Building Loyalty through Personal Connections: Evidence from the Spanish Empire

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Abstract

How do rulers manage to govern when they cannot implement policy themselves and have limited means to monitor and even communicate with their agents? The personal loyalties of high-ranking officials can help overcome or exacerbate agency problems. The Spanish Empire promoted links between colonial officials and their superiors in Spain and discouraged social ties between them and local elites. I use superiors' entries and exits as within-official shocks to connections to estimate their effect on promotions and performance. I find that connected ministers were more likely to be promoted and raised more revenue. On the other hand, ministers with more links to local elites collected less revenue. These patterns are explained by personal connections, defined as sustained in-person interactions during their early careers. I also validate the connections measure by showing that they predict endogenous friendships.

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1 Introduction

How do rulers manage to govern when they cannot implement policy themselves and have limited means to monitor and even communicate with their agents? In this paper, I show that Spanish Empire rulers in Madrid strategically used their personal relationships with their agents in the colonies to ensure loyalty, and at the same time actively prevented relationships between them and local elites to avoid collusion.

The Spanish Empire (1492-1825) was one of the largest polities in history, and it lasted relatively intact for more than three centuries. More than half a billion people currently live in territories colonized by Spain. Its legacy is apparent in the fact that even today, the overwhelming majority speak Spanish and profess Roman Catholicism. Yet the empire faced a formidable governance problem. All formal authority resided with the king in Madrid, but the huge distances made direct rule impractical. Letters from Spain took up to four and eight months to reach Mexico and Lima, respectively (Haring 1963, p. 113, Sellers-Garcia 2013). The institutional practice *"obedezco pero no cumplo"* (I obey but I do not comply) shows that the empire was de facto decentralized. If a colonial official considered a royal order to be unjust or impractical, they were allowed to not execute it and write back to Spain with an explanation.[1] Unable to rule directly, principals in Spain depended on their agents in the Americas to implement policy. Monitoring their actions was also hindered by the cost and lag in communications.

I will show that they appointed agents they could trust (because they had previous relationships with them) and discouraged connections between the officials and the colonial elite. By partially solving the agency problem, these practices increased the revenue ex-

[1]This principle was made explicit in royal decrees from 1528, 1564, 1620 and 1622 (Recopilación de Leyes de Indias libro II, título 1, leyes 22-24). Two of the most prominent contemporary jurists justified the practice by arguing that in provinces so remote and isolated from their kings, their mandates may be foolish or without warrant (Solórzano 1648) and that decrees issued contrary to justice should be presumed to be foreign to the intention of the ruler (Castillo de Bobadilla 1595). Both cited by Haring (1963, p. 114).

tracted from the colonies. This paper shows the importance of personal relationships for the functioning of political institutions. Then and now, agents' incentives are partially driven by whom they interact with, whom they know, and whom they like. These incentives, in turn, promote or obstruct the objectives of central rulers.

I focus on the interaction between two institutions: The Council of the Indies and the colonial audiencias. The Council was the most important administrative body of the Spanish Empire. It drafted all legislation, it was the court of last resort, and proposed candidates to the king for all important positions in the colonies. In short, it was the highest authority after the king for all colonial matters. The audiencias were collegiate bodies located in the colonies[2], and they were instrumental in maintaining royal authority in the colonies (Phelan 1967). The audiencias were the highest courts of appeal in their districts, and in their judicial capacity they supervised the fiscal bureaucracy and conducted performance reviews of mid-level bureaucrats. Using biographical dictionaries (Burkholder and Chandler 1977, Burkholder 1986, and the Spanish Biographical Dictionary), I assembled a novel dataset that includes councilors and audiencia ministers' education and relevant work experience.

I show that shaping the audiencia ministers' social networks was an important part of the Empire's personnel policy in two ways. First, central rulers imposed a set of restrictions that attempted to limit ties between officers and the colony in which they served.[3] Colonial officials often found ways around these restrictions by exploiting loopholes, buying exceptions, or paying fines. Still, these decrees (and the prosecution of violations as crimes) are evidence that limiting ties between officials and the local elites was an objective of the Spanish Crown. I describe the legislation in detail in section 2.3.

Second, I show that the personnel policy amplified connections between colonial officials and their principals in the Council. I exploit plausibly exogenous turnover in the Council of

[2]There were fourteen audiencias during the eighteenth century: Santo Domingo, Mexico, Panama, Guatemala, Lima, Guadalajara, Santa Fe, Charcas, Quito, Chile, Manila, Buenos Aires, Cuzco, and Caracas.

[3]Recopilación de Leyes de Indias: Libro 2, Titulo 16, leyes 48-49, 54-47, 82-87.

the Indies (in Spain) to establish that personal connections were a major factor in promotions. I estimate that being connected to one more councilor (0.73 standard deviations) increased the promotion probability of audiencia members by 3.3 percentage points (17% of the average probability of promotion). I use turnover in the Council of the Indies to identify this effect. Entries and exits from the Council generate within-minister shocks to personal connections. My specifications compare the ministers' promotion probabilities before and after they gained or lost connections, keeping time-invariant unobserved characteristics (such as innate ability) constant.

Next, I use yearly revenue data to show that the emphasis on connections was instrumental in helping central rulers achieve at least one goal: extracting revenue from the colonies. First, I show that districts with more connections raised more revenue. To identify this effect, I compare the five years before an entry (or exit) of a connected councilor with the five years after. I find that the average audiencia's revenue was 5% higher (lower) after the entry (exit) of a connected councilor.

Second, I show that districts in which the audiencia ministers had more connections to the colonies raised less revenue. Since I do not have a source of exogenous variation, this result should be interpreted as a correlation. However, it is robust to controlling for the most likely confounding variables (ministers' places of birth, whether they bought the office, and connections to the Council). This fact helps to understand why restrictions on social ties were such a salient feature of the personnel policy.

In sum, the governance strategy of the Spanish Empire took loyalties into account. I define loyalty as a strategy that privileges partners with whom the agent interacted in the past. Councilors of Indies (principals, in Spain) were loyal to their friends by promoting them more often, and audiencia ministers (agents, in the colonies) were loyal because they performed better when their friends were in office. By contrast, ministers with social ties in the Americas may have been lax in collecting taxes from their friends, so rulers avoided

hiring them.

Appointing connected ministers was equivalent to a long-term investment on fiscal state capacity. Applicants without connections in Madrid, all of them wealthy members of the American elite, were willing to pay in order to become an audiencia minister. I show that ministers who purchased their office had fewer personal connections to the Council of the Indies. I used this estimate to show that average price paid for a minister position was equivalent to 86% of the lower bound of the estimated decrease in revenue due to the loss in connections. The difficulties the Spanish Empire had in financing its deficits led them to hire ministers less aligned (unconnected) to the center, which in turn hurt its long term fiscal capacity. The personnel strategy that fostered connections to the Council required to forego the sale of office, making it equivalent to a long-term investment in fiscal capacity.[4]

In order to classify a pair of individuals as connected, I make a distinction between *personal connections* and *shared backgrounds*. Two individuals have a personal connection if the historical evidence corroborates that they interacted in person in a sustained way. In particular, I classify two individuals as having a personal connection if they attended the same university or college, practiced law before the same tribunals, or served as ministers in the same audiencia. For all three, I also require that they coincide in time. Section 3.1 explains why all these links satisfy my definition of confirmed personal ties with an acceptable degree of certainty. In contrast, shared backgrounds are personal characteristics that increase the probability that the two met or had friends in common. I classify two individuals as having a shared background if they attended the same university or college, if practiced law before the same tribunal, regardless of whether they coincided in time or not. I also classify them as having a shared background if they are distant relatives.

My paper is the first to validate the measures of connections by showing how they predict

[4]This result links my paper to the literature on fiscal state capacity in general (e.g. Besley and Persson 2009 and 2013, and to the organizational economics literature focused on tax collection in developing economies in particular (e.g. Khan et. al. 2016, 2019).

endogenous friendships. I obtain friendship data from an action-level dataset (Actoz, Dedieu 2013). Each observation in the dataset is a documented action by an individual on a given date[5]. Some of these actions are relational, and therefore they uncover friendships between individuals in my data. I use three types of relational actions to identify alliances or friendships. First, I use references in job applications. Second, I use co-parenthood (godparents to each other's children) and best men at weddings, which historians describe as "ritualized friendships" or "spiritual kinship" (Lynch, 1986, Rosenmuller 2008). The last category includes individuals who hired or procured a job for each other. I find that a councilor-minister pair with a personal connection is five times more likely to be classified as friends than the average pair. In comparison, a pair with a shared background is only twice as likely to be classified as friends.

Why highlight the difference between personal connections and shared backgrounds? Social ties not only capture relationships but also shared characteristics, such as elite membership and educational level. My identification strategy controls for personal characteristics by comparing the same individuals (with fixed characteristics) before and after they gain or lose a connection. However, it is impossible to disentangle the effect of a relationship from the effect of sharing a characteristic. For example, an elitist principal may only promote subordinates who went to top schools or belong to the upper class.

I cannot decisively rule out homophily as a mechanism, but comparing the effects of personal connections and shared backgrounds still gives us an idea of the relative weight of the two mechanisms. For very low probabilities of actual relationships, the entire effect of connections will be explained by homophily. Therefore, to understand why connections

[5]The Actoz dataset was originally developed by historians of the Spanish Monarchy who needed to digitize files on XVIIIth century Spanish bureaucrats. Many historians beyond the original group have expanded it by adding biographies of (broadly defined) Spanish bureaucrats, soldiers, artists, clergy, etc. It currently includes more than half a million actions by one hundred thousand people. For a description of the dataset and its history, see Dedieu (2013) and (2014). Andujar et al. (2017) is an edited volume in which each chapter uses the Actoz dataset to study different aspects of the Spanish Monarchy and its agents between the XVI and XIXth centuries.

affect promotions or performance, we need first to understand the nature of connections. Favoritism in the Spanish Empire's promotion ladder was driven by relationships and not by homophily. I find no effect of shared backgrounds on the probability of promotions. Moreover, the effect of personal connections on promotions remains significant even after controlling for shared backgrounds. In addition, while personal connections to the Council are associated with higher audiencia revenue, shared backgrounds are not. This implies that the strategy of rewarding relationships with the Council paid off and that promotions driven by homophily would not have had the same effect.

The Spanish Empire used relationships to foster loyalty from its agents. Their problem was exacerbated by the delays in communication that made monitoring difficult, but the essence of their dilemma can be found in many contemporary situations. First, some organizations rely on secrecy, such as criminal networks and terrorist organizations. In this case, there is a need for "self-managed teams" that can execute operations without top-down interventions. In those settings, principals can only influence outcomes by hiring agents with the right preferences (see Schram 2019 and 2021). Much like the Spanish Empire, a key aspect of the hiring process is how many "foreign" and "local" agents to have in the mix. Second, even with frequent and cheap communications, principals cannot use incentives to reward performance when the agent's task is unobservable. The more imprecise the signal of agent's performance the principal gets, the more important it will be to hire agents with similar preferences (the advantage of naming agents with similar preferences is called the "ally principle", see Bendor et al. 2001). This is especially true in situations where the agent has specialized knowledge that the principal does not posses.[6]

This paper builds upon and contributes to a growing political economy literature on connections[7] (for the closest paper to this one, see Xu (2018)), to which this paper contributes

[6]See for example Gilligan and Krehbiel 1990 on legislative committees.

[7]Most of this literature focuses on the Chinese Communist Party, see for example Fisman et al. (2020), Shih et al. (2012), Jia et al. (2015), Jia (2017). Much like the CCP, the Spanish Empire was a layered

in two ways. First, this is the first paper to document a dual personnel strategy based on connections. While connections to superiors were encouraged and improved fiscal performance, connections to local elites were discouraged and decreased it. Moreover, previous papers have found both positive and negative effects of connections on performance (for example, Voth and Xu 2020 and Xu 2018). My results suggest that the effect is conditional on whether the counterpart's objectives were aligned with the organization's.

Second, while my measure of connections (shared education or work experience) is commonly used in the literature, my paper is the first to validate it by showing how it predicts economically active friendships. Papers in the literature mostly focus on what I defined above as *shared backgrounds*. I show that defining connected pairs as those who had sustained in-person interactions greatly increases the probability of observing an actual friendship. In the Spanish Empire, shared backgrounds to the Council are not predictive of promotions or performance, but personal connections are.

This paper also contributes to a long-lived literature on bureaucracies[8]. Starting with Weber (1922), most contributions suggests that bureaucracies are most effective when they are isolated from political influence (see Evans and Rauch (1999), Rauch and Evans (2000), Cingolani et al. (2015), Colonnelli et al. (2019), Barbosa and Ferreira (2019)). A notable exception is Toral (2020), who finds that Brazilian bureaucrats connected to politicians perform better. An important caveat is that while most of these papers focus on service providers (such as teachers or doctors) or street-level managers (such as school principals), my paper focuses on high-ranking decision-makers. Especially in development and authoritarian contexts, rulers rely on their authority to manage (appoint, transfer, promote) bureaucrats to sustain their rule. Hassan (2020) shows that leaders in Kenya avoided appointing locally

autocratic and bureaucratic organization with enormous influence over a significant portion of the world's population.

[8]Even more generally, this paper contributes to a large literature in economics and sociology that studies how social incentives shape the allocation of effort and resources within an organization, and ultimately its performance (see Ashraf and Bandiera 2018 for a review).

embedded agents outside of their areas of core support (see also Carter and Hassan 2021 and Hassan 2017).

Wang (2020) argues that the frontier in the study of the state is the "state in society" approach, that focuses on how state-society linkages through elite social networks shape the strength and form of the state.

This paper also links to the development literature on decentralization (see, eg., Bardhan (2002), Casey (2018), and Mansuri and Rao (2004)). Modern states face a similar dilemma as the Spanish Empire's: whether to rely on agents from the center to implement policies or whether to recruit locally. Local agents may have better information about preferences and resources, which they can use to tailor policies more effectively than outsiders. On the other hand, agents from the center (outsiders), are less likely to be captured by local elites. In this paper, I show that the Spanish Empire almost always opted against decentralization. They appointed locally embedded agents only when they sold the office, which reveals that embeddedness had a negative price in the Spanish Empire.

Lastly, this paper also contributes to a small but growing literature on the Spanish Empire in political science and political economy (see for example Guardado (2018), Garfias and Sellars (2020), Garfias (2019), Franco-Vivanco (2020), Grafe and Irigoin (2006, 2008, 2012), Grafe (2018)). The paper most relevant to this one is Guardado (2020), which focuses on the interaction between the Audiencia of Lima and a lower level of government, the *corregidores* (provincial governors). Using exogenous variation in Audiencia composition (due to deaths), she shows that the sale of audiencia positions led to a surge in prices of the provincial positions (which capture illicit returns from office) and an increase in the likelihood of rebellions. Since in my sample audiencia ministers who bought their positions were both more connected to the district and less connected to the Council, Guardado (2020) shows one mechanism through which connections affected performance: through changes in the oversight behavior of the audiencia.

The remainder of the paper is organized as follows. The next section provides historical background by describing the Spanish Empire in general and the Council and the audiencias in particular. I also summarize the historical literature on connections in the colonial bureaucracy and how the Empire discouraged local ties. Section 3 describes the data on connections, friendships, promotions, and fiscal performance. Section 4 validates the connection measure with friendship data. Section 5 shows the results for the effect of connections to superiors in promotions. Section 6 presents the results on fiscal performance. Section 7 concludes.

2 The Spanish Empire

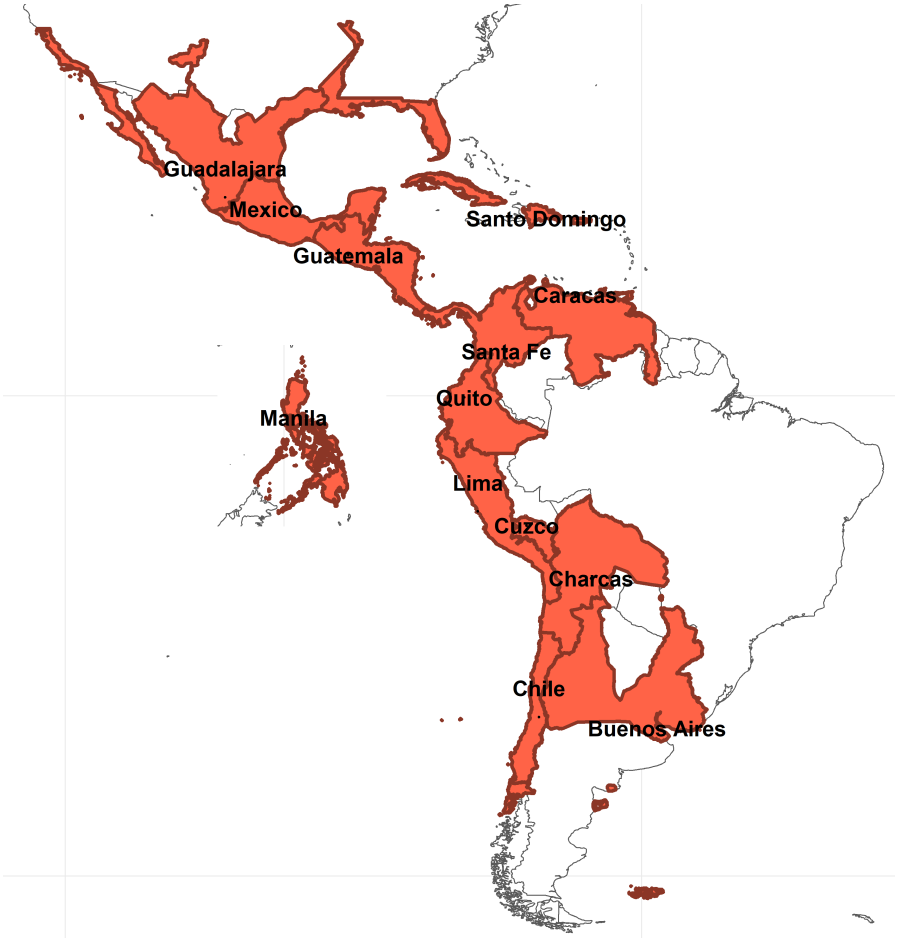
In this paper, I focus on the American colonies (all the way from Patagonia to California, see map in Figure 1) and the Philippines, what contemporaries called "the Indies" during the XVIIIth century. These territories were incorporated into the Crown of Castile[9] and had a unified administrative and legal framework from the start. They were administered by a layered bureaucracy, headed by the king and the Council of the Indies in Spain and by viceroys and audiencias in the colonies. The legal framework was a succession of royal decrees compiled in 1680 in the Recopilación de Leyes de Indias.

The French Bourbons replaced the Habsburg dynasty at the beginning of the eighteenth century. Throughout the century, the Bourbon kings engaged in a series of reforms intended to consolidate and centralize power. They limited the power of local elites by restricting the sale of offices and by appointing Spanish-born officials to both existing and new offices (such as audiencias and intendencias, respectively).[10]

[9]On paper, Native Americans were vassals of the king of Spain and protected against slavery and exploitation. In practice, colonists (and their descendants) were granted the right to forcibly extract labor from groups of people. The atrocities committed by the Spanish are well recorded, starting with Bartolome de las Casas' account from 1542.

[10]There is a debate among historians about how effective the reforms were in consolidating royal authority. For example, Brading (1971) argues that Charles III (1759-1788) successfully wrestled power away from local

Figure 1: Audiencias and their jurisdictions around 1795



This figure shows the geographical extent of the Spanish Empire and the thirteen audiencias. Borders are approximate. The audiencia of Panama (also in sample) is missing from this map because it was abolished in 1751.

The relevance of connections to the Council for promotions I observe is consistent with the centralizing and pro-peninsular goals of the Bourbon policies. The restrictions on ties to the local elite predate the Bourbon reforms, but enforcement increased, and exemptions decreased during the eighteenth century. At least in terms of revenue raised, reformers seem to have accomplished their goal. Total tax revenue and remittances to Spain increased

elites by expanding the bureaucracy with mostly peninsular officials, ending trade monopolies, and raising tax revenue. On the other hand, Tutino (1976) argues that the reforms left Creoles' power mostly unchanged. There is also disagreement about when the reforms started and when royal authority reached its peak (see, for example, Lynch 1984).

gradually during the eighteenth century and peaked in 1795 (Marichal 2007).

2.1 The Council of the Indies

The Council was established in 1524 by Charles V to administer the newly acquired colonies. It was located in Madrid, and it had jurisdiction over the American colonies and the Philippines. Its powers encompassed every branch of government: legislative, judicial, military, and religious (Haring 1963). It drafted all new legislation for the king to approve. It advised the king on appointments to every important office. The default appointment procedure for appointments and promotions of audiencia ministers was called *consulta*: the Council presented an ordered list of three candidates to the king, and he chose one. According to Herzog (2004, p. 63), the king often chose the first name on the list. From 1751 to 1791, 86% of audiencia appointments were by *consulta* (Burkholder and Chandler 1982, p. xvii). The remainder were appointed directly by the king (often because he sold the appointment).

The Council was also the highest court for the Americas. In addition, the Council was in charge of the performance reviews for every important officer called *residencias* (including audiencia ministers). The *residencias* were judicial examinations that looked for irregularities or crimes committed in office. Every audiencia member was subjected to these reviews every five years, and a clean sheet from the previous job was required before moving up in the bureaucracy.[11]

2.2 The audiencias

The audiencias were key components of the Spanish Empire. The audiencias were the highest courts in their district. These judicial powers included oversight over the fiscal bureaucracy

[11]Common findings included: brutal treatment of Native Americans, allowing contraband, missing revenue, giving jobs to friends and family. Penalties included fines, jail time, and bans on taking public jobs (Cunningham (1918), Mariluz Urquijo (1952), Jimenez Pelayo (2009)).

and performance reviews of mid-ranking officials (mirroring the Council's role for higher-ranking officials). They had around five members each at any given time, with the exception of Lima and Mexico (oscillating from 10 to around 20 members), see figure A.1 for the number of ministers over time.

The audiencia also shared some legislative powers with the executive. Their long tenures, law expertise, and right to correspond directly with Spain made them powerful checks on the executive. In summary, audiencia ministers were superficially similar to contemporary judges. They were lawyers, they wore robes, and their main powers were judicial in nature. But there was no separation of powers in the Spanish Empire, and the audiencias had considerable political authority.[12]

The audiencias and the Council offer a unique opportunity to study the role of personal connections and loyalty in governance. Most of the council and audiencia members were part of a specialized bureaucracy with a very structured career path. They usually studied law at one of a handful of universities. Moreover, serving in the audiencias was a relatively common stepping stone to the Council: 25% of its members also served in the audiencias. They usually stayed in their audiencia or Council jobs until retirement or death. This setting presents two advantages: First, they frequently run into each other at different steps of the promotion ladder. Their dense network allows me to observe enough variation in personal connections without the need to broaden the definition of connections to include shared backgrounds. Second, the structured career path implies their professional lives are easy to account for, and therefore I can accurately measure personal ties.

In line with the findings of this paper, historians of the Spanish Empire have argued

[12]Historians of the Spanish Empire have long recognized the importance of the audiencias. Hamnet (2017, p. 27) describes them as: "The principal judicial and administrative organ of Spanish royal authority was the audiencia, a high court that acted as an administrative and legislative organ as well... Appreciation of the importance of the audiencia... is fundamental to any understanding of how the Hispanic Monarchy functioned overseas." Also, Phelan (1967, p. 126) asserts: "More than any other group, these men [audiencia ministers] were the real rulers of the Spanish Empire."

that connections to the Council were critical to secure appointments and promotions in the audiencias[13].

2.3 Connections to local elites

Connections to local elites were severely discouraged by colonial legislation. First, no one was allowed to serve in their native district. Second, ministers (and their children) were banned from marrying within the district they ruled. Third, ministers were forbidden from being godfathers at baptisms or best men at weddings. These rituals were used to seal friendship bonds and upgrade them to "spiritual kinship" (Rosenmuller 2008, p. 5). They were even barred from attending weddings and funerals, but whether this regulation was enforced is unclear. Fourth, ministers were not allowed to hold property or run businesses within their districts[14].

Of course, ministers lived in (and were part of) the societies they governed for decades, and links between them and the local communities were unavoidable. First, there are many cases of documented transgressions (see Herzog (2000) on the Audiencia of Quito). The fact that ministers were prosecuted and punished for these (often with fines or reprimands) implies they were binding but not absolute. Second, ministers exploited grey areas, such as whether the ban against marrying within the district applied to women born, raised, or living there. Third, ministers could apply for exemptions (often in exchange for money). Lastly, many relationships were not be covered by the regulations, such as friendship and

[13]Herzog (2004, p. 65): "The ability to activate social contacts and to establish a relationship either with the councilors of the Council of the Indies or with other influential members of the court was extremely helpful. Candidates had to convince these people that they merited reward, that they were worthy of trust, and that they would be helpful to them in the future... Royal allocation of offices thus depended on social and family relations.". Also, Hamnet (2017, p. 5): "Personal and professional linkages, which often cut across royal institutions and specific territories, acted as long-term elements in binding metropoles and overseas dependencies together." More on the concept of "transatlantic careers" in Amadori (2013) and Portillo (2006). Phelan (1967, p. 133) argues that qualifications and connections were equally important.

[14]These restrictions can be found in the Recopilación de Leyes de Indias: Libro 2, Titulo 16, leyes 48-49 (godparents, weddings), 54-47 (property and business), 82-87 (marriage). Rosenmuller (2008, p 54) and Herzog (2000, p. 143) provide summaries and analysis.

employment.

The existence of these rules shows that the Spanish Empire attempted to limit ministers' local connections. The underlying assumptions were that relationships between officers and local elites would bias decision-making, in particular by prioritizing local interests' over the Crown's.

3 Data

This paper relies on three types of data. First, I use biographies of audiencia ministers and councilors of the Indies. My sources are Burkholder and Chandler (1982, 1977), Burkholder (1986), and the Spanish Biographical Dictionary[15]. By digitizing this data, I obtained promotions within the audiencia system and connections between councilors and ministers. My novel dataset has biographical information for 159 councilors and 473 audiencia ministers. Because 39 audiencia members became councilors, there are 593 individuals in my data. To the best of my knowledge, no ministers or councilors are missing from my dataset. Since ministers get promoted within the audiencia system, I observe 808 audiencia positions. The unit of observation is the audiencia minister-year (N=6,828).

The second type of data I use is an action-level dataset of Spanish bureaucrats and politicians (Dedieu 2011, 2014). The dataset is the product of a collective effort by historians, in particular the PAPE group (Dedieu 2017). There are many types of actions, but they generally correspond to the "paper trail" left by individuals (birth and death records, marriage certificates, job applications, judicial proceedings, etc.). Some of these actions are relational, and therefore they help me uncover friendships between individuals in my data. I use this dataset to validate my measure of connections between ministers and councilors and to measure connections between ministers and local elites. The Actoz dataset contains

[15] `http://dbe.rah.es`

582 out of the 593 ministers/councilors in my dataset (98%).

Third, I use yearly revenue data collected by TePaske and Klein (1982), which I use to measure audiencia performance.[16] I match each audiencia to the caja located in the same city. For the period 1708-1808 (period with available connections data), I have 493 audiencia-year observations, mostly because some treasuries were established late in the sample (for example, Buenos Aires in 1783), figure A.2 shows the years included.

My sample goes from 1708-1808, encompassing all of Bourbon Spain[17]. In the following sections, I describe in detail how I measure connections, promotions, and revenue.

3.1 Connections

For each audiencia member, I calculate how many Council members they were connected to for each year of their professional lives. I measure two types of connections. First, I consider two individuals connected if they worked in the same audiencia in the same year. Service in the audiencias was one of the paths to the Council of Indies (25% of councilors in my sample). The audiencias were small (from five to twenty-four members), hard-working bodies (they met every day except on holidays). If two individuals worked together in an audiencia, even for only one year, they knew each other personally and interacted extensively.

I also measure connections established before service in the audiencias. I consider two individuals connected if they attended the same university or college, or practiced law before the same tribunal. I also require that they were born within five years of each other[18].

[16] Unfortunately, TePaske and Klein only cover the Viceroyalties of New Spain, Peru, and Rio de la Plata. The territories of New Grenada, the Caribbean, and the Philippines are not covered. Therefore, I can match eight of the fourteen audiencias to the fiscal data: Buenos Aires, Chile, Charcas, Cuzco, Lima, Quito, Guadalajara, and Mexico.

[17] It ends with the Napoleonic invasion of Spain and the beginning of the American Wars of Independence. It starts in 1708 because my main source for Council members (Burkholder 1986) only starts in 1717. Since it includes all ministers serving in 1717, I extended it to 1708 using the list in Schafer (1935) and the Spanish Biographical Dictionary, rounding up a century. We could expand the sample by extending it backward. However, the lack of a comprehensive biographical dictionary for previous periods makes the data collection process more costly and increases measurement error.

[18] I use dates of birth rather than directly using graduation dates for three reasons: First, graduation

The size of universities in eighteenth-century Spain implies that it is extremely likely that two individuals with similar career aspirations knew each other personally. The average number of canon and civil law graduates per year in Salamanca in the eighteenth century, Alcala, and Valladolid were 315, 347, and 326, respectively (Kagan 1974, appendix A). Colleges were residence halls within the university that provided room and board. They allowed students to remain in the university after graduating with a salary, so they are also associated with post-graduate education. They covered a small subset of students. Kagan (1974) reports the number of students for a few of the most frequent colleges in my sample. For Arzobispo, Cuenca, Oviedo, and San Idelfonso in the eighteenth century, the number of students oscillates between 20 and 40 (Kagan 1974, ch. 7).

I also consider two individuals connected if they were admitted to practice law before the same tribunal. After being admitted, they were called *abogados*, which can be roughly translated to barrister. Again, a relatively small group of people were admitted. For example, in 1786, only 374 lawyers practiced law in the royal councils (the most frequent tribunal in my sample) (Guia de litigantes y pretendientes 1786).

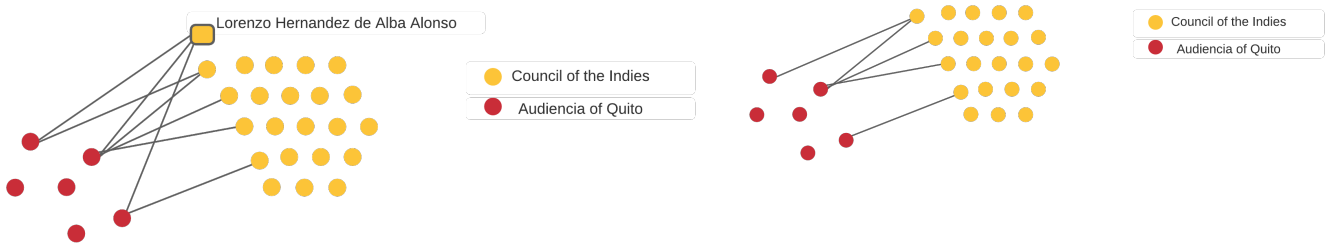
Figure 2 depicts the connections between councilors and the audiencia of Quito for two years, 1806 and 1807. The nodes are individuals, and their color represents the institution they belong to. The figure illustrates where variation comes from. Lorenzo Hernandez (represented in 1806 with a square) died of a stroke in late 1806. practiced law in the Royal Councils in his early career, where he interacted with three ministers of the audiencia of Quito (he also served in the audiencias of Santo Domingo and Mexico, but he did not

dates are often missing in the sources, and the biographies are generally ambiguous about whether they are referring to graduation or admittance dates. Second, in the eighteenth century, everyone attended university at around the same age (Kagan 1974, ch. 8). Third, for audiencia members, Burkholder and Chandler (1977) approximate missing dates of birth from university and college graduation and admittance to the practice law (three of my connection variables). This choice implies two things: dates of birth in my dataset may be measuring career timing better than actual birth, and Burkholder and Chandler also concluded that most people went through these career milestones at around the same age. Unfortunately, they do not specify which dates are approximated and which are directly observed.

coincide with any Quito minister there). The models in section 5 predict that those three ministers have a lower probability of being promoted in 1807 than in 1806. Also, the section 7 results imply an expected decline in the revenue collected from Quito after 1807. Figure A.3 depicts the entire network for one year.

Figure 2: Connections between the Council and the Audiencia of Quito

(a) 1806 (b) 1807



In this network, the nodes are Councilors of the Indies or audiencia ministers. The links could have been formed during audiencia service, in education, or during law practice. This graph illustrates the source of variation: in 1807 (labeled and represented with a square in 1806), three ministers of the Audiencia of Quito lost a connection to the Council when Lorenzo Hernandez de Alba Alonso died of a stroke.

I use the Actoz data on friendships both to validate my measure of connections to the Council and to quantify American connections. I use three types of relational actions to identify active friendships. First, I use references. They mostly come from job applications, where individuals had to provide a list of "witnesses" who could vouch for their character and qualifications, much like modern-day references. Second, I classify two individuals as friends or allies if they were *compadres* (literally, co-parents), which means that one of them was a godparent of the other one's children. Historians refer to these relationships as "ritualized friendships" or "spiritual kinship" (Lynch, 1986, Rosenmuller 2008). This relationship formalizes a pre-existing friendship and builds a strong lifelong bond between compadres (Foster 1953). The last category includes individuals who hired or procured a job for each other. It includes direct appointments, job recommendations, and lobbying for

someone to get a job. In section 4, I use first, second, and third-degree friendships. First-degree friendships are direct links. To detect second and third-degree friendships, I built a network in which the nodes are every member of the Actoz dataset, and the vertices are the relationships listed above. A second-degree relationship is "a friend of a friend," and a third-degree one is "a friend of a friend of a friend".

I also use the action-level dataset to compute the number of connections between ministers and American elites. For each audiencia member, I select all their friends and allies (using the definition above). I then further select those with information on place of birth and classify them as either Spanish or American. I find friendships (with place of birth) for 293 audiencia ministers (out of 473).

3.2 Promotions

In this paper, I focus on promotions within the audiencia system. Two factors made some audiencia jobs more desirable and influential than others. First, there was a hierarchy inside each audiencia: criminal prosecutor, civil prosecutor, criminal judge, civil judge, and lastly, chief judge.[19] Second, some audiencias were more prestigious than others. Lima and Mexico were at the top of the hierarchy, and historians suggest that the other twelve were not equal. For example, Santo Domingo and Panama were usually destinations for newcomers, and Santa Fe and Guadalajara were more likely to be stepping stones to Mexico and Lima (Burkholder and Chandler 1977).

Since individuals could get promoted inside their own audiencia or transferred to a more prestigious one, it is hard to establish a complete ranking of positions solely from qualitative evidence. Therefore, I take a data-driven approach. I assume promotions to be more frequent than demotions, as in most organizations (Gibbons and Waldman 1999). For each pair of

[19]The Spanish names for these offices are: *fiscal del crimen*, *fiscal civil*, *alcalde del crimen*, *oidor*, and *regente*.

posts, I classify a move from A to B to be a promotion if moves from A to B were more significantly more frequent than moves from B to A.[20]

I count 325 promotions: 149 in the same audiencia, 94 to Mexico or Lima, and 127 others (desirable diagonal or lateral moves). For example, we observe nine civil judges in Guadalajara who became criminal judges in Mexico, and none in the reverse direction, so I classify those nine moves as promotions, despite the loss of within-audiencia rank. It is not true that city dominates within-audiencia rank, as the previous example may suggest. For example, I observe that being named a chief judge was always a promotion. There are instances of civil judges in Mexico becoming chief judges in Santo Domingo, Guadalajara, and Guatemala.

3.3 Revenue

My measure of performance is revenue. From the 1500s to the mid-1600s, gold and silver income from the Americas was used to finance the occupation of Italy and Flanders and almost constant European wars (Marichal 2007). There was a decline in revenue during the late seventeenth and early eighteenth century, but it was more than reversed in the second part of the eighteenth century. Before the Napoleonic wars, Spain remained the third European state regarding fiscal income (after England and France) (Marichal 2007, p. 7). Even at the low point of the late 1600s, the transfers from America to Spain were always positive. In summary, the Spanish Empire was very successful at extracting revenue from its colonies, and it was neither static nor in permanent decline.

The Spanish Crown needed American silver to finance costly European wars, but the tax burdens were a constant source of friction between the crown and its American subjects (Klein 1998, p.3). Audiencia members needed to exert effort to make sure taxes were properly

[20] I only classify a move as a promotion if there were at least three more moves in that direction than for the opposite. Results are very robust to different threshold specifications because the most common moves have an unequivocal direction.

raised, and they needed to resist pressure and bribes from local elites.

I use itemized income and expenditure data from the royal treasuries. The data was collected by TePaske and Klein (1982)[21]. The accounts have yearly frequency[22] and include itemized revenue and expenditures. The figures are in nominal *pesos de ocho*. I have not transformed these to real terms because I could not find an undisputed price index for the whole period. My analysis includes year fixed-effects that should account for inflation.

To compute revenue, I matched the categories in Klein (1998), appendix 3, to the fiscal data. The included revenue categories are mining and minting, taxes on trade and agriculture, taxes on government officials, taxes on Native Americans, and royal monopolies. I exclude loans, carryovers, and transfer income.

4 Friendships: validation of the connections measure

The purpose of this section is to verify whether connections are a strong predictor of observed friendships. We can observe whether two individuals went to school or worked together, but if we want to use connections as a proxy of relationships, we need to verify that they predict endogenous acts of friendship.

To do so, I use the action-level dataset *Actoz*, described in section 3.1, to capture endogenous friendships. The unit of observation is the individual-action. Each row is an action carried out by an individual (such as being born and graduating college). Some of the actions are relational, carried out by two individuals (such as marriages and lawsuits). I use relational actions between councilors and ministers that are indicative of friendship. In particular, I classify a councilor-minister pair as friends if they did one of three things: First, if they were a reference on a job application for each other. Second, if one of them was a

[21]The data is available online at `realhacienda.colmex.mx`

[22]A minority of accounts have shorter or longer periods. I transformed all of them into year-level observations. For example, if one account covered the first half of 1750 and another one covered the second half, I added them up.

godfather to the other one's child. Third, if they procured a job for each other (which goes from making a job recommendation to hiring someone directly).

I will compare whether connected pairs were more likely to be friends than unconnected pairs. More importantly, I will compare the effect on friendships of personal connections and shared backgrounds. In doing so, this is the first paper (to the best of my knowledge) to validate the connections measure against real acts of friendship.

The Actoz data, however, have one important limitation: most friendships are not observable. For a friendship to be recorded, we need three things: written evidence of an act of friendship (such as job application or a baptismal record), the document needs to survive the pass of time, and a historian needs to upload the action to Actoz. Therefore, it is not surprising that the base rate of friendships in the data is low. The average minister is only friends with 0.06 councilors. The average audiencia minister only has 3.8 recorded friends in total. Since many historical friends are classified as non-friends due to missing evidence, the dependent variable has non-classical measurement error, and the estimated effect of connections on friendship will be biased downwards.

Therefore, the estimates of the effect of connections on friendships are a lower bound. However, assuming that the attrition in the friendship data is orthogonal to connections, we can still compare the validity of personal connections and shared backgrounds. More specifically, we can obtain an unbiased estimate of the ratio between the effects of the two measures of connections on friendships.[23]

The unit of observation is the councilor-minister pair, and I include all the pairs that overlapped between 1708 and 1808. There are 6,292 pairs, which means that each audiencia

[23]See Meyer and Mittag 2017 for more detail. We know that the bias has the form $E(\hat{\beta}) = \beta * (1 - \alpha)$, where β is the true parameter of interest, $\hat{\beta}$ is the estimated coefficient using the biased data, and α is the share of false negatives in the friendship data. Since we do not know the true value of α, we cannot estimate the true β. But since α does not depend on the independent variable $Connection$, and it is only linked to the attrition rate in the dependent variable $Friendship$, we do know that $\frac{E(\hat{\beta_1})}{E(\hat{\beta_2})} = \frac{\beta_1}{\beta_2}$, were β_1 and β_2 are estimates obtained using different measures of connections.

minister overlapped with 13 councilors on average. Table 1, model 1, shows that a personally connected pair is 1.9 pp more likely to be friends than an unconnected pair. Therefore, a one SD increase in connections (0.206) is associated with an increase in the probability of friendship equal to 55% of the average probability. Model 2 shows that the pairs with shared backgrounds are indistinguishable from unconnected pairs. The difference between coefficients is statistically significant, and the ratio between them is equal to 9.5.

In models 3 and 4, I include minister and councilor fixed effects. Therefore, I control for the total number of connections that each member of the pair had. This accounts for the fact that those individuals whose life was better documented are both more likely to have an observed connection and an observed relationship. The estimates are larger and more precise. Model 3 shows that a personally connected pair is 2.5 pp more likely to be friends than an unconnected pair. In this specification, shared backgrounds have a positive but smaller effect, 0.6 pp. The difference between them is significant, and the ratio equals 4.2. Therefore, I conclude that personal connections are a much better predictor of friendships than shared backgrounds.

In Table 2, I explore other ways in which shared backgrounds can be meaningful. Using the specification with fixed effects, it shows that shared backgrounds do a better job capturing indirect friendships. In particular, I use second- and third-degree friendships (friends of friends, and friends of friends of friends, respectively) as a dependent variable. The differences between the estimates for personal connections and shared backgrounds are still positive but smaller. In a horse-race regression (models 5 and 6), only the personal connections estimate is significant for second-degree friendships, but this is reversed for the third-degree.

In summary, to capture relationships of trust, such as who to hire, who to give a reference to, and who to make responsible for the religious upbringing of your children (i.e., what godparents are supposed to do), personal connections do better. Shared backgrounds do a decent job capturing acquaintances.

Table 1: Effect of Connections on Friendships

	Councilor and minister are friends			
	(1)	(2)	(3)	(4)
Personal connections	0.019**		0.025***	
	(0.008)		(0.007)	
Shared backgrounds		0.002		0.006*
		(0.003)		(0.003)
Difference between coefficients	0.019***		0.018***	
	(0.006)		(0.008)	
Ratio between coefficients	9.5		4.17	
Minister F.E.	No	No	Yes	Yes
Councilor F.E.	No	No	Yes	Yes
Mean Friends	0.007	0.007	0.007	0.007
SD connections	0.206	0.352	0.206	0.352
R^2	0.003	0.0001	0.074	0.071
Observations	6,292	6,292	6,292	6,292

The unit of observation is the councilor-minister pair. Sample: every overlapping pair of councilor-minister from 1708 to 1808. The dependent variable measures whether they were friends. Robust standard errors in parentheses, two-way clustered at the minister and councilor levels. *p<0.1; **p<0.05; ***p<0.01

Table 2: Effect of Connections on Indirect Friendships

	Councilor and minister are indirectly friends, by degree					
	2nd	3rd	2nd	3rd	2nd	3rd
	(1)	(2)	(3)	(4)	(5)	(6)
Personal connections	0.040***	0.036*			0.037***	0.029
	(0.012)	(0.020)			(0.013)	(0.020)
Shared backgrounds			0.015***	0.026***	0.009	0.021**
			(0.006)	(0.009)	(0.006)	(0.010)
Minister F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Councilor F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Mean Friends	0.027	0.079	0.027	0.079	0.027	0.079
SD connections	0.206	0.206	0.352	0.352		
R^2	0.110	0.237	0.107	0.237	0.110	0.238
Observations	6,292	6,292	6,292	6,292	6,292	6,292

The unit of observation is the councilor-minister pair. Sample: every overlapping pair of councilor-minister from 1708 to 1808. The dependent variable measures whether they were friends of friends (2^{nd} degree) or friends of friends of friends (3^{rd} degree). Robust standard errors in parentheses, two-way clustered at the minister and councilor levels. *p<0.1; **p<0.05; ***p<0.01

5 Effect of connections on promotions

To estimate the effect of connections on promotions, I exploit plausibly exogenous changes in the Council of the Indies composition. Entries and exits were decided in Madrid by the king upon the recommendation of the Camara of the Indies (a subset of the Council). The identifying assumption is that promotions and exits from the Council were not related to the other determinants of promotions, such as audiencia minister ability or performance.

The dependent variable is the measure of promotions described in section 3.2. The promotion process was long, as it required a vacancy to be open, deliberation in Madrid, and sometimes a back and forth between the colonies and Spain (months-long trips each way). Therefore, I define a promotion window of four years. The dependent variable $Promotions_{i,j,t}$ equals 1 if minister i, with job j in year t had a better job in $t+4$, and 0 if she did not. If the jobs are not comparable, or if she retires, the data is missing. The results are robust for promotion windows between 0 and 8 (see table A.2).

The independent variables are connections to the Council, denoted $Connections_{i,t}$. They count how many members of the Council are connected to i in year t. To absorb all individual-level variation that may be correlated with connections, such as performance on the job or ability, I include individual-post fixed effects, denoted $\delta_{i,j}$. Therefore, I compare the number of connections in the last five years before a promotion with the number of connections before that. Since ministers tend to accumulate connections the longer they stay in office (because their friends make it to the Council), I always add time in office fixed effects, denoted $\gamma_{i,j,t}$ (number of years i has been in job j). For minister i, in job j, in year t, I estimate the following specification:

$$Promotion_{i,j,t} = \beta \times Connections_{i,t} + \gamma_{i,j,t} + \delta_{i,j} + \epsilon_{i,j,t}$$

Table 3 reports the main results. Standard errors are clustered at the individual-job

level. The results show a strong effect of connections on promotions, confirming that having friends on the Council was a key determinant of career prospects. The effects are sizeable. In model 1, an increase in one connection increases the probability of a promotion within the next four years by 3.3pp, 16% of the average probability (20.5%). A one-standard-deviation increase (1.375 councilors) increases the promotion probability by 4.5pp (22% of the mean).

The estimates have similar sizes and remain significant when I use the proportion of the Council instead of the number (model 2) and when I restrict the connection definition to those made within the audiencia system (models 3 and 4). The estimate becomes noisier (but still significant at the 90% level) when I use early life connections (college, university, and the bar) (model 4).

Model 5 uses a different identification strategy. Instead of using individual-post fixed effects, I use audiencia-year and rank fixed effects. Therefore, instead of comparing the same individual across time, I am comparing her to her peers. The model shows that a minister with one more connection than her peers has a 2.9pp higher promotion probability. This model does not use changes in the Council as a source of variation, so it should not be interpreted as the main result of the paper. More connected ministers may have more education, experience, or ability than their peers. However, it is reassuring to find that a very intuitive test (when a promotion opens up, do the most connected minister gets it?) and my main specification perform similarly. In models 6 and 7, I show that the results are robust to using simpler measures of the promotion. Model 6 only uses promotions in the same audiencia (using the ranks described in section 3.2). Model 7 only uses promotions to Mexico or Lima[24].

In table A.3 in the appendix, models 1 and 2, I show that the number of connections

[24]The number of observations is lower for models 6 and 7 because many job moves are not comparable under those definitions of promotion. Anyone getting transferred to a different audiencia has a missing value for promotion in their own audiencia. Also, anyone who is getting promoted in their own audiencia or who is already in Mexico or Lima has a missing value for the "Mexico or Lima" promotion.

Table 3: Effect of Personal Connections to the Council on Promotions

	Promotion						
			All			In the same audiencia	To Mexico or Lima
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Number of connections	0.033***				0.029***	0.029***	0.032*
	(0.013)				(0.005)	(0.010)	(0.018)
Proportion connected		0.656**					
		(0.259)					
Audiencia system connections			0.034**				
			(0.017)				
Early life connections				0.030*			
				(0.017)			
Individual-post F.E.	Yes	Yes	Yes	Yes	No	Yes	Yes
Years in job F.E.	Yes	Yes	Yes	Yes	No	Yes	Yes
Audiencia-year F.E.	No	No	No	No	Yes	No	No
Mean promotions	0.205	0.205	0.205	0.205	0.205	0.078	0.09
SD connections	1.375	0.063	1.005	0.93	1.375	1.358	1.375
N promotions	325	325	325	325	325	149	94
R^2	0.598	0.598	0.597	0.597	0.332	0.669	0.574
Observations	6,828	6,828	6,828	6,828	6,828	5,724	3,602

The unit of observation is the minister-year. Sample: 14 audiencias between 1708 and 1808. Dependent variables equal one if the individual was within four years of a promotion. I use all promotions in models 1-5, only those in the same audiencia in model 6, and promotions to Mexico or Lima in model 7. Independent variables measure the number of members of the Council of Indies connected to the minister, except for model 2, where it measures the proportion of Council members connected to the minister. Connections could have been formed during audiencia service, in their early life (education or law practice), or both. Robust standard errors in parentheses, clustered at the individual-post level, except for model 5 (clustered at the audiencia-year level). *p<0.1; **p<0.05; ***p<0.01

matters, since being connected to more councilors resulted in a higher probability of promotion. In a model that includes a dummy that equals 1 if the minister is connected to any councilors and a variable with the number of connections, both estimates are positive, but only the latter is statistically significant. Table A.3 also shows that the intensity of connections does not matter. In a model that includes number of connections and a measure of intensity (adding connections in university, college, law practice, and every five years shared in the audiencia system), the latter is not significant (model 3). Also, in a model that includes both the number of audiencia system connections and the years shared in the same audiencia, only the former is significant (model 4). These results confirm that my measure of personal connections is already intensive enough (as argued in section 3) and therefore further increases in the intensity of connections are not relevant.

In table A.6 in the appendix, I only use connections to the Camara of the Indies, the subset of the Council that decided on appointments (including promotions). I find that the coefficient for early life connections is highly significant (and approximately three times bigger than the coefficient in table 3, model 4). I find no effect for audiencia system connections. This is probably due to the fact that very twelve members of the Camara had served in the audiencias. My preferred specifications include all Council members because the Council as a whole was responsible for monitoring the audiencias and administering the empire. All connections are therefore valuable, particularly if connected ministers are getting promotions because they are expected to be more loyal (i.e. raise more revenue, see section 6), and not because of patronage.

These results are explained by personal connections and not by shared backgrounds. In table 4, I use shared backgrounds between councilors and audiencia ministers as the independent variables. They share backgrounds if they went to the same university or college, or if they were admitted to the bar in the same tribunal, regardless of date (models 1, 4, and 7). I also classify two individuals as having a shared backgrounds if they are relatives up to

16 degrees (models 2, 5, and 8)[25]. The two measures combined are the independent variables in models 3, 6, and 9. By definition, councilor-minister pairs with personal connections also have shared backgrounds. Classifying personal connections as not shared backgrounds does not change results (table A.4)

The specification is otherwise the same as in table 3, with all promotions as the dependent variable. I find no effect of shared backgrounds on the promotion probability, suggesting the Council showed favoritism towards individuals they knew personally and not to those similar to them. In models 4-9, I run a horse-race regressions with both shared backgrounds and personal connections. Models 4-6 use only early life personal connections (since these are more directly comparable to shared backgrounds), and models 7-9 use all personal connections. The estimates for personal connections stay significant, with similar effect sizes as in table 4, further confirming that the results are not driven by homophily.

[25]I choose 16 degrees as the cut-off to make my results comparable to Xu (2018) and Voth and Xu (2020). Still, the results are not statistically significant for any cut-off. For cut-offs smaller than 5, for which we may expect closer relationships, there is not enough variation since there are very few connected ministers.

Table 4: Effect of Shared Background with the Council on Promotions

	All promotions								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Same school	−0.003			−0.011			−0.011		
	(0.008)			(0.009)			(0.009)		
Relatives		−0.004			−0.009			−0.011	
		(0.037)			(0.037)			(0.036)	
Shared background			0.004			0.0001			−0.008
			(0.007)			(0.008)			(0.009)
Early life				0.038**	0.030*	0.030			
				(0.019)	(0.017)	(0.019)			
All personal							0.038***	0.034***	0.040***
							(0.014)	(0.013)	(0.015)
Ind-post F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time in job F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean promotions	0.205	0.205	0.205	0.205	0.205	0.205	0.205	0.205	0.205
SD indep variable	3.413	0.551	5.097	3.413	0.551	5.097	3.413	0.551	5.097
R^2	0.599	0.599	0.599	0.600	0.600	0.600	0.601	0.601	0.601
Observations	6,828	6,828	6,828	6,828	6,828	6,828	6,828	6,828	6,828

The unit of observation is the minister-year. Sample: 14 audiencias 1708 and 1808. Dependent variables equal one if the individual was close to being promoted (within four years). Promotions could be within audiencia, between audiencias, or both. *Same school or job* measures the number of members of the Council of Indies who shared university, college, or bar admittance. *Relatives* counts the number of councilors connected to the minister up to 16 degrees of separation (up to eighth cousins). *Shared background* combines the previous two. *Early life connections* is the same as *Same school or job*, but only if they attended at the same time. *All connections* counts both early life and audiencia system connections. *p<0.1; **p<0.05; ***p<0.01

6 Effect of connections on revenue

In section 6, I established that personal connections to the Council were a key determinant of career prospects in the Spanish Empire. I also described in section 4.3 how the Spanish Empire placed restrictions on links between audiencia ministers and American elite society. This section will show that an increase in connections to the Council resulted in more revenue raised by the audiencia. I will also show evidence that suggests that audiencias with more connections to American elites raised less revenue. These results jointly justify the personnel policy from the point of view of the central rulers.

6.1 Connections between the Council and the audiencias

In this section, I use the entries and exits of councilors as a shock to each audiencia's level of connections to Madrid. In particular, I compare the five years before an entry (or exit) of a connected councilor with the five years after.[26] Take the example in Figure 2. In 1806, Lorenzo Hernandez de Alba Alonso died of a stroke. He practiced law as a barrister in the Royal Councils at the same time as three people who later became ministers of the Audiencia of Quito. Therefore, in 1807, Quito lost three connections to the Council. To identify the effect of connections on promotions, I will compare Quito's average yearly revenue in the period 1801-1805 to 1807-1808 (this window is truncated because of independence, but for most shocks the comparison includes five years).

More specifically, every time a councilor connected to a particular audiencia enters or exits, I select an eleven-year window and define the variable. Note that the windows (indexed w) are specific to each audiencia, and t goes from 1 to 11.

$$\text{Positive change in connections}_{w,t} = \begin{cases} 1 & \text{five years after an entry} \\ -1 & \text{five years after an exit} \\ 0, & \text{the five years before} \end{cases}$$

As an alternative independent variable, I also calculate the number of ministers of a given audiencia that gained (lost) a connection. Instead of being equal to 1 (-1) in the five years after an entry (exit), the variable equals the number of ministers connected to the councilor that entered (exited). The dependent variable $log(revenue_{a,t})$ is the logarithm of the revenue collected on year t in audiencia a (matched to the treasury located in the same city as the audiencia).

Table 5 reports the results. In models 1 and 2, I use personal connections, as defined

[26] The results are robust to comparing windows between 4 and 7 years.

Table 5: Connections to Council and Revenue

	DV: $log(revenue)$					
	Personal Connections		Shared Backgrounds		Shared bkgrd (no pers.conn.)	
	(1)	(2)	(3)	(4)	(5)	(6)
Positive change in connections (dummy)	0.047*		0.021		0.031	
	(0.028)		(0.020)		(0.021)	
Positive change in number of connected ministers		0.005*		0.004*		0.004
		(0.003)		(0.002)		(0.004)
Observations	1,453	1,453	2,435	2,435	2,337	2,337
Audiencia-window F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Time F.E.	Yes	Yes	Yes	Yes	Yes	Yes
SD independent variable	0.64	4.82	0.67	5.47	0.66	2.19

The unit of observation is the audiencia window-year. Sample: 8 audiencias 1708 and 1808. The dependent variable is the log of revenue collected in the audiencia district. The first independent variable equals 1 (-1) in the five years after a connected councilor's entry (exit) and 0 the five years before. The second independent variable is equal to the number of ministers that gained (lost) a connection in the five years after the entry (exit) of a connected minister. Models 1 and 2 use only personal connections. Models 3 and 4 use shared backgrounds (inclusive of personal connections). Models 5 and 6 use shared backgrounds (exclusive of personal connections). Standard errors are clustered at the window level *p<0.1; **p<0.05; ***p<0.01

in section 3. In models 3 and 4, I use shared backgrounds. I find positive, economically meaningful, and significant at the 90% level effects of connections on raised revenue. In particular, the revenue on the five years after an entry (exit) of a connected councilor is 4.7% higher (lower) than in the five years before for the connected audiencia (model 1). I also find an effect when using the number of ministers who gained or lost a connection (model 2). In particular, one more connected minister (SD = 5.47) results in a 0.5% increase in revenue. In models 3 and 4, I conduct the same exercise, but I use all councilors with shared backgrounds, not only those with personal connections. The results are also positive, but both smaller and noisier. I can only reject the null for the second independent variable (model 4). In models 5 and 6, I use the turnover of councilors that had shared backgrounds and no personal connections. The results are also positive but even noisier, and I cannot reject the null for either model.

In summary, more connections to the Council are associated with higher revenue collection. I cannot decisively rule out that ministers with shared backgrounds raised more revenue, but personal connections again better capture the role of social ties in the Spanish Empire.

6.2 Connections and the sale of office

In the previous section, I have established that connections to the Council are associated with higher revenue. In this section, I will describe a countervailing force: the sale of office to non-connected applicants. American elites often lacked connections to the Council, and they made up for those ties by paying for the job. The sale of offices provided the Crown with ready and secure cash, but it depressed future revenue.

Table 6 shows that ministers who bought their office have fewer connections to the council. The unit of observation is the audiencia minister-year. The dependent variable equals 1 if the minister had a personal connection to the council in that year, 0 otherwise. The independent

variable indicates whether the minister bought the office they currently hold. In a simple comparison of ministers who did and did not buy their office (model 1), we see that office-buyers have a 30 pp. lower probability of being connected to the council. The effect is large: 78% of the average level of connections. The effect does not change substantially if we compare ministers only to others in the same audiencia (adding audiencia F.E., in model 2).

If we only compare ministers to other ministers in the same year (adding year F.E., in model 3), the effect is statistically and substantively smaller. I find that office-buyers have 12 pp. lower probability of being connected to the council (30% of the average level of connections). The simple comparison without year fixed effects does not control for the secular trends on both office-selling and connections. During the eighteenth-century, Spanish rulers sought to centralize authority and wrestle power away from colonial elites. Burkholder and Chandler (1977) consider these attempts a success and call the early part of the century the "Age of Impotence" and the later part the "Age of Authority". The sale of office and the appointment of highly connected individuals go hand in hand as parts of the centralizing drive of the second part of the eighteenth century.

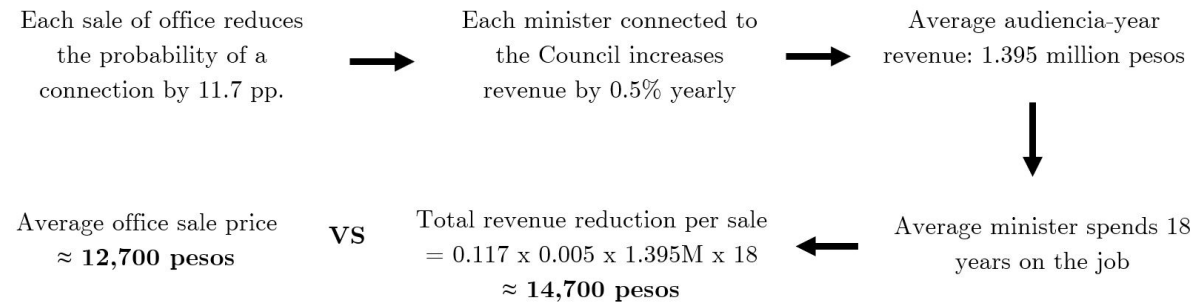
Table 6: Office-selling and Connections

	Connections to the Council		
	(1)	(2)	(3)
Minister purchased the office	-0.304^{***}	-0.302^{***}	-0.117^{***}
	(0.081)	(0.055)	(0.029)
Audiencia F.E.	No	Yes	Yes
Year F.E.	No	No	Yes
Mean connections	0.400	0.400	0.400
SD purchase	0.392	0.392	0.392
R^2	0.059	0.159	0.333
Observations	8,440	8,440	8,440

The unit of observation is the audiencia minister-year. The dependent variable equals 1 if the minister had a personal connection to the council in that year, 0 otherwise. The independent variable equals 1 if the minister bought the office that they currently hold, 0 otherwise. Standard errors clustered at the audiencia and year levels in parenthesis. $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

I will also compare the revenue from the sale of offices with the revenue lost from not having connected audiencia ministers. This is a back-of-the-envelope calculation, with many assumptions incorporated. Its purpose is not to provide a thorough cost-benefit analysis of office-selling, but to put the ruler's decision into perspective.

Figure 3: Back-of-the-envelope assessment of office-selling



This figure explains how I compare the estimated revenue reduction attributable to the sales of office (using estimates from tables 5 and 6) and the revenue boost from office-selling.

Figure 3 describes how I estimate the average revenue reduction associated with each sale of office. It is important to note that I only compute the revenue reduction due to the loss in connections. If an office-buyer affects revenue through mechanisms orthogonal to connections, it won't be captured (for example, if unconnected office-buyers are worse than unconnected non-office-buyers).

First, I take the estimate in 6, model 3. Since it includes audiencia and year fixed effects, it gives the most accurate counterfactual of how the probability of connection changes due to the sale of office (0.117). Second, I take the estimate in 5, model 2. This number (0.005) gives us the decrease in revenue associated with having one fewer minister connected to the Council. Third, I calculate the average audiencia-year revenue (1.395 million pesos[27]). Fourth, I compute how many years the average minister spends on the job (18 years). I

[27] All figures are in *pesos de ocho*, also called *real de a ocho*, Spanish dollar, or *peso fuerte*. It is equivalent to 272 maravadies.

multiply these four numbers to obtain the estimated loss in revenue per sale of office (approximately 14,700 pesos). The estimated number is similar to the average office sale price (12,700).

The revenue reduction per sale is probably underestimated, since it only captures the effect of connections. For example, if ministers engaged in corruption to recover the price of their jobs, that loss is not accounted for. Still, the estimate is larger than the average price of office. These numbers suggests that not selling an office was equivalent to an investment in future state capacity.

6.3 Connections between the audiencias and the colonial elite

In this subsection, I show that connections between the colonial elite and the audiencias were negatively correlated with revenue raised. I run a regression very similar to the one in the previous section. Table 7 displays the results.

$$log(revenue_{a,t}) = \beta \times AmericanTies_{a,t} + \alpha \times SpanishTies_{a,t} + X_{a,t} + \gamma_a + \delta_t + \epsilon_{a,t}$$

The unit of observation is again the audiencia year, with audiencia and year fixed effects. The dependent variable is the same as in the previous section. The independent variable $AmericanTies_{a,t}$ is the number of American friends and allies that the members of the audiencia a had in a year t. I use two versions of this variable: In models 1 and 2 of table 7, I count only friends and allies, defined in section 5.1 (references, *compadres*, and getting someone a job). In models 3 and 4, I also include close family members and associates (people with whom the ministers had a professional relationship). $SpanishTies_{a,t}$ measures the same for connections born in Spain.

Since we do not have an exogenous source of variation for American connections, I cannot guarantee that local connections have a causal effect on revenue. However, in models 2 and

4, I include three time-varying controls to account for the three most obvious sources of bias. First, I control for the proportion of American-born members of the audiencia. Place of birth could influence loyalties or skills through mechanisms different from connections. Second, since the main mechanism through which Americans or the American-connected got hired was office-buying, I control for the proportion of audiencia ministers who bought either their office or a dispensation for marriage or holding property. Third, I include the number of connections to the Council (defined in section 5.1).

I find that audiencias with more local connections raised significantly less revenue. One extra friendship with an American-born resulted in a decrease of revenue between 3.7% to 4.6%. The results are statistically different from zero for every specification (but only at the 90% level for model 3). This effect may seem larger than the previous sections', but the results are not directly comparable. In the previous section, I used complete biographical data to capture every councilor-minister connection. Data in this section is more fragmentary since most friendships were not recorded, either because they did not leave a paper trail or because the evidence did not survive the passing of time. Therefore, each observed friendship may represent many historical ones.

This effect is not necessarily causal, but it is remarkable that within-audiencia changes in local connections are strongly negatively correlated with changes in revenue raised, even after controlling for the most likely sources of bias. This result gives a rationale to the restrictions on local connections described in section 2.3.

Table 7: American Connections and Performance

	log(revenue)			
	(1)	(2)	(3)	(4)
American connections	-0.046***	-0.045**	-0.037*	-0.041**
	(0.018)	(0.018)	(0.015)	(0.016)
Spanish connections	0.003	-0.001	0.006**	-0.001
	(0.001)	(0.000)	(0.002)	(0.000)
Share of Americans		0.308		0.279
		(0.240)		(0.221)
Share of office-buyers		0.288		0.332
		(0.254)		(0.295)
Connections to the Council		0.007		0.008
		(0.002)		(0.003)
Type of connections	Friends	Friends	Friends, family and associates	Friends, family and associates
SD American connections	3.393	3.393	3.987	3.987
Audiencia F.E.	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes
R^2	0.041	0.091	0.032	0.085
Observations	493	493	493	493

The unit of observation is the audiencia-year. Sample: 8 audiencias 1708 and 1808, with gaps. The dependent variable is the logarithm of the revenue collected in the audiencia-year, matched to the closest treasury district. American connections is the sum of friends (models 1 and 2) or friends, family, and associates (models 2 and 3), of the audiencia ministers born in the colonies. Standard errors are clustered at the audiencia level using a wild bootstrap procedure due to the small number of clusters (Cameron, Gelbach, and Miller 2008). 95% confidence intervals in parenthesis. *p<0.1; **p<0.05; ***p<0.01

7 Conclusion

The Spanish Crown's personnel strategy discouraged connections between officials and colonial societies. Audiencia ministers were not allowed to serve in their home district, and they were forbidden to buy property or marry within their districts. These restrictions were further extended to their children. They were also forbidden to be godfathers at baptisms or best men at weddings. In this paper, I show a less conspicuous but complementary side of the personnel policy: the fact that it encouraged ties to officials in Spain. Specifically, connections to the Council of Indies were strong predictors of promotions in the audiencias. Moreover, I present evidence that suggests that both policies were beneficial for the Spanish Empire's objectives since audiencias with more connections to Spain raised more revenue and audiencias with more local connections raised less.

The audiencias and the Council are better suited to studying connections than other settings studied in the literature. Ministers and councilors had relatively standardized career paths that involved law studies and a lifelong career in the Spanish judiciary. Since they often run into each other at different steps of the promotion ladder, they are part of a dense network. The relative abundance of connections between audiencia ministers and their superiors allows me to restrict the definition of connections to those that interacted intensively in person.

The literature on connections up to this point has used more expansive definitions. In this paper, I defined these as *shared backgrounds*. Different papers have used attendance to the same school (even if the individuals attended on different periods), distant family relations, sharing a hometown, or work for the same branch or agency of government. To the best of my knowledge, none of the relevant papers include an estimate of the size of the connected population (in and out of sample), so it is hard to form an idea of the probability of a personal connection. This paper is the first to validate the measure of connection using

endogenous acts of trust, such as references in job applications and ritualized friendships. As a matter of fact, I show that a pair with a personal connection is five times more likely than the average pair to have an observed act of friendship. In comparison, a pair with a shared background is only twice as likely to be classified as friends.

In summary, personal loyalties affected policy in the Spanish Empire. Central rulers were cognizant of that fact and strategically shaped high-ranking officers' social networks to foster their policy goals.

My results also speak to states' trade-off between appointing insiders or outsiders (often referred to as embeddedness). Insiders may have better information about the communities they serve and may be willing to work harder for them. On the other hand, outsiders may be less likely to be captured by the local elite and more loyal to central rulers. The Spanish Crown consistently avoided hiring embedded audiencia ministers. They only did so when they needed to sell the offices. At least in terms of tax collection, they were justified to do so.

Further work should study this trade-off for other outcomes. Tax collection is close to a zero-sum game between local elites who pay taxes and central rulers that depend on them. Results may be different for other policies for which cooperation between local elites and the Spanish was needed. Descriptive statistics and historical evidence suggest that the appointment of connected ministers also followed geopolitical reasons. In 1740 the Council of the Indies singled out the danger of selling offices in areas "continually exposed to invasions" (cited in Burkholder and Chandler 1977, p. 53). In table A.7, I show that audiencias more exposed to war (following Burkholder and Chandler's definition, corroborated by geolocating battles) were indeed more connected to the Council.

The effect of the personnel policy on the long-term survival of the empire should be explored in further work. In particular, the pro-peninsular bias in appointments was a common

grievance among Americans[28]. This bias was not an explicit goal. On the contrary, several royal decrees declared descendants of the first settlers and conquistadores should be given preferential access to office[29]. These decrees were always prominent in the grievances referred to above, but they were ineffective, as 61% of audiencia ministers in my sample were born in Spain. Moreover, Burkholder and Chandler (1977) argue that most appointed Americans were sons of peninsulares (first-generation Americans), and therefore not descendants of first settlers. The evidence suggests that the policies that discouraged local ties and promoted Spanish ties excluded American elites from positions of power. In fact, the Spanish ministers had on average 2.3 times more connections than the American ministers. The marriage and property restrictions were also more binding on the American-born. Historians have argued that the lack of American representation in the bureaucracy may have been one of the major causes of independence (Kinsbruner 2000).

I also reserve for further work the impact of personnel policies on the welfare of Native Americans, the majority of the Spanish Empire's inhabitants. The effect is ex-ante ambiguous. On the one hand, the Spanish Empire used forced labor to extract minerals and finance European wars (see, for example, Dell 2010). More loyal high-ranking officials may have exacerbated Spanish extractive practices. On the other hand, colonial rulers may have protected Indigenous populations in order to keep local elites in check (Franco-Vivanco 2020a). Also, Indigenous groups used various strategies to face land invasions and ruthless working conditions, including judicial action (Franco-Vivanco 2020b). A judiciary more aligned with the white local elite may have been less receptive to Native American claims.

[28]Among the most influential, Bolivar y de la Redonda in 1667 and Alejo Alvarez in 1811. The American representatives to the Cortes de Cadiz in 1810 demanded half the posts for the American-born (all cited in Burkholder and Chandler 1977, p. 140).

[29]Recopilación, Libro 3, Titulo 2, ley 14.

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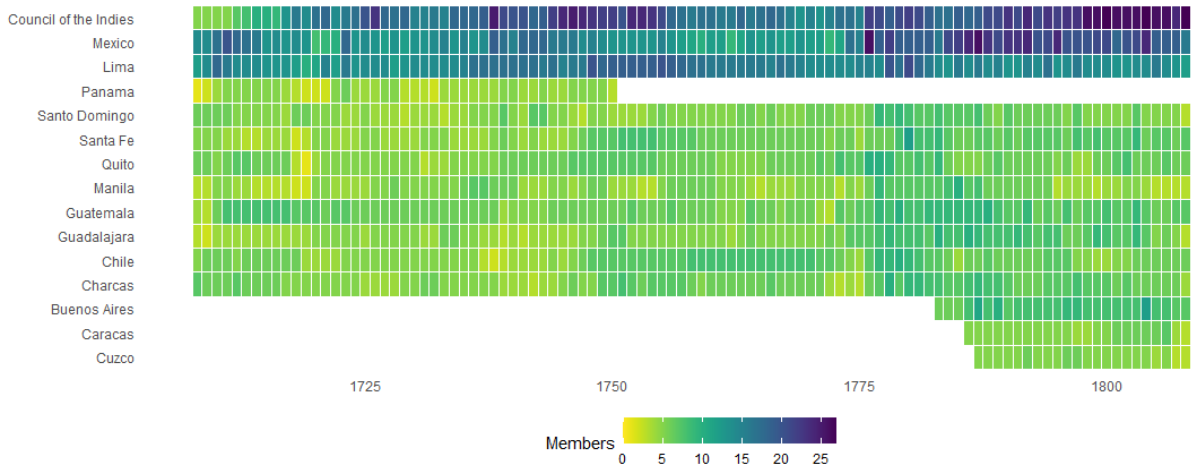
A Appendix

Table A.1: Descriptive statistics for connections to the Council

	type of connection (where they met)	mean	sd	min	max
1	university	0.29	0.69	0	7
2	college	0.03	0.20	0	3
3	bar admittance	0.21	0.67	0	5
4	early life (1+ 2+ 3)	0.46	0.98	0	8
5	audiencia	0.48	1.07	0	7
7	all connections (4 + 5)	0.89	1.46	0	9

The unit of observation is the audiencia minister-year. The variables measure how many councilors were connected to the minister in a given year. N=8440.

Figure A.1: Number of members in the Council of Indies and the colonial audiencias by year (1708-1808)



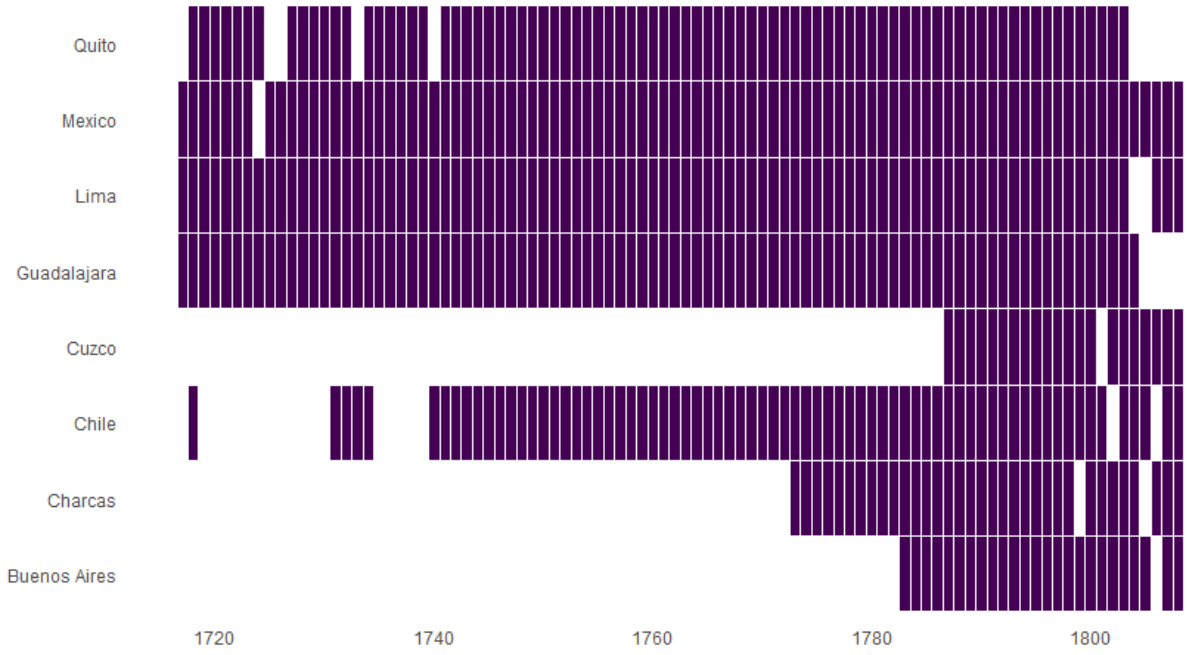
This figure shows the number of councilors and members of each audiencia for every year in the sample. It shows the creation of the audiencias of Cuzco, Caracas, and Buenos Aires, and the abolition of the audiencia of Panama. It also shows that the viceregal audiencias, Mexico and Lima, were bigger than rest. Last, it shows that the number of ministers was relatively stable, though it generally increased over time, especially in Mexico.

Table A.2: Effect of Personal connections to council on promotions for different promotion windows

	Probability of promotion									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Number of connections	0.014***	0.024***	0.032***	0.031***	0.033***	0.034**	0.036**	0.038**	0.034**	0.023
	(0.005)	(0.007)	(0.010)	(0.012)	(0.013)	(0.013)	(0.015)	(0.015)	(0.016)	(0.016)
Ind-post F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Years in job F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Promotion window	0	1	2	3	4	5	6	7	8	9
Mean promotions	0.038	0.072	0.12	0.164	0.205	0.246	0.283	0.32	0.356	0.39
Beta/mean DV	0.381	0.335	0.27	0.187	0.163	0.139	0.129	0.119	0.094	0.058
R^2	0.357	0.410	0.470	0.535	0.598	0.650	0.686	0.720	0.744	0.770
Observations	8,440	8,039	7,635	7,230	6,828	6,435	6,055	5,688	5,331	4,983

The unit of observation is the minister-year. Sample: 14 audiencias 1708 and 1808. Dependent variables equal one if the individual was promoted within the x years after, where x is a promotion window that goes from 0 to 9. *Number of connections* is the number of councilors with a personal connection to the minister. *p<0.1; **p<0.05; ***p<0.01

Figure A.2: Years with fiscal data (1708-1808)



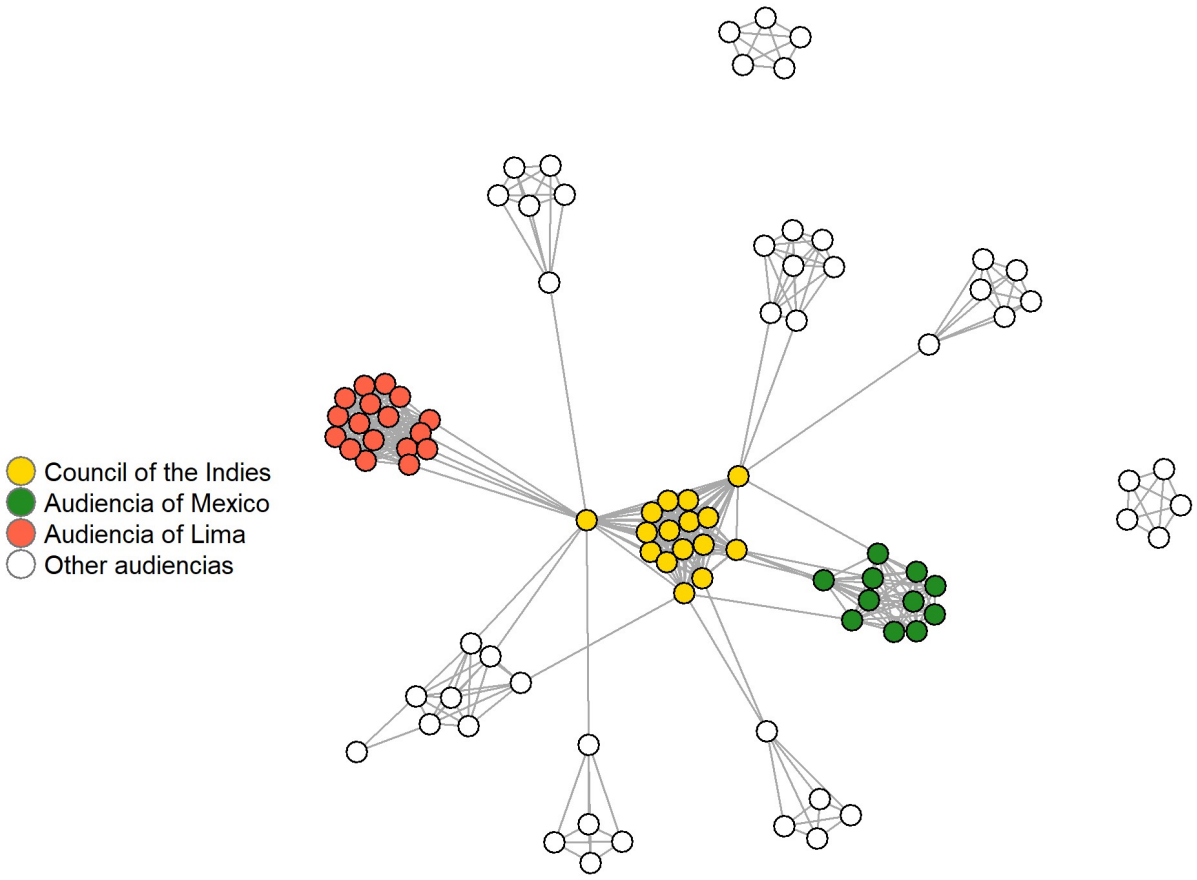
This figure shows the number of ministers in each audiencia for every year of the sample.

Table A.3: Effect of Personal Connections to Council on Promotions: Extensive and Intensive margins

	Probability of promotion			
	(1)	(2)	(3)	(4)
Number of connections	0.028*		0.047**	
	(0.014)		(0.021)	
Proportion connected		0.517*		
		(0.299)		
Any councilor connected	0.027	0.027		
	(0.033)	(0.033)		
Intensity of connections			−0.010	
			(0.013)	
Audiencia system connections				0.053**
				(0.023)
Shared years in audiencia system				−0.013
				(0.014)
Individual-post F.E.	Yes	Yes	Yes	Yes
Years in job F.E.	Yes	Yes	Yes	Yes
Mean promotions	0.204	0.204	0.204	0.204
N promotions	325	325	325	325
Observations	6,828	6,828	6,828	6,828

The unit of observation is the minister-year. Sample: 14 audiencias 1708 and 1808. Dependent variables equal one if the individual was close to being promoted (within four years). Promotions could be within audiencia, between audiencias, or both. *Number of connections* and *Proportion connected* are the number and proportion of councilors who had a personal connection to the minister. *Any councilor* is a dummy that equals 1 if the minister shared a connection to any councilor. *Intensity of connections* adds up all the types of personal connections (university, college, law practice, and audiencia system). Models 1 and 2 show that the number of connected councilors matters. Models 3 and 4 show that the intensity of connections to individual councilors does not (probably because my definition of personal connection is already intensive). *p<0.1; **p<0.05; ***p<0.01

Figure A.3: Connections between the Council and the audiencias in 1758



In this network, the nodes are Councilors of the Indies or audiencia ministers in 1758 (midpoint of the sample). The links could have been formed during audiencia service, in education, or during law practice. I only show the relevant links (between ministers and councilors), and omit links between ministers (which are not used in the paper). I include links between ministers in the same audiencia for better illustration. Two audiencias had no connections: Santo Domingo and Guadalajara. Mexico had the most connections (6).

Table A.4: Effect of Shared Background (alternative definition) with the Council on Promotions

	All promotions								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Same school or job	−0.014			−0.011			−0.012		
	(0.010)			(0.009)			(0.009)		
Relatives		−0.004			−0.009			−0.011	
		(0.037)			(0.037)			(0.036)	
Shared background			−0.011			−0.009			−0.008
			(0.009)			(0.009)			(0.009)
Early life connections				0.027	0.030*	0.027			
				(0.017)	(0.017)	(0.017)			
All personal connections							0.032***	0.034***	0.032**
							(0.012)	(0.013)	(0.012)
Ind-post F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time in job F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean promotions	0.204	0.204	0.204	0.204	0.204	0.204	0.204	0.204	0.204
SD indep variable	2.988	0.551	3.072	2.988	0.551	3.072	2.988	0.551	3.072
R^2	0.596	0.596	0.596	0.597	0.597	0.597	0.598	0.598	0.598
Observations	6,828	6,828	6,828	6,828	6,828	6,828	6,828	6,828	6,828

The unit of observation is the minister-year. Sample: 14 audiencias 1708 and 1808. Dependent variables equal one if the individual was close to being promoted (within four years). Promotions could be within audiencia, between audiencias, or both. *Same school or job* measures the number of members of the Council of Indies who shared university, college, or bar admittance. *Relatives* counts the number of councilors connected to the minister up to 16 degrees of separation (up to eighth cousins). *Shared background* combines the previous two. *Early life connections* is the same as *Same school or job*, but only if they attended at the same time. *All connections* counts both early life and audiencia system connections. In this table, pairs with personal connections are classified as **not** having a shared backgrounds (unlike in table 4). *p<0.1; **p<0.05; ***p<0.01

Table A.5: Effect of Personal Connections to the Council on Promotions (using only councilors who died in office)

	Promotion						
			All			In the same audiencia	To Mexico or Lima
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Number of connections	0.026*				0.028***	0.031***	0.016
	(0.015)				(0.007)	(0.012)	(0.019)
Proportion connected		0.431**					
		(0.186)					
Audiencia system connections			0.029				
			(0.019)				
Early life connections				0.022			
				(0.022)			
Individual-post F.E.	Yes	Yes	Yes	Yes	No	Yes	Yes
Years in job F.E.	Yes	Yes	Yes	Yes	No	Yes	Yes
Audiencia-year F.E.	No	No	No	No	Yes	No	No
Mean promotions	0.205	0.205	0.205	0.205	0.205	0.078	0.091
SD connections	0.98	0.065	0.697	0.69	0.972	0.969	0.98
N promotions	325	325	325	325	325	149	94
R^2	0.597	0.598	0.597	0.597	0.331	0.671	0.570
Observations	6,828	6,828	6,828	6,828	6,828	5,726	3,611

The unit of observation is the minister-year. Sample: 14 audiencias between 1708 and 1808. Dependent variables equal one if the individual was within four years of a promotion. I use all promotions in models 1-5, only those in the same audiencia in model 6, and promotions to Mexico or Lima in model 7. Independent variables measure the number of members of the Council of Indies connected to the minister, except for model 2, where it measures the proportion of Council members connected to the minister. Connections could have been formed during audiencia service, in their early life (education or law practice), or both. Robust standard errors in parentheses, clustered at the individual-post level, except for model 5 (clustered at the audiencia-year level). This table is analogous to table 3, but it only counts connections to councilors who died in office and it therefore rules out potential bias due to endogenous exits. *p<0.1; **p<0.05; ***p<0.01

Table A.6: Effect of Personal Connections to the Camara on Promotions

	Probability of promotion	
	(1)	(2)
Audiencia system connections	−0.015	
	(0.035)	
Early life connections		0.097***
		(0.037)
Individual-post F.E	Yes	Yes
Years in job F.E	Yes	Yes
Mean promotions	0.205	0.205
SD connections	0.354	0.329
R^2	0.596	0.597
Observations	6,828	6,828

The unit of observation is the minister-year. Sample: 14 audiencias between 1708 and 1808. Dependent variables equal one if the individual was within four years of a promotion. Independent variables measure the number of members of the Camara of the Indies connected to the minister. Connections could have been formed during audiencia service or during their early life (education or law practice). Robust standard errors in parentheses, clustered at the individual-post level. *p<0.1; **p<0.05; ***p<0.01

Table A.7: Average number of connections to the Council per audiencia minister

		Personal Connections	Shared Backgrounds
Exposed to war	Mexico	1.64	4.51
	Panama	0.04	1.38
	Santo Domingo	0.58	4.00
	Manila	0.37	7.20
	Santa Fe	0.66	3.40
	Guatemala	0.62	4.06
	Buenos Aires	1.75	6.84
	Caracas	1.47	7.20
	Average exposed to war	**0.89**	**4.83**
Not exposed to war	Lima	1.03	3.21
	Guadalajara	0.54	3.60
	Chile	0.45	2.18
	Charcas	0.27	1.83
	Quito	0.64	2.80
	Cuzco	1.28	6.65
	Average not exposed	**0.70**	**3.38**

This table shows the average number of connections to the Council of the Indies per minister at any given time (averages are calculated from minister-year observations). Exposure to war follows Burkholder and Chandler's (1977 p. 53.) definition, corroborated by geolocating the principal battles of each war.

A.1 The Effect of Indirect Connections on Promotions

In this section, I study the role of indirect connections on promotions. In order to do so, I map the full network, including all bilateral personal connections, either between ministers, between councilors, or between ministers and councillors. Note that in the main analysis I only use the latter type of connections because the main focus of the paper is on direct relationships between principals and agents. Indirect connections are similar to "weak ties". We cannot be sure that a minister with an indirect connection to the Council knew them personally or had a relationship of trust. But weak ties can still play an important role. Since people with weak ties have a smaller overlap in their networks, weak ties may play a role as "bridges" that connect different groups (Granovetter 1973).

Table A.8 shows the main results. Model 1 shows the effect of having one more second-degree connection to the Council on the probability of promotion within the next four years. As in table 3, I compare audiencia ministers across time. I find that an extra indirect connection to the Council has a positive and significant effect on the probability of promotion, equal to 1.3pp (6.3% of the average probability). The effect of a direct connection is larger (2.5 times larger), but if we express the effects in terms of standard deviations, they are similar (5.2 and 4.5pp for indirect and direct connections respectively). However, indirect connections may be positively correlated with direct connections, biasing our results. Including direct connections as a control makes the coefficient smaller (but still positive) and not statistically significant.

A different approach to use the full network to capture connections to the Council is to measure how *close* the minister was to the Council. I use a measure of closeness (from Jackson 2010 and Jackson and Wolinsky 1996) that counts all indirect connections, but includes a decay parameter, so the more indirect the connection is, the less it counts. Specifically, I measure closeness of minister i to the Council as:

$$Closeness_{i,t} = \sum_{j} \delta^{s(i,j,t)}$$

Where i indexes ministers, t indexes years, and j indexes councilors. $s(i,j,t)$ measures the numbers of steps in the shortest path from i to j, set to infinity if they are unconnected. δ is a decay parameter, where $0 < \delta < 1$. As it gets close to 1, it measure how many councilors are in the minister's component (i.e. how many can be reached at all). As it gets close to 0, it only counts direct connections. For example, for a decay of 0.5, a second-degree connection counts as half of a first-degree connection, a third-degree one as half of a second-degree one, and so on.

Models 3 to 5 in table A.8 report the results, and table A.10 reports the same regression for even more values of δ. I find a positive effect of closeness on promotions, but only for values of δ smaller than 0.5. For $\delta = 0.1$, one standard-deviation increase results in a 5.95pp higher probability of promotion (29% of the mean). For $\delta = 0.25$, on SD increase results in a 4.97pp increase in promotions (24% of the mean). The effects are therefore large, but only significant if we use small enough decay parameters, suggesting that the effects are driven by relatively close relationships.

Lastly, I study whether a minister's place in the full network matters for the probability of promotion. I calculate the *betweenness* for each minister year, a measure that counts on how many shortest paths between individuals in the network the minister is located (see Jackson 2010). In model 6, I find a positive but not statistically significant effect. This result suggest that connection to the Council were more important than the minister's location with respect to the full network.

When we use indirect connections instead of only direct ones, variation in the independent variable come not only from turnover in the Council, but also from entries and exits of other ministers. The estimates in table A.8 may be therefore biased downwards. The exit

Table A.8: Effect of Indirect Connections to the Council on Promotions

	Promotion					
	(1)	(2)	(3)	(4)	(5)	(6)
Second-degree connections	0.013***	0.009				
	(0.005)	(0.005)				
First-degree connections		0.028**				
		(0.014)				
Closeness			0.289***	0.079***	0.016	
			(0.090)	(0.030)	(0.010)	
Betweenness						0.0001
						(0.0001)
Ind-post F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Time in job F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Mean promotions	0.205	0.205	0.205	0.205	0.205	0.205
SD connections	4.006	4.006	0.206	0.629	1.683	97.694
Decay parameter			0.1	0.25	0.5	
Observations	6,828	6,828	6,828	6,828	6,828	6,828
R^2	0.597	0.598	0.598	0.597	0.596	0.596

The unit of observation is the minister-year. Sample: 14 audiencias between 1708 and 1808. The dependent variable equals one if the individual was within four years of a promotion. Second-degree connections counts the number of councilor of the Indies with an indirect connection to the audiencia minister. First-degree connections is the same as All connections in table 3. Closeness considers all types of connections to the council, but uses a decay parameter to discount more distant connections. For example, for a decay 0.5, a second-degree connection counts as half a first-degree connection, a third-degree as half of a second-degree, and so on. Betweenness calculates the number of shortest paths going through the audiencia minister. Robust standard errors in parentheses, clustered at the individual-post level. *p<0.1; **p<0.05; ***p<0.01

from the network of a minister h connected to minister i and councilor j (who are not directly connected) does two things: increases i closeness to the Council and increases their probability of promotion (because a potential competitor left the organization). h's entry has the opposite effect. To account for this potential source of downward bias, I estimate the same models as in table A.8 but with audiencia-year fixed effects in table A.9. Instead of comparing ministers across time, I compare ministers to their group of peers in the same year. As expected, the estimates are overall larger and more significant. It should be noted that the reservations about table 3, model 5 apply here. More connected ministers may have more education, experience, or ability than their peers, all of which bias the estimates upwards. Therefore, models in table A.8 should be taken as the most conservative specifications.

Table A.9: Effect of Indirect Connections to the Council on Promotions: Between-ministers variation

	Promotion					
	(1)	(2)	(3)	(4)	(5)	(6)
Second degree	0.016***	0.014***				
	(0.002)	(0.002)				
First degree		0.016***				
		(0.006)				
Closeness			0.518***	0.219***	0.101***	
			(0.052)	(0.020)	(0.009)	
Betweenness						0.0003***
						(0.0001)
Audiencia-year F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Mean promotions	0.205	0.205	0.205	0.205	0.205	0.205
SD connections	4.006	4.006	0.206	0.629	1.683	97.694
Observations	6,828	6,828	6,828	6,828	6,828	6,828
R^2	0.336	0.337	0.342	0.344	0.344	0.331

The unit of observation is the minister-year. Sample: 14 audiencias between 1708 and 1808. The dependent variable equals one if the individual was within four years of a promotion. Second-degree connections counts the number of councilor of the Indies with an indirect connection to the audiencia minister. First-degree connections is the same as All connections in table 3. Closeness considers all types of connections to the council, but uses a decay parameter to discount more distant connections. For example, for a decay 0.5, a second-degree connection counts as half a first-degree connection, a third-degree as half of a second-degree, and so on. Betweenness calculates the number of shortest paths going through the audiencia minister. Robust standard errors in parentheses, clustered at the individual-post level. *p<0.1; **p<0.05; ***p<0.01

Table A.10: Effect of *Closeness* to the Council on Promotions

	Promotion									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Closeness	0.289***	0.174***	0.115***	0.079***	0.056**	0.041**	0.030**	0.022*	0.016	0.003
	(0.090)	(0.057)	(0.040)	(0.030)	(0.023)	(0.019)	(0.015)	(0.012)	(0.010)	(0.005)
Ind-post F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time in job F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Decay parameter	**0.10**	**0.15**	**0.20**	**0.25**	**0.30**	**0.35**	**0.40**	**0.45**	**0.50**	**0.75**
Mean promotions	0.205	0.205	0.205	0.205	0.205	0.205	0.205	0.205	0.205	0.205
SD connections	0.206	0.331	0.472	0.629	0.805	0.998	1.209	1.437	1.683	3.176
Observations	6,828	6,828	6,828	6,828	6,828	6,828	6,828	6,828	6,828	6,828
R^2	0.598	0.598	0.598	0.597	0.597	0.597	0.597	0.596	0.596	0.596

Closeness considers all types of connections to the council, but uses a decay parameter to discount more distant connections. For example, for a decay 0.5, a second-degree connection counts as half a first-degree connection, a third-degree as half of a second-degree, and so on. Robust standard errors in parentheses, clustered at the individual-post level. *p<0.1; **p<0.05; ***p<0.01