Department of Public Policy
CENTRAL EUROPEAN UNIVERSITY

THE IMPACT OF EU PRE-ACCESSION FUNDS ON PATTERNS OF CORRUPTION RISK:
Quantitative Analysis of Western Balkan Candidate Countries

By
Kristijan Samardjiski

Submitted to
Central European University
Department of Public Policy

In partial fulfillment for the degree of Master of Arts in Public Policy

Supervisor: Prof. Mihály Fazekas

Vienna, Austria

2024

Department of Public Policy
CENTRAL EUROPEAN UNIVERSITY

Author's Declaration Form

I, the undersigned, Kristijan Samardjiski, candidate for MA in Public Policy, declare herewith that the present thesis is exclusively my own work, based on my research.

All sources have been properly credited in the text, notes and the bibliography. I declare that no unidentified and illegitimate use was made of the work of others, and no part of the thesis infringes on any person's or institution's copyright. Furthermore, I declare that no part of this thesis has been generated using artificial intelligence (ChatGPT).

I also declare that no part of the thesis has been submitted in this form as coursework for credits or to another institution of higher education for an academic degree.

Date: 03/06/2024

Name (printed): Kristijan Samardjiski

Signature: 

Abstract

This thesis examines the relationship between EU pre-accession funding and corruption risk patterns within public procurement in certain Western Balkan states. By utilising a quantitative empirical approach based on red flag indicators – a method which has gained traction in recent years – this study analyses tendering data for the candidate countries of North Macedonia and Serbia. While doing so, the empirical segment covers the second and third cycle of the Union's pre-accession mechanism. The employed analytical approach is two-tiered – it includes both descriptive statistics and regression analyses following covariate matching. With it, the results read as follows: EU funds do not appear to impact corruption levels in the region in a uniform manner. In North Macedonia, EU funding causes increased differences between tender notices and awards, indicating one dimension of elevated corruption risk. On the other hand, in Serbia, EU funds appear to reduce the number of single-bidding tenders, which suggests a decrease in one risk factor. Altogether, this project aims to contribute to the broader understanding of the EU's transformative role – primarily within the Balkans, but also in the rest of post-communist Europe. Nevertheless, some limitations as a result of data availability leave space for future studies to explore these dynamics in a more nuanced fashion.

Table of Contents

List of Figures and Tables

1. Introduction

Countries in the Western Balkans have been receiving extensive financial and technical support within the framework of the EU accession process. More specifically, the Instrument for Pre-accession Assistance – or IPA[1] – has been envisioned to support good governance reforms in enlargement candidates, preparing them for both the rights and obligations of EU membership (European Commission, 2024b). Olivér Várhelyi, the current European Commissioner for Neighbourhood and Enlargement, exemplified the Union's continued assistance to the region in his remarks on the 2023 Enlargement Package:

> *Lastly, we want to increase the financial assistance to help our partners to speed up the reforms through a Reform and Growth Facility for the Western Balkans. This is a EUR 6 billion package in which EUR 2 billion in non-repayable support (grants) and EUR 4 billion in favourable loans. Adding the Growth Facility to the assistance under IPA III will provide the Western Balkans with roughly the same aid intensity per inhabitant as cohesion policy does on average in the EU.* (European Commission, 2023, para. 33)

At the same time, governments of Western Balkan countries have not produced the governing outcomes which one would expect as a result of such external support. The major presence of corruption, inter alia, seems to be a shared pitfall of the region. Namely, two reputable measures of perceived corruption – the Corruption Perceptions Index and Control of Corruption Indicator – indicate worsening or stagnating corruption perception trends, on average, across the Balkan states during the past decade (Transparency International, 2024; World Bank, 2024). This, in turn, begs the following question: could EU pre-accession funding be inadvertently worsening or sustaining regional corruption dynamics under conditions of poor governance?

This thesis therefore aims to investigate the relationship between EU pre-accession funds and corruption patterns in the Western Balkan region. Since corruption is inherently very difficult to quantify, as concluded from the reviewed literature, the thesis utilises an empirical approach which has become increasingly popular among corruption scholars in recent years. With the advent of 'big data' techniques for collecting and analysing data in the social sciences (Tokhi & Rauh, 2024), researchers have been able to apply a so-called 'red flag indicators' approach to a diverse set of research areas about public procurement (Dávid-Barrett & Fazekas, 2020;

[1] The assistance is implemented through individual cycles, each with specific funding priorities: IPA I (2007-2013); IPA II (2014-2020); IPA III (2021-2027) (European Commission, 2024b).

Decarolis & Giorgiantonio, 2022; Fazekas, Charron, Lapuente, & Dahlström, 2017). Here, the foundational idea is to observe results of tendering processes across a variety of categories, which, dependent upon their values, can signal an elevated risk of corrupt behaviour by public officials. This is a viable approach for this thesis too due to the (partial) availability of tendering information for Western Balkan countries.

On this point, within the accession process, the phrase Western Balkans usually refers to states which are both part of the geographical region and not Member States. This includes Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia and Serbia. However, there is space for additional nuance within this differentiation. Namely, some of these countries – Albania, Montenegro, North Macedonia and Serbia – have been formally acceding to the Union for a prolonged period of time[2]. Therefore, the expectation that pre-accession assistance has induced (positive) changes can be seen as higher for them than their regional counterparts.

Furthermore, the latter three have a shared recent history, as former constituent republics of Yugoslavia, and perform similarly on socio-economic indicators (OECD, 2024). As seen later, both of these aspects can have a major effect on how corruption manifests itself. However, due to limitations in data availability, as elaborated in the 'Research Design' chapter, Montenegro had to be omitted from the empirical section – its scope therefore covers North Macedonia and Serbia in the period of IPA II and IPA III funding cycles[3]. Although Albania also experienced communist rule, it was under a very different system and societal dynamics (Bartlett, 2007). The country is hence not included in the overall analysis[4].

This study is thus guided by the following research question: "How has financial support from the EU's IPA influenced the extent of corruption risk in public procurement in the long-standing ex-Yugoslav candidate countries?" Examining this is highly significant across two dimensions – firstly, its practical significance is, on one side, tied to how money from European taxpayers is being spent by the governments of receiving states. This coincides with one of the leitmotifs of corruption researchers. On the other, there are major political and economic implications of high corruption levels for the countries led by those governments (Amundsen, 1999).

[2] All listed countries have been candidates for over a decade and have, albeit at different times, started accession negotiations.
[3] This decision is based on the distribution of observations across years – please refer to the 'Data Processing: Challenges and Outcome' sub-chapter for a more extensive explanation.
[4] There were also major limitations in data availability, same as with Montenegro.

Secondly, from a theoretical standpoint, this analysis attempts to fill a literature gap at the nexus of EU funding and tendering outcomes. That is, such studies have extensively covered Member States, in particular those from the former communist bloc of Central/Eastern Europe (CEE) (Fazekas & King, 2019; Fazekas & Tóth, 2017), but have not delved into candidates for EU accession. Moreover, it tries to further supplement literature on the (lacking) transformative power of the EU. This research domain, both in terms of the Western Balkans and beyond, is already quite expansive.

The remainder of the thesis is structured as follows: first, literature on political corruption, the region's corruption landscape, the role of the EU and public procurement red flags is reviewed. Then, the theoretical framework is established, after which the study's quantitative research design is put forward. This is followed by a presentation of the analytical results and an ensuing discussion of them. In the end, some concluding remarks are provided.

2. Literature Review

2.1. Manifestations of Political Corruption

In his seminal paper on corruption and political development, Joseph Nye defined corruption as: "…behaviour which deviates from the formal duties of a public role because of private-regarding (personal, close family, private clique) pecuniary or status gains; or violates rules against the exercise of certain types of private-regarding influence" (Nye, 1967, p. 419). A few decades later, Inge Amundsen offered a more metaphoric explanation: "corruption is a disease, a cancer that eats into the cultural, political and economic fabric of society, and destroys the functioning of vital organs" (Amundsen, 1999, p. 1). Regardless of its specific annotation, one thing is perfectly clear – corruption is an undesirable phenomenon with severe consequences. However, it is still as universal as few other things in society, existing in both developed and developing countries, as well as the public and private sectors (Myint, 2000). The objective of this thesis requires particular emphasis on its manifestations in the political realm.

Political corruption encompasses a set of different behaviours, which, on a general level, can be categorised as grand, petty and systemic corruption (Klitgaard, 1988). On the one hand, grand corruption occurs in the highest government echelons – this includes a major subversion of state policies, as well as the overall functioning of countries, with the main goal of personal enrichment. Petty corruption, on the other hand, describes the day-to-day abuse of entrusted

power by low and mid-level public officials, usually characterised by extortion of bribes from citizens (Rose-Ackerman, 1999). Finally, the term systemic corruption denotes that corruption is pervasive within an entity. Here, the occurrence is deeply ingrained in its political, social and economic institutions (Johnston, 2005). Amundsen (1999) argues in favour of slightly different nomenclatures for the first two notions, with them being termed as political and bureaucratic corruption.

On another note, scholars have also examined how differences in political systems and cultural contexts influence political corruption. For instance, Montinola and Jackman (2002) assert that political competition does indeed affect corruption levels, yet this effect has been found to be non-linear – interestingly, corruption is typically lower in dictatorships than within countries with partial democratisation. However, once a certain threshold has been passed, democratic practices tend to hinder corruption. This aligns with findings by Warren (2004), who underlines that although democratic regimes are usually plagued by corrupt behaviour to a lesser extent, its presence can still be significant in case of weak institutions and insufficient checks and balances. In this regard, Treisman (2000) points to a complex relationship between democracy and corruption, with factors such as political stability and the strength of civil institutions historically playing a key role. Scholars have used this rationale to link the Soviet legacy with the entrenchment of oligarchic systems in Russia, among other European countries, since the fall of the Iron Curtain (Braguinsky, 2009).

2.2. The Western Balkans' Corruption Landscape

Almost all Western Balkan states belonged to Yugoslavia, a multi-ethnic socialist federation, which dissolved as a result of rising nationalism, political instability and economic downturn. The inability of its central government to manage this situation had led to a violent breakup during the 1990s. Against this backdrop, new governments were being formed in the midst of uncertainty and military conflict (Bokic, 2013), which has been found to be a fertile ground for corruption, regardless of the nature of its effects (Le Billon, 2003). These circumstances had resulted in the establishment of weak governance structures across the region, since the newly created states inherited political and bureaucratic systems which were unfit for democratic rule. This is captured through research on Croatia by Petak (2019) – the academic posits that its post-Yugoslav democratic system was characterised by authoritarian tendencies, cronyism and

corruption[5]. Within this context, political elites across the Balkans abused state resources for personal gain and therefore perpetuated a vicious cycle of corrupt misconduct (Obradovic & Novakovic, 2022).

These post-Yugoslav developments have multi-faceted implications in the present day. Zeneli (2016) has delved into the economic drawbacks of high corruption levels in the Western Balkans. Here, the author has found a negative impact of corruption on attracting foreign direct investment. Corruption has also been found to be negatively associated with income levels of poorer regions. Moreover, there are additional avenues through which corruption has hampered economic development. These include governance problems, such as misallocated government expenditures, tax evasion, lack of competitiveness, as well as suboptimal economic innovation.

Conversely, other researchers have taken an alternative approach to evaluating the corruption fallout in the region. Namely, quantitative estimations of the relation between corruption levels and human development have yielded valuable findings – in the primary countries of interest for this thesis (Montenegro, North Macedonia and Serbia), the results point to a strong negative relationship. However, this association is much weaker in the case of Croatia and meaningless when probed against Bosnian data (Hysa, 2011).

Apart from the aforementioned social and economic consequences, there are grave long-term democratic outcomes from such corrupt rule too, as political elites have abused political power for aims beyond personal enrichment. In studying Montenegro, North Macedonia and Serbia, Sotiropoulos (2017) arrives at the following inference – grand corruption in these states is not only a side-benefit brought by exercising governmental authority. On the contrary, such kind of corruption is one of several means used by elites to retain power which was initially attained by winning democratic elections. In this respect, anti-corruption mechanisms are often used to discredit political adversaries. Bak (2019) has touched upon the channels through which this is transpiring. Powerful patronage networks infiltrate and consolidate their control of institutions – they exert their power in key judiciary, law enforcement and anti-corruption bodies.

On a different note, Grødeland (2013) has tried to link public perceptions of corruption with anti-corruption efforts in the region. The scholar critiques the Western-centricity of normative

[5] Even though Croatia shared many issues with its Western Balkan counterparts, it has managed to (partially) overcome them and become an EU Member State. Researchers attribute this to: early partaking in multilateral treaties (Todić, 2019); commitment to comprehensive reforms (Cerruti, 2014); widespread support for European integration (Maldini, 2019). However, discrepancies in economic development must also be taken into account (Todić, 2019).

notions in the field. Here, she argues that there is scarce knowledge about the meaning and social acceptability of corruption in various cultural milieus, while emphasising the importance of such knowledge for proper reforms. Her findings indicate that a combination of "…(a) local perceptions of what does and does not constitute corruption, and (b) negative public perceptions of law, legal and political institutions that have developed historically…" (Grødeland, 2013, p. 537) are conducive to corruption and have a negative influence on anti-corruption initiatives across the Western Balkans. Along these lines, Budak and Rajh (2013) have provided a business sector perspective on obstacles for doing business within this regional setting. Their findings indicate that the country of origin of business people strongly influences their attitudes towards corruption. Those with corruption experience are inclined to see it more as 'greasing the wheels' compared to their peers.

2.3. The Role of the EU in the Region

The involvement of the Union in the Western Balkans began during the early 1990s, in the wake of Yugoslavia's breakup. During the previously reviewed conflicts, the EU's leadership decided to take an active role in regional peacekeeping and reconstruction efforts. Eventually, its involvement was formalised through the Stabilisation and Association Process (SAP), which was initiated in 1999. This year marked the beginning of its systematic approach to integrating the Western Balkan countries into its family of European states (Friis & Murphy, 2000). Against this backdrop, the primary target has been to stabilise the region through means of both political and economic reforms. These processes have been underpinned by the so-called Copenhagen criteria, i.e. standards for democratic decision-making, rule of law, human rights and economic stability which each potential Member State has to fulfil (Pridham, 2005).

Fast-forward to the present day, the region has been receiving financial support for this purpose comparable to intra-Union funding, with little to show for it in terms of governance parameters, as discussed in the introduction. As a result, an extensive debate among European integration experts has arisen. Tanja Börzel, a prominent integration scholar, presents the Western Balkans as a test case for the EU's transformative power in her 2011 working paper. Here, she underlines that the incompatibility with Union criteria for political and economic reforms is much greater than during the CEE enlargement wave. This has been accompanied by reduced pressure for adaptation on local governments. Under these circumstances, the previously mentioned weak state capacities, as well as ethnic conflicts, have decreased the willingness and ability of these

states to implement the EU acquis. The primary reason for this, in the eyes of the author, is the issue of limited statehood, which, albeit to a varying extent, has plagued all entities from this part of Europe. Hence, although EU pressure has the potential to result in formal institutional change, it is a necessary, but sadly insufficient criterion for transforming informal institutions and behavioral practices (Börzel, 2011).

Similar conclusions have been drawn by Elbasani (2013). That is, there have been successful reforms in tweaking laws and policies to match EU standards, but the depth and sustainability of such changes differ markedly from country to country and among sectors. Oftentimes, these reforms appear to be purely cosmetic – lacking actual substance. In this regard, Elbasani diverts attention to local political climates and institutional histories and how they play a major role in the end product of Europeanisation. Furthermore, local governments tend to pick and choose which reforms to conduct, mostly going for those which coincide with their interests – avoiding more fundamental changes along the way. Thus, even though the EU's conditionality approach has generated some benefits, it has been hindered by this uneven implementation of the acquis. This has only been exacerbated by mixed commitment signals from local stakeholders when it comes to fully embracing the path of European integration (Elbasani, 2013).

Finally, Richter and Wunsch (2020) have isolated avenues through which these developments occur. The authors also argue there is a decoupling of formal observance of membership criteria and actual democratic performance – they prescribe this difference to state capture and claim that EU conditionality has, in fact, contributed to the establishment of such problematic patterns of governance. Firstly, pushing for economic and political reforms at the same time has helped influential business networks deeply entrench themselves in politics. Secondly, the top-down approach to conditionality has hindered political competition and compromised crucial internal accountability and dialogue mechanisms. Lastly, formal steps towards membership and high-level interactions with EU officials have legitimised corrupt elites (Richter & Wunsch, 2020).

2.4. Public Procurement as a Corruption Estimator

There has traditionally been a lacking scholarly consensus for how to measure corruption. This underscores one fundamental issue faced by empirical studies. Firstly, as touched upon earlier, corruption is shaped by historical, social and cultural contexts. Secondly, it is susceptible to temporal and spatial variations. These two dimensions have made empirical inquiries result in

limited or disputed findings (Mény & de Sousa, 2001), illustrating the challenges in quantifying corrupt behaviour. However, there is one sector of public governance for which it is now viable to evaluate the risks of such behaviour. As introduced previously, estimating corruption through public procurement, i.e. "…who gets the contract, the terms of the contract, as well as terms of subcontracts when the project is implemented" (Myint, 2000, p. 35), has become possible with the increasing availability of digitalised information about public tenders in recent years.

A seminal work in this respect is the 2016 article by Fazekas, Tóth, and King, which provides an objective and composite corruption risk indicator by making use of public procurement data. The goal of the scholars is to "…fill some of the gap between the demand for reliable and valid corruption indices and the state of the data currently available" (Fazekas et al., 2016, p. 370). For this purpose, the authors locate red flags in the Hungarian tendering process, after which they relate the flags to restricted competition and repeated contract awards to the same (set of) companies. Due to the objectivity of the source data and the said increase in its availability – especially in developed countries – they posit that this approach generates an index which is consistent both temporally and spatially. In order to support this claim, the corruption scholars cross-validate their findings. Here, they demonstrate a link between high corruption risk and high profitability, among other things, for the scrutinised companies (Fazekas et al., 2016).

In a similar vein, Dávid-Barrett and Fazekas (2020) investigate development aid tenders funded by the World Bank, as they want to see the effects of a 2003 anti-corruption reform intended to improve oversight and competition. Following their causal assessment, the researchers outline the importance of such data analytics in monitoring public tendering on a systemic level, which should result in higher adaptability and effectiveness of anti-corruption initiatives.

On the other hand, corruption studies of others have taken a more micro-level approach. Namely, Decarolis and Giorgiantonio (2022) have looked specifically at Italian roadwork contracts. Here, through machine learning models, their analysis goes beyond the standard corruption risk outcomes that are popular in the literature by utilising operative practices of the police and judiciary. Similar to the research design by Fazekas et al. (2016), the authors use data on firm-level corruption risk to confirm the results. Overall, there seems to be a strong relationship between higher corruption risk and the presence of awarding criteria with several specifications. Interestingly, the Italian scholars claim that the lacking predictability of the red flags method renders it ineffective as a prediction tool. That is, in their case, the most used and

scrutinised red flags demonstrate either a lack of correlation or even a negative association with corruption (Decarolis & Giorgiantonio, 2022).

Finally, some studies have researched the effects of EU funding on corruption risk patterns in government procurement, in line with this thesis' topic. Fazekas and Tóth (2017) start by asking whether the EU's Structural and Cohesion Funds lead to lower levels of corruption and better governance or, in fact, have an opposite effect. In this respect, they refer to the hijacking of highway projects by the Italian mafia as a notable example. Their findings read as follows: "EU funding increases corruption risks in some EU member states albeit not in others, while on average having a negative effect across the EU" (Fazekas & Tóth, 2017, p. 200). Nevertheless, it is emphasised that corruption, as such, is a diverse occurrence which can only be partially illustrated with the help of red flag indicators.

Another comparable research endeavour revolves around grand corruption across Central and Eastern Europe, in particular. In this case, EU-originating funds have been found to increase corruption risk by up to 34 percent. A few causal mechanisms behind this have been pinpointed. Firstly, such funds appear to be accompanied by overly formalistic administrative compliance requirements. An actual improvement in competitive outcomes, such as the number of bidders, is presented as the desired alternative. Secondly, the discovered negative effects primarily come from public entities in which EU-derived funding constitutes the vast majority of procurement spending. Here, distorted accountability mechanisms pose an issue (Fazekas & King, 2019).

3. Theoretical Framework

As inferred from the literature, the issue of grand corruption in the Western Balkans appears to be rooted in its post-Yugoslav state-building. These processes were marred with instability and military conflicts. Such conditions led to the creation of improper governing structures across the region, from which political elites benefitted. Namely, select groups took control of and abused national resources, hence perpetuating a long-lasting cycle of political corruption. Importantly, the goal of such corrupt behaviour had gone beyond mere personal enrichment, with retention of ruling power coming to the fore. Through this, systemic corrupt occurrences have had severe consequences for present-day Western Balkan democratic orders. By having a look at the latest Freedom House global freedom and democracy status reports, it can be seen that the region's countries are ranked worse than their European peers across both dimensions

– they are partly free and transitional/hybrid democracies (Freedom House, 2024). This aligns with experts' conclusions, such as those of Montinola and Jackman (2002), which characterise flawed democracies as highly corrupt political regimes. This is the initial causal mechanism of the analysis, based on the historical and socio-political contexts of corruption in the region.

The second one relates to the transformative power of the EU. That is, while its conditionality approach has yielded some governance improvements, they have, for the most part, only ticked formal compliance criteria. This means that non-formal institutions and behavioural practices of old are still ingrained in the Western Balkan political landscape. Furthermore, governments in the region have been allowed to cherry-pick reform agendas suiting their own interests. This represents one way in which the EU's approach has (unintentionally) perpetuated problematic governance patterns. In a similar vein, intra-Union funding is responsible for worse corruption risk outcomes in CEE public tendering, a region which tends to share many post-communist legacies with these ex-Yugoslav nations. In this case, the primary culprit seems to be excessive formalism in compliance criteria, also present in IPA funds (European Commission, 2024b)

These causal pathways can be, to a certain extent, interpreted through two widespread theories in public policy and political science. The first one is institutional theory, which explores how institutions – made up of laws, norms and informal routines – tend to influence organisational structure and behaviour. According to this theory, actors are inclined to adhere to institutional norms and societal expectations for the sake of acquiring internal legitimacy. Such an approach emphasises the role played by local contexts and 'cognitive shortcuts'[6] in these settings. One practical application of this theory has taken place in development aid research. Here, the small share of successful aid experiences has raised question marks about its effectiveness. By tying aid outcomes to local institutional dynamics, researchers have been able to understand more intrinsically what makes such aid work and not work (Falconer, 2017). While the funding given by the EU to Member States certainly does not fall into such a category, the political, as well as economic separation vis-à-vis candidate countries provides for a different relationship that might resemble foreign aid dynamics to some degree. Thus, this theoretical perspective serves to elucidate the innate workings of the first pathway, linked to the domestic corruption contexts of the Western Balkans.

[6] For instance, different ingrained attitudes towards corruption, as discussed previously.

The second theory is the so-called principal-agent problem, which deals with the dynamics of task delegation. The underlying logic here is that the principal allocates tasks to the agent, who is better suited to conduct these tasks. However, this kind of relationship is oftentimes plagued by substantial challenges resulting from information asymmetry. In this regard, one issue is the so-called moral hazard[7] in economics. Within this scenario, the agent might prioritise their own objectives over those stipulated by the principal. Therefore, a major challenge for the principal arises, i.e. how to design effective mechanisms which ensure the agent's compliance with their goals. These measures also have to strike the right balance to avoid significantly constraining the ability of the agent in delivering the tasks (Braun & Guston, 2003; Kassim & Menon, 2003). In this situation, the EU's leadership can be designated as a principal, whereas the governments of Western Balkan states fulfil the role of agents, as they possess the legal authority to conduct internal reforms. The approach is thus closely related to the second causal mechanism, referring to the lacking EU influence in processes of governance transformation.

With that being said, the following hypothesis for the empirical inquiry can be drafted: "Public procurement financed by the EU's IPA is expected to demonstrate a higher degree of corruption risk compared to other tenders." This expectation stems from the assumed causal mechanisms, but also the conceptualisation of procurement corruption as grand/systemic corruption. In terms of the latter, the study closely follows the rationale employed by Fazekas and King (2019). The subsequent chapter presents the plan for inspecting this by means of tendering data for (some) Balkan states. In doing so, the scientific principles of validity and reliability are adhered to.

4. Research Design

This thesis employs a two-tiered quantitative research methodology. Its first part encompasses a descriptive assessment of the relevant variables which can provide valuable information on their own. For categorical ones, this is done through frequency charts – for numerical, by means of measures of central tendency and variability. The goal of this initial stage is to gain a more nuanced understanding of the data characteristics in the two groups of tenders – those with and those without IPA funding.

[7] An occurrence in which one party to a contract can take risks without having to face the full implications of those risks – usually because the other party bears the ensuing costs.

The second phase revolves around an impact evaluation through a quasi-experimental approach – matching. This represents a statistical method used to estimate the causal effect of a treatment (e.g. policy tool) by comparing outcomes between treated and non-treated observations which are similar in all – or most – relevant aspects, except for the treatment itself. The objective here is to mimic a randomised controlled trial, in which the treatment assignment is random. With this, researchers are able to attribute any differences in outcome to the treatment. That is, by controlling for observed confounders, i.e. covariates that influence the cause or end result, or perhaps both – regardless of the treatment effect - it is assumed that unobserved ones are also accounted for (Dayal & Murugesan, 2023). In the context of this study, such an approach should enable an estimation of the impact of EU funding on corruption risk values in public tendering. Thus, after matching on relevant covariates, linear regression models are used to estimate the effect. Findings are also compared to regression outputs for non-matched data.

With that being said, the following sub-chapters present the data source used for this study, as well as some challenges encountered while processing the data, which was done with the aim of setting the ground for causal inference. Finally, the rationale behind selecting the dependent variables, covariates and matching techniques is outlined.

4.1. Data Source: Public Procurement Portal

The data for the empirical section of this thesis was obtained from the 'opentender.eu' platform, which is part of the DIGIWHIST project. The portal contains data from 35 European entities (27 EU Member States, the EU institutions and other countries). Its aim is to provide elaborate public procurement information to the wider public in an accessible format. Every *opentender* dataset contains 185 variables – these vary from identifying attributes to technical details and financial information. Within the scope of the project, researchers have also drafted composite integrity scores, which range from 100 (best) to 0 (worst), and evaluate comparatively tender aspects, such as the length of the advertisement or decision period.

As outlined in the introduction, the initial idea was to empirically examine all former Yugoslav states that have been part of the accession process for a prolonged time. However, the platform contains data on only North Macedonia and Serbia. Even though collecting information on Montenegro for the purpose of this thesis was considered, its national procurement portal would have had to be web scraped due to a lack of an application programming interface (API).

As scraping procurement data can be especially challenging due to its characteristics (Bolcha, Vozárová, & Fanta, 2023), such an approach would have gone beyond the human capacity and temporal limitations of this project.

Data availability spanned from 2009 to 2024 for North Macedonia and 2011 to 2024 for Serbia. Each year had a unique .csv file, with observations in the datasets denoting tender lots[8]. It is important to note that the number of entries differed massively between years. For instance, in the case of Serbia, each dataset from the 2010s entailed less than 100 observations. At the same time, there were over 700,000 entries for 2021. This underlines one of the pitfalls of working with procurement information. Similar to other types of observational data (Norris, Ghali, Knudtson, Naylor, & Saunders, 2000), it is prone to incompleteness through missing categories and values. In fact, as seen in the ensuing sub-chapter, this turned out to be a major challenge during the data processing.

4.2. Data Processing: Challenges and Outcome

As mentioned earlier, *opentender* datasets contain an extensive set of variables. Among others, the presence of the 'tender_isEUFunded' one was instrumental to the research framework. As the name suggests, it indicates whether the funds for a given tender lot came from EU funding in a binary format. However, a major issue with the data availability for this variable emerged. Namely, as soon as the values for each year and state were inspected, the extent of data scarcity became evident, with there being just 4 'yes' values for North Macedonia and 26 for Serbia in total. Since these numbers were insufficient for conducting any sort of meaningful analysis, additional ways of capturing the EU origin of tender funds were considered.

At first, matching the CPV[9] codes of tender lots to funding priorities of annual IPA action plans was attempted. Here, the underlying logic was to examine which aims were classified as a priority in a certain year. Then, with some degree of confidence, it would have been assumed that a significant portion of tenders with codes corresponding to the annual priorities were EU-funded. For example, the action plan for North Macedonia in 2022 entailed, inter alia, a focus on modernising its public administration and wastewater systems (European Commission, 2024a). One relevant categorisation for the former could have been the CPV code '48000000',

[8] Tender processes can be divided into lots, which allows bidders to bid on one or several items.
[9] 'Common Procurement Vocabulary' or CPV codes help categorise the purchase of products and services.

which denotes software packages and information systems. Nonetheless, although such an approach could have resulted in some valuable information, there would have been serious validity issues. That is, without any additional tender-level details, the odds that many non-EU-funded tender lots would have been classified as such were simply too high.

Therefore, other tender attributes included in the *opentender* datasets were utilised. Namely, for some lots, 'tender_fundingProgrammes' and 'lot_fundingProgrammes' offered descriptive indications of the funding sources for the overall tender and specific lot. These indications took the form of either short project descriptions or project codes. The observations were inspected manually, with entries referring to EU funding being retained. While it might be argued that an overall tender being EU-funded does not indicate such financing for lots within it, this should not substantially impact validity due to two reasons: a) the overwhelming majority of filtered entries were based on the lot funding variable (e.g. 238 vs. 19 for Serbia); b) for the most part, there were no tender funding values present for just a single lot, suggesting that most lots in a tender shared their source of funds. Hence, entries based on this variable were kept in order to maximise the number of observations characterised by European funding.

With a fairly low number of such observations – and the majority of them being concentrated in a few years – a year-over-year country comparison made no sense. As a result, the data for each state was aggregated across different years. For both countries, the empirical timeframe spans from 2015 to 2024, coinciding with the IPA II and IPA III funding cycles. This decision was based on the following rationale – since all entries having EU funding come from years which belong to these two cycles, this should address cycle-specific influences on corruption risks. Ideally, inter-cycle evaluations would have also been conducted, yet the aforementioned data limitations posed a barrier. Moreover, since the number of observations prior to 2015 is comparatively small, this should not bring about any notable information loss.

Finally, with no changes pertaining to the analysis, this processing resulted in two datasets: one for North Macedonia, with 112 observations with EU funding and 2,066,371 without[10]; another one for Serbia, with 280 observations with such funding and 1,106,364 without.

[10] For both countries, all entries which included information on tender or lot funding were excluded when constructing the group of observations without EU funding. This was done to account for the impact of similar funding dynamics (e.g. Council of Europe in Serbia's case). Considering the very low number of such observations and the very high number of entries overall, this should not lead to any tangible information loss.

4.3. Variable Selection and Covariate Matching

The extreme imbalance in the number of treated and non-treated tender lots was an important consideration in conducting the selection of dependent variables. Here, the goal was to strike a balance between data availability and results' significance. Therefore, treated entries for both countries were inspected. Relevant variables for which there was information for the majority of entries were retained. While doing so, popular ways of capturing risk from the corruption literature were being relied on – these usually revolve around (single) bid numbers, presence of publication calls and the length of advertisement periods, among others. They were available in processed form through the aforementioned numerical indicators, courtesy of the *opentender* team. However, unlike for EU countries covered by the platform, the available information for these non-EU ones was noticeably scarcer. This included both initial tendering data, as well as, by extension, the integrity indicators which the research team calculated. As a result, (partially) different outcome variables had to be selected for the two countries.

On the other hand, there were several key covariates with a sufficient number of lots for both units of analysis: supply type; procedure type; electronic auction[11]; central procurement; joint procurement. Each of these could have a significant impact on the dependent (and potentially independent) variables, regardless of the treatment effect. For instance, extensive infrastructure projects should be more prone to corrupt activities, due to their financial and logistical gravity, compared to other supply types, such as e.g. office equipment. Likewise, the digital footprint enabled by electronic tender auctions should lower corruption risk compared to regular auctions. As all of these covariates are categorical, exact matching across their categories is possible with no expectation of major information loss, especially considering the very large number of non-treated units. However, in order to check for robustness of the findings, a model with data matched with propensity score matching[12] is included in the regression analyses too.

5. Analytical Results

[11] After conducting initial tests, this covariate had to be scrapped from the Serbia analysis – all values were 'no' after matching, which made running a regression model impossible. Almost all entries were discarded as well.
[12] A technique which calculates the probability of each entry receiving the treatment based on their observed characteristics, after which pairs from the treatment and control groups with similar probabilities are matched. The matching ratio was set to 2 for Macedonian tenders (two times more entries) and 1 for Serbian ones.

In this chapter, the results from the analytical approaches are presented. This includes, firstly, a brief descriptive evaluation of the non-binary covariates, as well as the dependent variables. Then, the findings of the causality assessment are provided. It is not the goal of this thesis to put forward a comparative evaluation of the examined countries – the results for each unit of analysis are thus presented in standalone sections with the purpose of having a clear structure. Both in terms of the descriptive inference and pre-matching regression models, the prominent imbalance in the number of observations between the treated and non-treated groups has to be taken into account.

5.1. North Macedonia

5.1.1. Descriptive Evaluation

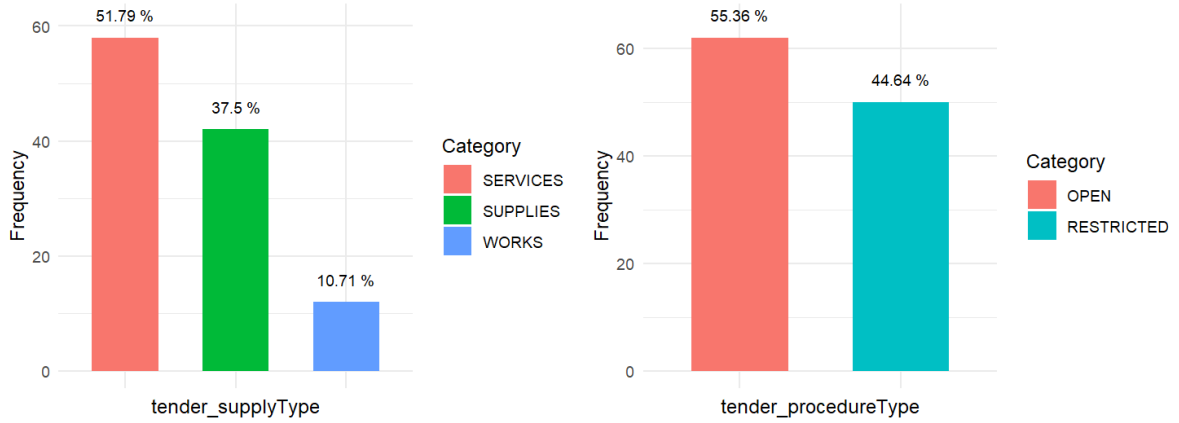

Figure 1: Distribution of tender supply and tender procedure types for treated entries (MK)

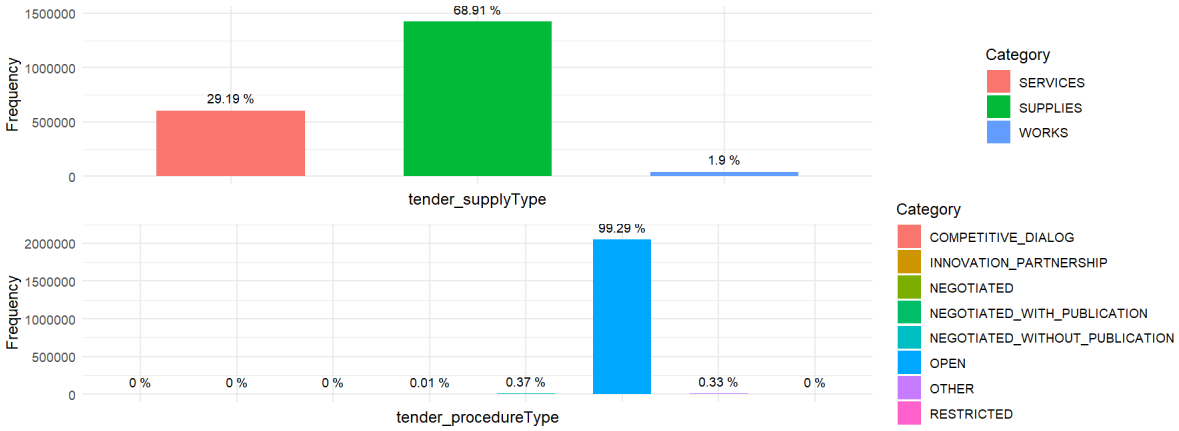

Figure 2: Distribution of tender supply and tender procedure types for non-treated entries (MK)

Figure 1 shows the distribution of tender supply and procedure categories for entries which received EU funding (treated group) in North Macedonia. Figure 2 shows the distribution of such categories for entries not receiving EU funding (control group). Within the treated group, the majority of tender lots belong to the 'services' category, followed somewhat closely by 'supplies', with 'works' having by far the smallest share. This is in stark contrast to the control group distribution. Here, the vast majority of tender lots are classified as 'supplies', followed by 'services'. In this case, 'works' only has a very miniscule share. This indicates that there is a noticeable difference between funding sources in what is being procured.

Furthermore, these figures reveal an incomparably higher proportion of open tender procedures in the control group. Although the range of categories is much wider – to be expected due to the aforementioned difference in entries – almost every lot has the 'open' procedure type. This differs significantly from the treated group, where the ratio of restricted to open procedures is around 55:45. This suggests that non-EU-funded projects might be subject to more competitive bidding processes.

Treated Group			***Control Group***		
Mean	Median	Std. Dev.	Mean	Median	Std. Dev.
tender_indicator_INTEGRITY_CALL_FOR_TENDER_PUBLICATION					
87.5	100	33.22	98.89	100	10.47
tender_indicator_INTEGRITY_ADVERTISEMENT_PERIOD					
48.21	0	50.19	66.67	100	47.14
tender_indicator_ADMINISTRATIVE_NOTICE_AND_AWARD_DISCREPANCIES					
87.61	91.67	8.91	99.22	100	8.22

Table 1: Measures of central tendency/variability of the DVs for treated and non-treated entries (MK)

Table 1 presents descriptive statistics (mean, median, standard deviation) for three dependent variables (composite indicators) pertaining to tender procedures for both treated and control entries for North Macedonia. Comparing the two groups, it is clear that the treated observations demonstrate much worse mean scores across every corruption indicator. At the same time, their standard errors are also higher[13], although the only meaningful difference vis-à-vis the control entries seems to be in the 'call for tender publication' variable (33.22 vs. 10.47). Naturally, no

[13] To be expected as a result of the difference in observation numbers, as mentioned earlier.

statements about causality can be made at this point, but the results point to a major difference in corruption outcomes, on average, between the two groups.

5.1.2. Causality Assessment

In evaluating the impact of EU funding on numerical integrity outcomes of Macedonian public tenders, three models are used. The first model is based on a multiple linear regression without any matched data. The second model uses data matched on the previously mentioned covariates through exact matching. Finally, the third model utilises a dataset which resulted from applying propensity score matching to the original one. For all three models for North Macedonia, the following regression equation is used:

$$Dependent\ Variable = \beta 0 + \beta 1(EU\ Funding) + \beta 2(Supply\ Type) + \beta 3(Procedure\ Type) + \beta 4\ (Electronic\ Auction) + \beta 5(Central\ Procurement) + \beta 6(Joint\ Procurement) + \epsilon$$

DV: Call for Publication			
	(1)	(2)	(3)
EU Funding	1.997** (0.832)	1.441* (0.814)	2.116 (3.277)
Observations	2,066,483	1,893,603	336
R^2	0.512	0.001	0.202
Adjusted R^2	0.512	0.001	0.188
Notes	Standard error in parentheses | *p<0.1; **p<0.05; ***p<0.01		

Table 2: Regression output for the 'Call for Publication' variable with different models (MK)

The second table shows the regression output for the 'Call for Publication' dependent variable. Here, EU funding seems to have a slight positive effect across all of the models – however, the effect is only significant enough within the first model. Interestingly, despite the large number of observations, almost all of which do not have EU funding, it manages to explain around 50 percent of the variance in the data. Yet this impact decreases or becomes insignificant once the data has been matched.

DV: Advertisement Period			
	(1)	(2)	(3)
EU Funding	-16.888*** (5.409)	-24.346*** (5.672)	3.263 (6.137)
Observations	95,942	80,406	232
R^2	0.097	0.028	0.317
Adjusted R^2	0.096	0.028	0.299
Notes	Standard error in parentheses | *p<0.1; **p<0.05; ***p<0.01		

Table 3: Regression output for the 'Advertisement Period' variable with different models (MK)

Conversely, table 3 paints a much different picture. In this case, IPA funds appear to have a (very) strong negative impact on the advertisement period across models 1 and 2 (-16.888 and -24.346, respectively). It is also very significant in both instances, having a p-value of less than 0.01. However, likely since the majority of lots were missing values for this specific outcome variable, there are much fewer observations compared to the other table. In any case, the models do not pass the sensitivity check, with the third model based on propensity scores yielding very different results.

DV: Notice/Award Discrepancies			
	(1)	(2)	(3)
EU Funding	-6.847*** (0.975)	-7.084*** (0.999)	-14.633*** (1.806)
Observations	1,879,121	1,739,849	149
R^2	0.353	0.363	0.570
Adjusted R^2	0.353	0.363	0.555
Notes	Standard error in parentheses | *p<0.1; **p<0.05; ***p<0.01		

Table 4: Regression output for the 'Notice/Award Discrepancies' variable with different models (MK)

Lastly, table 4 offers the most conclusive results for North Macedonia. In this scenario, there seems to be a moderately strong or strong and very significant impact of EU funding on the discrepancies between the tender notices and awards. Both with a very large and very small number of observations, the values for R-squared are very high. Furthermore, after other factors have been accounted for through propensity score matches, the effect appears to be even

stronger. Apart from the inter-model validation through the third specification, the low values of standard errors across all instances are another positive indicator of robustness[14].

5.2. Serbia

5.2.1. Descriptive Evaluation

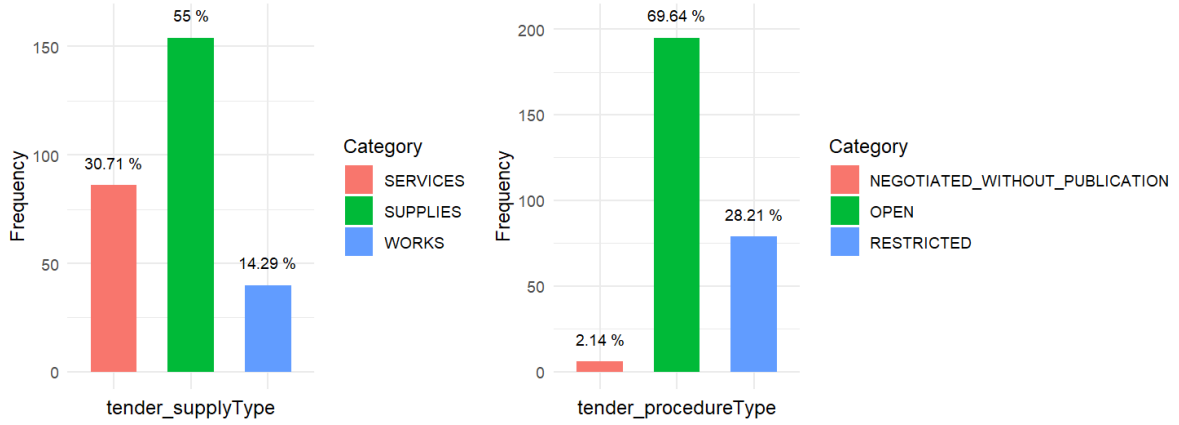

Figure 3: Distribution of tender supply and tender procedure types for treated entries (RS)

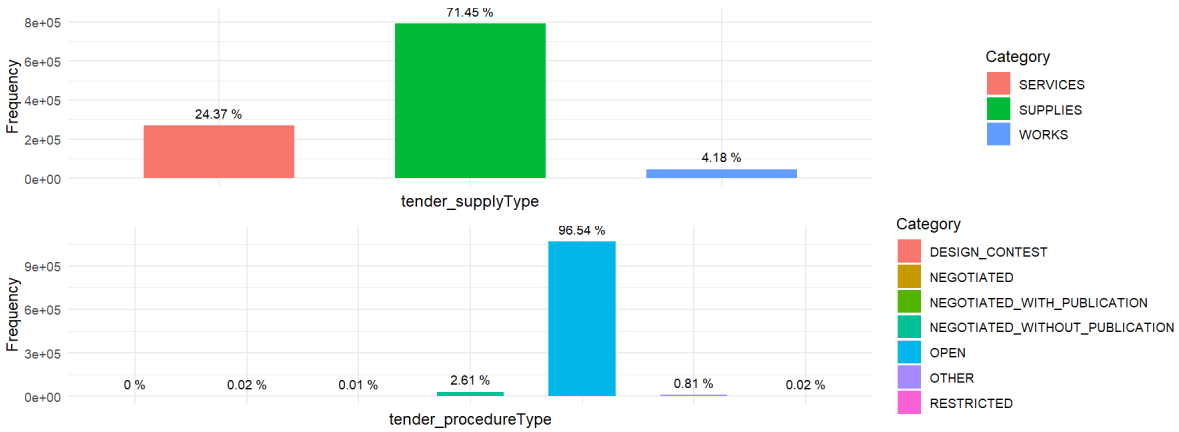

Figure 4: Distribution of tender supply and tender procedure types for non-treated entries (RS)

Figure 3 displays the distribution of tender supply and procedure categories for entries which received EU funding (treated group) in Serbia, with figure 4 displaying the distribution of such categories for entries which did not receive EU funding (control group). In the treated group, the majority of tender lots belong to the 'supplies' category, followed by 'services'. The 'works' category also has the smallest share here. This is fairly similar to the control group distribution,

[14] Please refer to the appendix for the unadjusted and adjusted covariate balances for both the exact and propensity score matching.

although the individual percentages differ to a varying extent. The biggest difference seems to be in the 'works' supply type, which is more than 3 times more represented in the treated group. Overall, this indicates that there is not a significant difference in the supply types for Serbia.

Moreover, the figures reveal a higher proportion of open tender procedures in the control group. The range of categories is much wider here as well, but the prevalence of the 'open' category is not as pronounced. Namely, almost 3 percent of lots have the 'negotiated without publication' type. This still differs markedly from the treatment group, where the ratio of open to restricted procedures is around 70:30. This outlines that Serbian non-EU-funded projects might also be accompanied by more competitive bidding processes, but not to the extent of Macedonian ones.

Treated Group			***Control Group***		
Mean	Median	Std. Dev.	Mean	Median	Std. Dev.
tender_indicator_INTEGRITY_SINGLE_BID					
69.34	100	39.86	38.29	27.27	38.99
tender_indicator_INTEGRITY_CALL_FOR_TENDER_PUBLICATION					
100	100	0	100	100	0
tender_indicator_ADMINISTRATIVE_NOTICE_AND_AWARD_DISCREPANCIES					
88.45	90.91	6.33	99.99	100	0.17

Table 5: Measures of central tendency/variability of the DVs for treated and non-treated entries (RS)

Table 5 presents descriptive statistics (mean, median, standard deviation) for three dependent variables (composite indicators) related to tendering procedures for treated and control entries for Serbia. Having a look at the two groups, there are no clear indications, in general, about which group demonstrates worse mean corruption outcomes. Namely, the control group seems to fare much worse with the 'single bid' variable, whereas the roles are reversed for the 'award discrepancies' one (although to a lesser degree). Interestingly, the 'call for publication' variable appears to only have a single value across both groups – hence, it does not make any sense to include it within the forthcoming analysis. This instance encapsulates the worth of these initial descriptive evaluations before proceeding with more in-depth analyses.

5.2.2. Causality Assessment

Same as with Macedonian tenders, the impact of IPA funds on Serbian integrity indicators is evaluated by using three models. Model 1 only contains a multiple regression model based on

the original data. Furthermore, model 2 applies exact matching, whereas model 3 propensity score matching to the initial observations. Nonetheless, in comparison to the analysis for North Macedonia, there is one fewer covariate and dependent variable due to data limitations. Hence, the regression equation reads as follows:

$$Dependent\ Variable = \beta 0 + \beta 1(EU\ Funding) + \beta 2(Supply\ Type) + \beta 3(Procedure\ Type) + \beta 4(Central\ Procurement) + \beta 5(Joint\ Procurement) + \epsilon$$

DV: Single Bidding			
	(1)	(2)	(3)
EU Funding	39.106*** (3.950)	35.780*** (3.870)	36.399*** (7.457)
Observations	1,025,029	725,330	289
R^2	0.031	0.0004	0.262
Adjusted R^2	0.031	0.0004	0.244
Notes	Standard error in parentheses | *p<0.1; **p<0.05; ***p<0.01		

Table 6: Regression output for the 'Single Bidding' variable with different models (RS)

The table above outlines the regression output for the 'Single Bidding' integrity indicator. In all three models, there is clearly a very strong positive influence by EU funds. This influence is highly statistically significant as well, with p-values of less than 0.01 across the board. The same cannot be said for their explanatory power, however. Here, apart from the last model, which is able to explain around 25 percent of its data variance, the other two ones, in particular the second one, are not a good fit in this regard.

DV: Notice/Award Discrepancies			
	(1)	(2)	(3)
EU Funding	-1.569*** (0.013)	-2.184*** (0.016)	1.720 (1.063)
Observations	1,013,177	716,031	276
R^2	0.712	0.735	0.285
Adjusted R^2	0.712	0.735	0.267
Notes	Standard error in parentheses | *p<0.1; **p<0.05; ***p<0.01		

Table 7: Regression output for the 'Notice/Award Discrepancies' variable with different models (RS)

On the other hand, the relationship's direction is different when it comes to the 'Notice/Award Discrepancies' outcome variable. Model 1 and 2, i.e. regressions with non-matched and exactly matched data, demonstrate a slight negative association between the two variables. Importantly,

the degree of significance is quite high. Yet both the direction and significance change once the robustness test is performed. Here, the association turns positive and insignificant. At the same time, the R-squared values decrease notably too.

6. Discussion

From the examined dependent variables, there are only two, one for each country, for which all models demonstrate a stable and significant effect. Namely, the integrity score for discrepancies in notices and awards, in the case of North Macedonia, and the score for single bidding, when it comes to Serbia. There were other variables which fulfilled these criteria across the first two specifications, but did not pass the model robustness check. When it comes to the direction of this association, EU funding appears to moderately worsen corruption risk in the Macedonian case, whereas it very much decreases it in the Serbian one. These findings also coincide with the initial descriptive assessments of the measures of central tendency and variability for the respective variables.

Tying back to the outlined hypothesis, the conducted analysis does not enable its affirmation. That is, even if the model outcomes are investigated at the country level, it cannot be stated that, in North Macedonia's instance, public procurement financed by the EU's IPA has a higher degree of corruption risk compared to other tenders. Despite the result for the notices/awards variable, there is insufficient evidence for claiming this, considering the findings for the other relevant measures. Namely, corruption scholars indicate that multiple red flag indicators should be present in order to make such inferences. This is especially important since the DV choice was based on widely used risk indicators in the corruption literature. On the other side, it could also be argued that such indicators are not the most suitable measure for this specific corruption landscape, in line with the argument put forward by Decarolis and Giorgiantonio (2022).

On this topic, considering the wider socio-political context of the Western Balkans, the results might not necessarily indicate a lacking presence of corruption within this funding avenue. As indicated both explicitly by corruption perception indicators, but also implicitly by assessments of democratic status, such as those by Freedom House, there are sufficient reasons to assume that corruption is also present here to a significant extent. In fact, as outlined by the theoretical framework, perhaps more so than in non-EU ones. This goes back to the initial argument – how the region's corruption setup, coupled with the lacking transformative power of the EU, opens

up pathways for this to occur. From an institutional theory perspective, this happens due to the local norms and routines which are shaped by corrupt behaviour. Conversely, the viewpoint of the principal-agent problem offers a theoretical insight into the operational limitations of the EU within the region. A high degree of formalism, both in terms of accession process outcomes, but also regarding individual compliance requirements, has opened pathways for the abuse of EU-derived resources by corrupt elites.

On the other hand, the possibility that the EU has potentially managed to decrease the risk of corruption in Western Balkan public procurement also has to be considered. Being aware that there is greater external monitoring of EU-derived spending vis-à-vis domestic funds, public officials could be more cautious of how much and in what ways they exercise rent extraction. Conversely, red flag indicators in tendering processes could also arise from local administrative specificities. Namely, the developing Balkan democracies might be lacking the administrative competence and capacity to conduct public tendering as it should be done. Both of these aspects are something which studies with wider analytical scopes could cover in greater detail.

Finally, one of the main pitfalls of this research endeavour, but also of many other instances in corruption research, has been data limitations. As emphasised by scholars in the field, lacking access to consistent and quality data restricts the boundaries of what can be researched and how it can be done. In the case of this thesis, this was experienced first-hand, initially with the data processing challenges, and then with the fairly low number of covariates and DVs which could have been used for the causality assessment. In light of this, the findings should be interpreted with a dose of caution. Future, more elaborate research projects could replicate its theoretical framework, further contributing to this, as of now, under-researched multidisciplinary field.

7. Conclusion

This project set out to explore the influence of funding received as part of EU pre-accession processes on public procurement corruption risk in the long-standing candidate states of the Western Balkans. Here, the starting point was the extensive support which these countries receive, similar to intra-Union aid packages, while, at the same time, showing limited progress or even a decline in governance parameters. Due to limitations in data coverage, the empirical section focused on North Macedonia and Serbia only. However, considering the shared history and socio-economic likeness, any (future) findings can also be extended to Montenegro. When

it comes to Albania, the differences in historical context, in light of the theoretical rationale employed by this thesis, do not allow for this.

By utilising red flag indicators in tendering procedures, an emerging approach situated at the intersection of big data and corruption research, both a descriptive and causal assessment of country-level tender lots was administered. In terms of the latter, the results turned out to be inconclusive – there seems to be both a bettering and worsening effect of EU-originating funds on integrity scores measuring corruption risk, depending on the country in question. In North Macedonia's situation, differences in tender notices and awards are worse when a tender lot is EU-funded, whereas single bidding integrity in Serbia is improved markedly. Future studies, equipped with larger human capacity and financial resources, could attempt to investigate this question in more elaborate ways. Namely, additional web scraping could be done to supplement the data already made available by the *opentender* team. Then, in case of a large number of values for the treatment variable and covariates, machine learning algorithms could serve as a powerful tool for estimating risks in procurement data, as already conducted by researchers in the domain.

With this in mind, the theoretical and practical importance of pursuing these research avenues cannot be understated. On the one hand, as seen at the beginning, corruption as such has a wide array of undesirable consequences. These range from economic implications to more extensive issues of democratic rule. In the case of the Western Balkans, a setting with historical roots in problems of state legitimacy and governance, such consequences are likely to be only further exacerbated. Another important aspect which has to be considered are the implications for the objectives of European integration. While there already is a broad array of work criticising the approach of the EU towards the region, most of it is of normative character. However, if the general strategy adopted by the thesis results in precise quantifiable outcomes of this approach – similar to what academics have already discovered about Central and Eastern Europe – this should, hopefully, redirect the debate towards novel and applied directions.

Bibliography

Amundsen, I. (1999). *Political Corruption: An Introduction to the Issues* (CMI Working Paper WP 1999 No. 7). Bergen. Retrieved from Chr. Michelsen Institute website: https://www.cmi.no/publications/file/1040-political-corruption.pdf

Bachtler, J., Berkowitz, P., Hardy, S., & Muravska, T. (Eds.) (2017). *Regions and Cities*. *EU Cohesion Policy: Reassessing Performance and direction*. London, New York: Taylor & Francis.

Bak, M. (2019, November 12). *Western Balkans and Turkey: Overview of corruption and anti-corruption*. Retrieved from U4 Anti-Corruption Research Center website: https://beta.u4.no/publications/overview-of-corruption-and-anti-corruption-in-the-western-balkans-and-turkey.pdf

Bartlett, W. (2007). *Europe's Troubled Region: Economic development, institutional reform and social welfare in the Western Balkans*. London: Routledge.

Bokic, M. (2013). The Main Reasons that Led to the Dissolution of Yugoslavia and Short Explanation of Failed Project of the Yugoslav Nation. *SSRN Journal*.

Bolcha, P., Vozárová, P., & Fanta, M. (2023). Transparency Meets Efficiency: The Case of Public Procurement in the Czech Republic. *Public Works Management & Policy*, 1-36.

Börzel, T. (2011). *When Europeanization Hits Limited Statehood. The Western Balkans as a Test Case for the Transformative Power of Europe* (KFG Working Paper Series).

Braguinsky, S. (2009). Postcommunist Oligarchs in Russia: Quantitative Analysis. *The Journal of Law & Economics*, *52*(2), 307–349.

Braun, D., & Guston, D. H. (2003). Principal-agent theory and research policy: An introduction. *Science and Public Policy*, *30*(5), 302–308.

Budak, J., & Rajh, E. (2013). Corruption as an obstacle for doing business in the Western Balkans: A business sector perspective. *International Small Business Journal*, *32*(2), 140–157.

Cerruti, T. (2014). The Political Criteria for Accession to the EU in the Experience of Croatia. *European Public Law*, *20*(4), 771–798.

Dávid-Barrett, E., & Fazekas, M. (2020). Anti-corruption in aid-funded procurement: Is corruption reduced or merely displaced? *World Development*, *132*, 1–13.

Dayal, V., & Murugesan, A. (2023). *Demystifying Causal Inference: Public Policy Applications with R*. Singapore: Springer.

Decarolis, F., & Giorgiantonio, C. (2022). Corruption red flags in public procurement: new evidence from Italian calls for tenders. *EPJ Data Science*, *11*(16), 1–38.

Elbasani, A. (Ed.) (2013). *Routledge/UACES Contemporary European Studies*. *European integration and transformation in the Western Balkans: Europeanization or business as usual?* Abingdon, Oxon: Routledge.

European Commission (2023). Remarks by Commissioner Várhelyi in AFET to present the 2023 Enlargement Package. Retrieved from https://ec.europa.eu/commission/presscorner/detail/en/speech_23_5647

European Commission (2024). North Macedonia - financial assistance under IPA. Retrieved from https://neighbourhood-enlargement.ec.europa.eu/enlargement-policy/overview-instrument-pre-accession-assistance/north-macedonia-financial-assistance-under-ipa_en

European Commission (2024). Overview - Instrument for Pre-accession Assistance. Retrieved from https://neighbourhood-enlargement.ec.europa.eu/enlargement-policy/overview-instrument-pre-accession-assistance_en

Falconer, B. (2017). *The Theoretical Implications of Institutional Theory for Aid: An Argument for the Refocusing of International Aid Efforts* (University of Toronto Political Science Undergraduate Research Colloquium). Retrieved from University of Toronto website: https://tspace.library.utoronto.ca/bitstream/1807/77295/1/Institutions%20and%20Aid%20Effectiveness.pdf

Fazekas, M., Charron, N., Lapuente, V., & Dahlström, C. (2017). Careers, Connections, and Corruption Risks: Investigating the Impact of Bureaucratic Meritocracy on Public Procurement Processes. *The Journal of Politics*, *79*(1), 89–104.

Fazekas, M., & King, L. P. (2019). Perils of development funding? The tale of EU Funds and grand corruption in Central and Eastern Europe. *Regulation & Governance*, *13*(3), 405–430.

Fazekas, M., & Tóth, I. J. (2017). Corruption in EU Funds? Europe-wide evidence of the corruption effect of EU-funded public contracting. In J. Bachtler, P. Berkowitz, S. Hardy, & T. Muravska (Eds.), *Regions and Cities. EU Cohesion Policy: Reassessing Performance and direction* (pp. 186–205). London, New York: Taylor & Francis.

Fazekas, M., Tóth, I. J., & King, L. P. (2016). An Objective Corruption Risk Index Using Public Procurement Data. *European Journal on Criminal Policy and Research*, *22*(3), 369–397.

Freedom House (2024). Freedom in the World 2024. Retrieved from https://freedomhouse.org/countries/freedom-world/scores

Friis, L., & Murphy, A. (2000). 'Turbo-charged negotiations': the EU and the Stability Pact for South Eastern Europe. *Journal of European Public Policy*, *7*(5), 767–786.

Grødeland, Å. B. (2013). Public Perceptions of Corruption and Anti-Corruption Reform in the Western Balkans. *The Slavonic and East European Review*, *91*(3), 535–598.

Hysa, E. (2011). Corruption and Human Development Correlation in Western Balkan Countries. *EuroEconomica*, *30*, 148–157.

Johnston, M. (2005). *Syndromes of Corruption: Wealth, Power, and Democracy*. Cambridge: Cambridge University Press.

Kassim, H., & Menon, A. (2003). The principal-agent approach and the study of the European Union: promise unfulfilled? *Journal of European Public Policy*, *10*(1), 121–139.

Klitgaard, R. (1988). *Controlling Corruption*. Berkeley, Los Angeles: University of California Press.

Le Billon, P. (2003). Buying Peace or Fuelling War: The Role of Corruption in Armed Conflicts. *Journal of International Development*, *15*(4), 413–426.

Maldini, P. (2019). Croatia and the European Union. *Oxford Research Encyclopedia of Politics*, 1–24.

Mény, Y., & de Sousa, L. (2001). Corruption: Political and Public Aspects. In N. J. Smelser & P. B. Baltes (Eds.), *International Encyclopedia of the Social & Behavioral Sciences* (1st ed., pp. 2824–2830). New York: Elsevier.

Montinola, G. R., & Jackman, R. W. (2002). Sources of Corruption: A Cross-Country Study. *British Journal of Political Science*, *32*(1), 147–170.

Myint, U. (2000). Corruption: Causes, Consequences and Cures. *Asia-Pacific Development Journal*, *7*(2), 33–58.

Norris, C. M., Ghali, W. A., Knudtson, M. L., Naylor, D., & Saunders, D. (2000). Dealing with missing data in observational health care outcome analyses. *Journal of Clinical Epidemiology*, *53*(4), 377–383.

Nye, J. S. (1967). Corruption and Political Development: A Cost-Benefit Analysis. *The American Political Science Review*, *61*(2), 417–427.

Obradovic, M., & Novakovic, N. (2022). The "National Political Elites" and the Disintegration of the SFRY, 1970 - 1991. *Advances in Social Sciences Research Journal*, *9*(7), 754–786.

OECD (2024). Facts and figures of the Western Balkans | Multi-dimensional Review of the Western Balkans: Assessing Opportunities and Constraints. Retrieved from https://www.oecd-ilibrary.org/sites/2cc279e8-en/index.html?itemId=/content/component/2cc279e8-en

Petak, Z. (2019). Policy-Making Context and Challenges of Governance in Croatia. In Z. Petak & K. Kotarski (Eds.), *Policy-Making at the European Periphery: The Case of Croatia* (pp. 29–45). Cham: Springer International Publishing.

Petak, Z., & Kotarski, K. (Eds.) (2019). *Policy-Making at the European Periphery: The Case of Croatia*. Cham: Springer International Publishing.

Pridham, G. (2005). *Designing Democracy: EU Enlargement and Regime Change in Post-Communist Europe* (1st ed.). London: Palgrave Macmillan.

Richter, S., & Wunsch, N. (2020). Money, power, glory: the linkages between EU conditionality and state capture in the Western Balkans. *Journal of European Public Policy*, *27*(1), 41–62.

Rose-Ackerman, S. (1999). *Corruption and Government: Causes, Consequences, and Reform*. Cambridge: Cambridge University Press.

Smelser, N. J., & Baltes, P. B. (Eds.) (2001). *International Encyclopedia of the Social & Behavioral Sciences* (1st ed.). New York: Elsevier.

Sotiropoulos, D. A. (2017). Corruption, anti-corruption and democracy in the Western Balkans. *Political Perspectives*, *7*(3), 7–26.

Todić, D. (2019). Multilateral Environmental Agreements and EU Integration of Western Balkan States (Status of Bosnia and Herzegovina, Montenegro, Serbia and Croatia in Multilateral Environmental Agreements). *European Energy and Environmental Law Review*.

Tokhi, A., & Rauh, C. (2024, May 25). Big Data in the social sciences. Retrieved from https://wzb.eu/en/publications/wzb-mitteilungen/big-data-in-den-sozialwissenschaften

Transparency International (2024). Corruption Perceptions Index. Retrieved from https://www.transparency.org/en/cpi/2022

Treisman, D. (2000). The Causes of Corruption: A Cross-National Study. *Journal of Public Economics*, *76*(3), 399–457.

Warren, M. (2004). What Does Corruption Mean in a Democracy? *American Journal of Political Science*, *48*, 328–343.

World Bank (2024). Worldwide Governance Indicators | DataBank. Retrieved from https://databank.worldbank.org/source/worldwide-governance-indicators

Zeneli, V. (2016). Corruption, Foreign Direct Investment, and International Marketing in the Western Balkans. *Thunderbird International Business Review*, *58*(3), 277–291.

Appendix A: Covariate Matching Balances

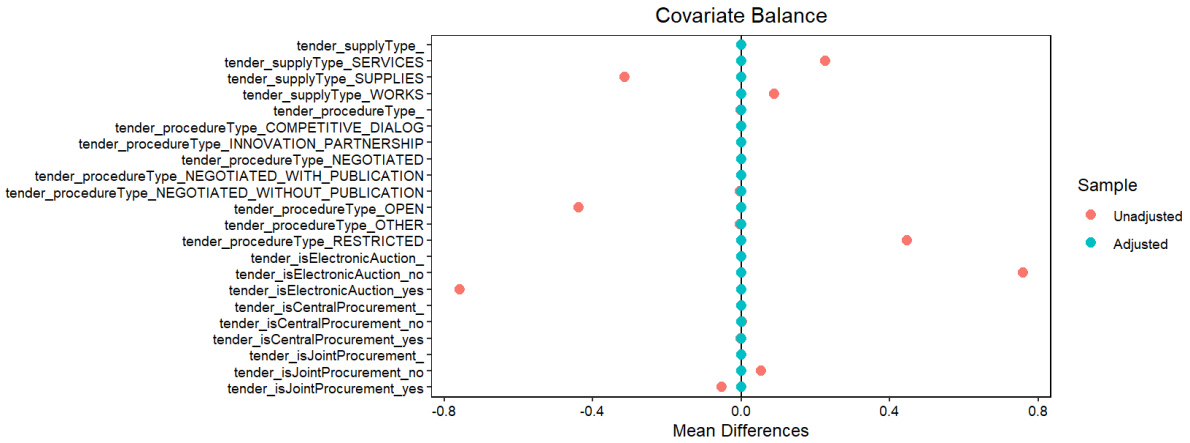

Figure A1: Covariate balance before and after adjustment for exact matching (MK)

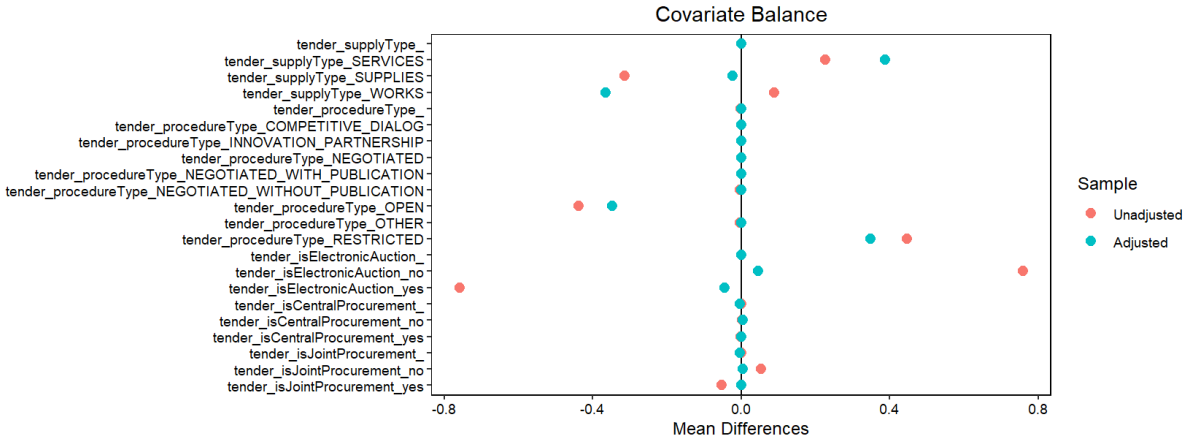

Figure A2: Covariate balance before and after adjustment for propensity score matching (MK)

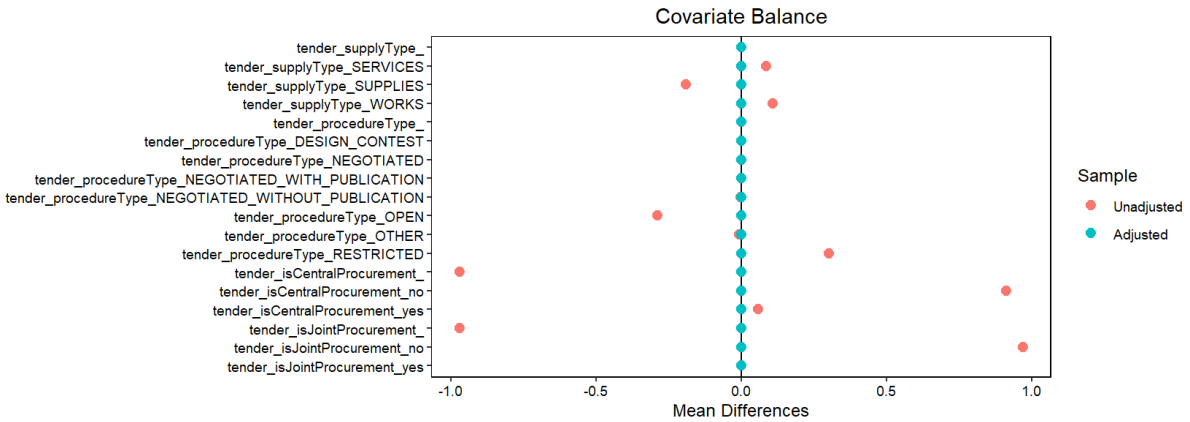

Figure A3: Covariate balance before and after adjustment for exact matching (RS)

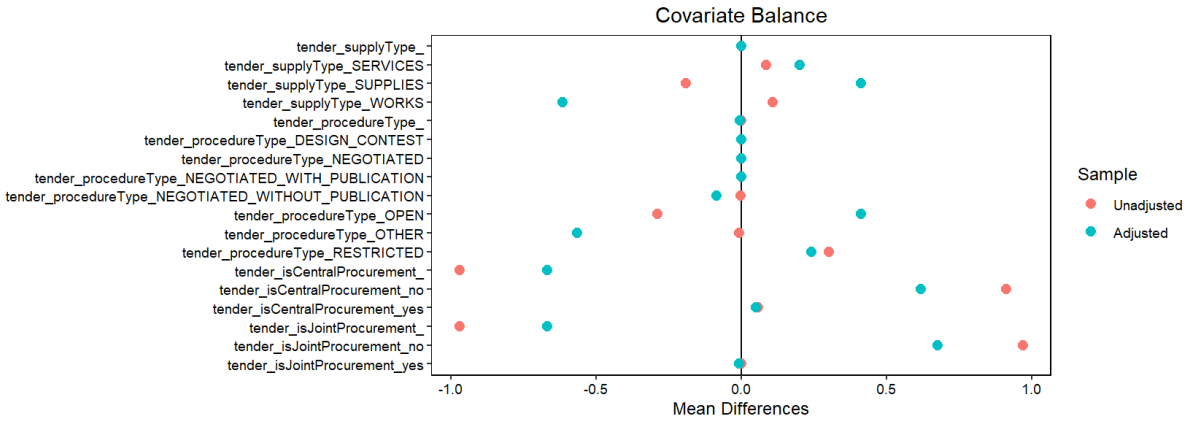

Figure A4: Covariate balance before and after adjustment for propensity score matching (RS)