occupational gradient in bribery

The first tested hypothesis relates to the relationship between a person's occupational status and their potential involvement in a bribe (1a). This study shows that a higher occupational status increases an individuals' likelihood to engage in bribery. Reasoning from the classic rational choice perspective, this suggests that people with a higher occupational status see more potential benefits in a bribe (Carson, 2014, Juraev, 2018, Rose-Ackerman, 1978). The literature shows that having a high status can open the doors to more economic capital and bargaining power that people can use to their advantage (Heath et al., 2016). This influences how a person perceives the costs and gains of engaging in a bribe, possibly changing the ability and willingness to get involved. For instance, Ryvkin and Serra (2012) point out that persons with more bargaining power may raise extra benefits from bribery. It is also plausible that high status groups can exert influence or pay off other involved parties to silence them, reducing the chance of detection and potential negative consequences (Pop, 2012, Swamy, 2001). Additionally, the findings indicate that low status groups may indeed be more risk averse towards bribery. As several authors wrote, the potential costs of having to pay a fine is more likely to outweigh any benefits of a bribe when a persons' resources are low (Dong & Torgler, 2009, D'Souza & Kaufmann, 2013). I therefore conclude that high status groups are more resilient and can better mitigate the potential costs than those of low status.

An important consideration must be made at this stage of the explanation regarding the nature of the data. Because it is not specified in the survey who initiated the bribe, it is impossible to determine if high status groups have more ability or willingness to engage in bribery, or if they are simply more exposed to requests for a bribe. Following what Robinson and Seim (2018) found, it may be that high status groups are more often targeted because public officers see status as a signal of a potential bribe giver. Therefore, though there is a small positive effect of occupation

on engagement in bribery, the true interpretation of the findings remains inconclusive on this aspect.

Furthermore, this study finds that national level corruption exerts no moderating influence on someone's likelihood to engage in a bribe (2a). This indicates that there are no large contextual differences in the relation between occupation and bribery across European countries. Still, the basic relationship between occupational status and bribery is robust and holds across countries when accounting for country level characteristics. At this point, I can only provide a speculation as to what the reason for this might be. It is plausible that corruption levels are not high enough in Europe to have the effect of a systemic corrupt environment as Rothstein (2011) describes, inevitably resulting in a null finding.

National differences in favouring personal contacts

Unexpectedly, occupational status has no effect on favouritism in the data (1b). The results thereby question the social influence mechanism of social capital in this scenario. Though connections are key for the corrupt use of personal contacts (De Sousa, 2008), it does not appear to matter whether a person is likely to have connections with relative power or influence. I attempt to give a possible reason as to why the findings differ from the expectation. As this study finds no significant relation between occupational status and favouritism in either direction, it may be that status is not a relevant predictor of favouritism in general. Interestingly, the findings in Figure 2 showed substantial differences in the incidence of favouritism across countries. I therefore suggest leaving occupational status out of the equation and exploring social capital at the national level to better understand the factors determining favouritism. For instance, overall social cohesion (Charron & Rothstein, 2018) and levels of generalised trust (Son & Feng, 2019, You, 2017) may be possible predictors of favouritism.

Interestingly it seems that 'context matters' for middle status occupations only, in this case the context being the national level of corruption (2b). When corruption becomes more profound, this strengthens the relationship between middle occupational status and favouritism. Earlier studies also found that what people consider acceptable in regard to favouritism strongly varies per country (De Sousa, 2008). The results do not tell us in which countries the middle-status effect is stronger, but based on the literature I can produce an informed guess. The original CPI scores show that Bulgaria, Croatia, Hungary, Romania and Slovakia are the only countries scoring lower than 50 and thus have relatively high corruption levels (See Appendix B.). Interestingly, these are all former-communist countries. Vveinhardt and Sroka (2020) explained that the use of social connections in formal procedures is still widely spread in these regions. It is therefore likely that

this explains the difference in middle status favouritism across European Member States and that the effect is strongest in former communist countries.

Methodological considerations

Using a fixed effects approach appears to be an adequate alternative to conventional multilevel models in the case of a small number of entities at the second level (Möhring, 2012, Terrano, 2015). I believe that adding this method to the basic logistic regression design strengthens the methodology of this study. It fits well to the cross-sectional nature of the data, and to the cross-level interactions of the model.

This paper also offers several other advances. Combining individual and contextual information to analyse corruption on two levels is a method that generates valuable insights for a phenomenon that is hard to study. Utilising a large data set including 27 nations and many observations contributes to this cause. As a final remark, exploring and understanding particular types of corruption is argued to be key in developing effective anti-corruption policy (Heath et al., 2016, Jancsics, 2019). Studying two of those, bribery and favouritism, makes a valuable contribution to existing research.

It is important to remember that the conclusions of this study are based on correlational data, and do not indicate any causal impact of occupation on forms of petty corruption (bribery and favouritism). Still, the results provide useful insights because of several reasons. For one, the individual level outcomes are based on actual corrupt behaviour instead of the often-used perceptions of corruption (Heath et al., 2016). Therefore, they are meaningful indicators for investigating rational choice mechanisms.

There are some limitations to this study. First, the nature of data on corruption is in general rather poor. Respondents at the individual level may underreport on their behaviour as it is generally seen as unethical (Ivlevs & Hinks, 2015). The perceptions of corruption at the country level on the other hand, has the disadvantage of being rather subjective. Nonetheless, authors argue that it is the best option for a cross-national comparison (Uslaner & Rothstein, 2016).

Second, the use of a secondary data set with variables not designed for scientific research limited the study design. The nature of the data resulted in several indicators that were not ideal measures for the respective variables. Specifically, the answer categories of occupation were relatively open to interpretation, though aggregating them by using the ISCO-08 and the ISEI-08 as a basis may have largely accounted for this issue (Ganzeboom, 2010, ILOSTAT, 2023). Additionally, the indicator for income was replaced by a proxy due to a lack of a better measure, thus this might not have fully captured the concept. Even though these implications were present,

this was the best measure available for investigating the main research questions because of its accurate measure of corrupt behaviour at the individual level.

Implications for future research

Unfortunately, with the GCB data it was not possible to determine if the engagement in bribery was initiated by the respondent, or if the respondent merely agreed with a bribe after being asked. For future work it is relevant to investigate if the effects differ on this aspect of bribery. For instance, insights in this process might help security departments in the monitoring of bribery, which may prove useful in combating corruption.

Social capital theory was used to form a hypothesis about the relation between occupation and favouritism, assuming that those with higher occupational status have more connections with relative power. Though the hypothesis was refuted, social capital was not explicitly measured within this study. This seems an interesting lead, scientifically and for society, to explore further.

Conclusion

To sum up, the occupational gradient in bribery and favouritism is a modest one. Having a higher occupational status makes it more likely that someone engages in bribery, an effect that is robust across countries. Money buys power, one might say. The exact mechanism remains inconclusive on the aspect of greater willingness to bribe, ability to pay, or exposure to requests. In the case of favouritism, one's occupational status does not seem to be of significant influence. Therefore, the role of social capital remains blurred and requires more in-depth analysis. Corruption at the country-level did not have a weakening effect on both of these relationships.

Policy recommendations

In recent years, European governments have adopted a growing amount of EU anti-corruption legislation. As stated in the beginning of this article, this has not yet led to profound changes in its occurrence. As corruption is hard to tackle, attending to the practical implications is crucial for serving the public good and protecting democracies in Europe (Fazekas & Kocsis, 2017). Research into specific types of corruption brings about valuable information because policy responses need to be precisely aligned in order to have an effect (Jancsics, 2019).

To develop effective anti-corruption policy, it is important to understand the causes of corruption. By investigating occupational status as a determinant of bribery and favouritism, we gained a little more understanding about the underlying mechanisms of petty corruption. Even though not all expectations were supported by the data, some findings can still prove fruitful for policy recommendations. Thus, the final contribution of this paper is proposing some tools that can be used to discourage engagement in bribery or favouritism in public sector contact. Based on the theoretical framework of this study I advocate that influencing the cost-benefit analysis must be the central focus of anti-corruption strategies. It is implausible that individuals themselves change their priorities, as they follow their private interests (De Graaf & Wiertz, 2019). Therefore, focused policy steering is needed to prevent petty corruption in the public sector.

The main finding regarding petty corruption is that occupational status increases the likelihood of engaging in bribery, an effect that holds across European Member States. The occupational determinant may therefore be good to consider when attempting to form anti-corruption strategies for public sector bribery. The findings suggest that, apart from strong anti-corruption legislation on the European level in general, paying attention to the individual setting is required to combat petty corruption in the public sector (Sommersguter-Reichmann et al., 2018).

Because the public sector consists of multiple governing bodies and separate sectors, I propose tools that are specifically aimed at local municipalities, which have many tasks that involve daily dealings with citizens. Naturally, many aspects will be applicable for other fields of the public sector as well, but to provide clear recommendations I choose to pick and highlight one sector. It is important to keep in mind that even across municipalities it is not feasible that there exists a one size fits all. The practical implications must be adjusted accordingly.

Having a high-occupational status suggests that an individual has a lot to lose in terms of their high position, privileges, and status (Pop, 2012). Reasoning from a principal-agent approach, better monitoring may be the best strategy to influence an individual's cost-benefit balance because it increases the chance of getting caught. A good way to increase the monitoring of bribery is through strong reporting systems for wrongdoing. Though often overlooked in anti-corruption

programmes, whistleblowing is one of the most effective ways to expose corruption (Transparency International, 2023b). However, many individuals do not come forward due to fear of retaliation.

As stated in the previous section, it remains unclear whether citizens with a higher occupational status are more able, willing, or exposed to bribery. Therefore, supporting both citizens and public officers to safely report a request for engaging in bribery should be included in anti-corruption policies (Goel et al., 2016). This begins with the EU Whistleblower Protection Directive that must be transposed by every European Member State (European Commission, 2023). As many countries did not implement this yet, forming strong national laws is a good start. But even without formal laws municipalities are advised to invest in good reporting systems. Potential reporters must know how, where and to whom they can confidentially report bribery. This can be promoted by having an informative poster campaign and a dedicated section on the municipality's webpage. Such transparency campaigns may result in a greater fear of detection among high-status individuals as well as public officers, consequently discouraging their willingness to engage in a bribe.

E-government is another useful tool to promote more openness and transparency in the public sector. Following ideas of situational crime prevention, removing opportunities in which bribery can occur may reduce corruption (Graycar & Sidebottom, 2012). When there is no physical contact between a public officer and a citizen, it is harder to bribe or corruptly use personal contacts. Hunady and Orviska (2015) found strong support that higher shares of the population using internet during government contact reduces the incidence of corruption in the public sector. This seems to be a promising development in reducing petty corruption in municipalities.

Acknowledgements

Data availability statement

The Global Corruption Barometer – Europe (GCB) and the Corruption Perceptions Index (CPI) 2020 are both retrieved from Transparency International's database and are openly available for download at their website: https://www.transparency.org.

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Appendix A. Sources Corruption Perceptions Index

Corruption Perceptions Index 2020: Full Source Description

13 data sources were used to construct the Corruption Perceptions Index 2020

- African Development Bank Country Policy and Institutional Assessment 2018
- Bertelsmann Stiftung Sustainable Governance Indicators 2020
- Bertelsmann Stiftung Transformation Index 2020
- Economist Intelligence Unit Country Risk Service 2020
- Freedom House Nations in Transit 2020
- Global Insight Country Risk Ratings 2019
- IMD World Competitiveness Center World Competitiveness Yearbook Executive Opinion Survey 2020
- Political and Economic Risk Consultancy Asian Intelligence 2020
- The PRS Group International Country Risk Guide 2020
- World Bank Country Policy and Institutional Assessment 2019
- World Economic Forum Executive Opinion Survey 2019
- World Justice Project Rule of Law Index Expert Survey 2020
- Varieties of Democracy (V-Dem v. 10) 2020

Appendix B. Overview of CPI scores

The following countries were included in the statistical analysis: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and Sweden.

Their scores on the Corruption Perceptions Index are specified in Table A.1. A higher score indicates that a country has a higher level of integrity. Lower scores mean higher levels of corruption.

Table A.1
CPI score per European Member State

Country	CPI score	Country	CPI score
Austria	76	Italy	53
Belgium	76	Latvia	57
Bulgaria	44	Lithuania	60
Croatia	47	Luxembourg	80
Cyprus	57	Malta	53
Czechia	55	Netherlands	82
Denmark	88	Poland	56
Estonia	75	Portugal	61
Finland	85	Romania	44
France	69	Slovakia	49
Germany	80	Slovenia	60
Greece	50	Spain	62
Hungary	44	Sweden	85
Ireland	72		

Notes. Data retrieved from the Corruption Perceptions Index 2020 (Transparency International, 2020). Higher CPI scores represent lower levels of corruption. Range 44 to 88 (original scale 0 to 100).

Appendix C. Classification of occupations

All measured occupations from the GCB were recoded into an ordinal variable consisting of three categories of occupational status, as this classification fits best to the hypotheses that were derived from the theory. The standardising process existed out of three main steps. First, for the purpose of standardising all occupations into an international comparable classification, I used the 2008 version International Standard Classification of Occupations (ISCO-08) created by the International Labour Organization (ILO). They structured occupations based on a combination of the nature of the work, the level of formal education needed, and the amount of experience required to perform the tasks of the occupation (ILOSTAT, 2023). Second, to translate these categories into a measure of occupational status, I used the 2008 version of the International Socio-Economic Index (ISEI-08), which links corresponding occupational statuses to the ISCO-08 classification scheme (Ganzeboom, 2010). Third, I distributed all ISEI-08 scores into three levels. Scores from 0 to 29 became level 1, low status occupations. Scores from 30 and 59 became level 2, middle status occupations. Scores from 60 and over became level 3, high status occupations.

Table A.2 shows that some answer categories contained multiple occupations combined. For every occupation the most opportune level was retrieved from the ISCO-08. Naturally, this process remains prone to subjectiveness, which is important to note when interpreting the results.

Table A.2
Occupational standardisation

Occupations	Major Group	ISCO-08	ISEI-08	Level
Farmer	Skilled agricultural, forestry, fishery	6000	18	1
Farm worker	Elementary occupations	9200	14	1
Fisherman	Skilled agricultural, forestry, fishery	6000	18	1
Trader/ hawker/ vendor	Service and sales workers	5200	33	2
Miner	Elementary occupations	9300	24	1
Domestic worker/ maid/ cleaner/ home help	Elementary occupations	9100	17	1
Armed services/ police/ security personnel	Armed forces occupations	0000	53	2
Artisan/ skilled manual worker in the formal sector	Craft and related trades workers	7000	35	2
Artisan/ skilled manual worker in the informal sector	Craft and related trades workers	7000	35	2
Clerical worker	Clerical support workers	4000	41	2
Unskilled manual worker in the formal sector	Elementary occupations	9000	20	1
Unskilled manual worker in the informal sector	Elementary occupations	9000	20	1
Company employee	Clerical support workers	4300	43	2
Business owner	Managers	1100	69	3
Professional worker	Professionals	2000	65	3
Supervisor/ foreman	Managers	1000	62	3
Teacher	Professionals	2300	63	3
Government worker	Technicians and associate professionals	3300	53	2

Notes. Occupations as retrieved from the Global Corruption Barometer – European Union (Transparency International, 2021).

Appendix D. Supplementary tables

Table A.3

Spearman correlation matrix

	1.	2.	3.	4.	5.	6.	7.
1. Occupational status	1						
2. Educational level	0.282	1					
3. Gender	-0.031	0.074	1				
4. Income	0.134	0.198	-0.023	1			
5. Age	0.007	-0.074	0.056	0.007	1		
6. Government trust	0.007	0.123	0.046	0.268	0.038	1	
7. CPI	0.020	0.084	0.045	0.325	0.021	0.407	1

Notes. Range -1 to 1.

Table A.4

Logistic regression models for bribery, without fixed effects

	Model 1 Baseline	Model 2 +Individual controls	Model 3 +Country controls	Model 4 +Interaction
Level 1 individual				
Occupational status				
Low	Ref.	Ref.	Ref.	Ref.
Middle	1.042 (0.131)	1.385* (0.134)	1.477** (0.134)	1.683 (0.792)
High	1.375* (0.136)	1.859** (0.142)	1.847** (0.142)	2.679 (0.821)
Educational level		0.880 (0.075)	0.852* (0.075)	0.852* (0.075)
Gender		1.090 (0.067)	1.116 (0.068)	1.116 (0.068)
Income		0.807** (0.071)	0.977 (0.073)	0.976 (0.073)
Age		0.978** (0.003)	0.978** (0.003)	0.978** (0.003)
Trust		0.454** (0.053)	0.550** (0.056)	0.550** (0.056)
Level 2 country				
CPI			0.965** (0.003)	0.969 (0.013)
CPI × Occupation				
CPI × Low				Ref.
CPI × Middle				0.998 (0.014)
CPI × High				0.994 (0.014)
Model statistics				
χ² (df) Model	16.680**(2)	374.226**(7)	506.174**(8)	506.660**(10)
AIC	7532.640	7185.094	7055.146	7058.660
Pseudo R²	0.003	0.061	0.082	0.082
Ind. Obs. (countries)	16,624 (27)	16,624 (27)	16,624 (27)	16,624 (27)

Notes. Exponentiated coefficients. Standard errors in parentheses. *p<0.05. **p<0.01. Confidence interval 95%. Educational level: 1=high. Gender: 1=female. Income: 1=enough.

Table A.5

Logistic regression models for favouritism, without fixed effects

	Model 1	**Model 2**	**Model 3**	**Model 4**
	Baseline	+Individual controls	+Country controls	+Interaction
Level 1 individual				
Occupational status				
Low	Ref.	Ref.	Ref.	Ref.
Middle	0.713** (0.060)	0.854* (0.063)	0.876* (0.063)	4.417** (0.343)
High	0.773** (0.064)	0.909 (0.068)	0.915 (0.068)	3.574** (0.360)
Educational level		1.039 (0.037)	1.030 (0.037)	1.026 (0.037)
Gender		1.121** (0.034)	1.130** (0.034)	1.129** (0.034)
Income		0.789** (0.035)	0.835** (0.037)	0.836** (0.037)
Age		0.979** (0.001)	0.979** (0.001)	0.979** (0.001)
Trust		0.580** (0.028)	0.616** (0.029)	0.620** (0.029)
Level 2 country				
CPI			0.991** (0.002)	1.014** (0.005)
CPI × Occupation				
CPI × Low				Ref.
CPI × Middle				0.974** (0.005)
CPI × High				0.978** (0.006)
Model statistics				
χ² (df) Model	32.197**(2)	811.428**(7)	848.005**(8)	871.229**(10)
AIC	21367.469	20596.238	20563.661	20544.437
Pseudo R²	0.003	0.066	0.069	0.071
Ind. Obs. (countries)	16,624 (27)	16,624 (27)	16,624 (27)	16,624 (27)

Notes. Exponentiated coefficients. Standard errors in parentheses. *p<0.05. **p<0.01. Confidence interval 95%. Educational level: 1=high. Gender: 1=female. Income: 1=enough.