

Feudal Bargain in Prague: The Rise, Spread and Fall of Craft Guilds

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Abstract

Craft guilds were created as a response to certain problems associated with raising royal revenues and securing basic public services in Prague during the medieval and early modern periods. The theory consistent with historical evidence predicts that the rise, spread and fall of guilds was a result of mutually beneficial bargaining between local craftsmen and their feudal rulers. Guilds enabled craftsmen to utilize the benefits of collusion by offering their capacities to sovereign authorities in exchange for exclusive market privileges. Nevertheless, they created social distortions within their industries in the process.

Keywords: Craft guilds; Collusion; Privileges; Formal institutions; Market distortion

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1 Introduction

History indicates that private institutions supplemented public functions when the state's supportive institutions were weak and not yet fully developed (Greif, 2006). A growing body of literature suggests that occupational guilds played a crucial role in these functions. Guilds were a particularly important source of taxes, loans and other revenues (Lindberg, 2009; Ogilvie, 2011, 2014, 2019; Dessí and Piccolo, 2016) as well as public services such as administration, market supervision, trade reputation and even provision of public goods (Gustafsson, 1987; Hickson and Thompson, 1991; Stabel, 2004; Richardson, 2005; Prak, 2006a,b; Caracausi, 2017). Such a system could only work if its obligations and rewards were balanced. In exchange for their services, craftsmen bargained with rulers over specific market privileges. A growing literature has identified this feudal bargaining as the driving force in the existence of occupational organizations (Greif et al., 1994; Ogilvie, 2004, 2007, 2011, 2014, 2019; De Moor, 2008; Lindberg, 2009, 2010; Clerici, 2012; Mokyr, 2012; Gelderblom, 2013; Dessí and Piccolo, 2016).¹

In particular, Ogilvie (2007, 2014, 2019) has advanced the idea that feudal bargaining was a rent-seeking process, in which occupational cooperatives shared their collusive profits with governments at the expense of non-members. Thus the net benefits stemming from the distribution of resources between privileged artisans and their lords determined the success or failure of these organizations. Yet little is known about the underlying process of this feudal bargaining. Why did this relationship between craftsmen and rulers lead to the advancement of occupational guilds in late medieval times? What consequences did it have? And why were the craft guilds then abandoned in the course of the 18th and 19th centuries?

¹In contrast, Richardson and McBride (2009) consider religious beliefs and Desmet and Parente (2014) consider the ability to resist new technologies as the reason for their rise and decline.

This paper aims to contribute to the literature on bargaining between guilds and their governors by addressing these questions with an evidence-based model. A model-based theory of feudal bargaining can not only explain the existence of guilds to begin with, but also their rise and fall. To that effect, I follow craft guilds between their establishment and their abolishment in feudal Bohemia, in particular the towns of Prague.

The Kingdom of Bohemia provides an especially good case study because political fragmentation and constant power struggles preserved feudal structures in the region until the 19th century and made local rulers more dependent on negotiations with various interest groups (Volckart, 2000, 2002). The Bohemian authorities regularly offered commercial privileges in return for extra services. One such privilege was the *cechovní přímus*, which enabled groups of craftsmen to exclude outsiders from market activities and subsequently increase their members' standards of living. In other words, they became legalized cartels. But that privilege was not for free. In exchange, the authorities demanded payments and extra duties to enable them to meet the exigencies of war and to govern the territory. The result was an institution that combined local producers' interests and those of their rulers: the craft guild.

If this deal between governments and local producers was mutually beneficial, why did the guilds ever die out? The reason for their breakdown varies with historical context. The Prague guilds' decline is associated with political reforms of the 18th and 19th centuries in the Kingdom of Bohemia. During this time, the emergence of the modern state gave rise to new institutional arrangements facilitating bureaucracy and general taxation, which rendered guilds and their functions dispensable (Hickson and Thompson, 1991).²

My theory provides an additional explanation for the abolition of craft guilds

²Johnson and Koyama (2017) show that such substitution of old structures with modern state institutions was common across the continent.

in the Habsburg Empire. I argue that the government did not abrogate rent-seeking guilds because there existed alternative means of tax-collection and civil service provision, but rather the particularity of the guilds' restrictive practices became a greater burden for the rulers in the process of market development. Since the guilds excluded a large portion of the workforce from commercial activities, their value for the ruling government diminished. My theoretical analysis shows that guilds needed to exclude potential competitors from the market in order to secure high enough collusive profits to pay for their government privileges, and that as the industries expanded and the number of producers with them, so the guilds' restrictions must have increased in order for them to maintain their profits. Maintaining these collusive profits thus limited competition and forbade non-members from practicing the craft. This in turn increased the opportunity costs for rulers, as fewer professionals could work and hence contribute to market development and royal revenues. With increasing costs, the authorities passed laws prohibiting guilds in order to remove market restrictions and raise the number of practicing professionals.

Why would craft guilds restrict more producers with industrial expansion and thus give the rulers reason to abolish them? Because the guilds' success depended on collective action, or as Ogilvie (2004, 2005) put it, on social capital, which guaranteed collusive profits within their professions. It is a well demonstrated economic reality that larger groups find it more difficult to maintain cooperation (Olson, 1965). Unfortunately for guilds, the whole point of obtaining royal privileges was to control their member numbers: to exclude competitors and non-cooperating members, and so the number of excluded individuals would naturally have increased as their industry grew.

This framework also explains the rise of craft guilds to begin with. While interactions among craftsmen are only sporadic, it is difficult for them to establish

any form of cooperation. Occupational cartels could therefore only be established after craftsmen had settled down in a particular city and become neighbors; even though extensive trade in Prague can be dated back to the Early Middle Ages, craft guilds only emerged there in the 14th century, once producers had permanently settled in the city. In my model, the ability of such a group of producers to raise collusive profits depends upon their expectation of future engagement in collusion.³

This article complements the work of Dessí and Piccolo (2016), who investigate the role of merchant guilds in strengthening rulers' fiscal capacities in Western Europe. However, merchants were not the only force involved in trading: local craftsmen had at least an equally important role. Merchants engaged in wholesale and long-distance trade, but general consumption was satisfied through local craft producers, who represented the majority of the working population. Analyzing the development of their organizations and the governments' role in it, as I proceed to do now, can therefore lead to better insights into the formation of modern states.

In addition to contributing to research on the development of guilds, this paper also closely relates to two other literatures. The first explores the historical institutions that emerged in response to rulers' needs to raise extra revenues (for an overview, see Dincecco, 2015). Bates and Donald Lien (1985), and North and Weingast (1989) point out how creating representative assemblies made taxation to cover government expenses, including war expenses, possible. Congleton and Lee (2009) suggest that competition for government privileges could be a vital source of revenues when traditional methods of tax collection were not available. Johnson and Koyama (2014) make the case for rulers providing tax-collecting duties to a small group of financiers in order to increase the state's fiscal capacity in periods of transition from feudal to modern states. Dincecco (2009, 2010), and Dincecco and Katz (2016) stress the importance of fiscal centralization and limited government

³This approach is similar to Richardson and McBride (2009), who consider death as a determinant of guilds' ability to sustain market cooperation.

in the transition to modern states. My analysis contributes to this literature by exploring how granting privileges to subgroups of local producers helped rulers to raise revenues and govern markets before the political reforms leading to modern states took place.

The second related strand of literature investigates the importance of the state's institutional capacity more generally. In this line of research, Acemoglu (2005), and Besley and Persson (2009, 2010, 2011) explore governments' incentives to invest in legal and fiscal capacity and the challenges they faced in doing so. My research contributes to this literature by providing an example of a context-specific solution to these problems prior to the rise of the strong state: the craft guild.

2 A Brief History of Guild Bargaining in Prague

The evolution of craft guilds in pre-modern Prague was a result of bargaining between two forces: feudal and commercial. In guilds, rulers' interests as the sovereign owners of markets met with the interests of producers as agents involved in trade. The evidence I present will provide a starting point for constructing a theoretical framework, the implications of which I will then present.

2.1 Prosperity, Regulations and Taxation

During the medieval and early modern periods, the Kingdom of Bohemia had periodically been at the focus of power struggles.⁴ This required substantial administrative and financial resources. The Bohemian rulers used a political system based on royal cities, which were an inalienable part of the royal estate, to address these needs. A king owned royal towns, which entitled him to fines, tolls and taxes

⁴Over the centuries, Prague was involved in multiple conflicts, including the Battle of Prague in 1310, the Hussite Wars in 1419-1434, the rebellion against the Habsburg Monarchy in 1547, the invasion of Prague by the Passau Army in 1611, the Thirty Years War and the Siege of Prague by the Prussians during the Seven Years' War.

(*berně*) from the towns' citizens (Puškarev, 1938, pp. 3-5). The key to this system was a bargain between the sovereign authorities and the citizens (including local producers and traders), which saw the authorities exchange various kinds of legal privileges for finance and support.

Of these royal cities, the towns of Prague were the most important and most profitable. Here, local craftsmen paid a variety of tolls, sales taxes, workshop rents, goods-specific taxes (e.g. on beer and wine) and wealth taxes to the authorities (Tomek, 1871, pp. 348-368). They also regularly negotiated with the rulers or delegated agents such as a royal reeve (*rychtář*) and city councillors (*konšelé*) over specific privileges and duties.⁵ Traditionally, the accession of a new king was accompanied by multiple requests from Prague craftsmen for renewals and extensions of their privileges. Senior masters appeared before the king asking him to approve “all recognitions, liberties, donations, pious customs and rights”, which were granted them before (PCA, CR, s. Řezníci 1a, inv. 1, fols. 24v-25r). But before approving any request, the authorities would consider the guilds' services and loyalty. The privileges granted by the Bohemian king Ladislaus Jagiellon to the New Town Furriers in 1486 are a typical example, beginning: “we [the king] acknowledge your loyal services, which you have provided, are providing and will not stop providing, and therefore we grant you greater privileges so that you can and shall do better in serving us,” (PCA, CK, s. Kožešníci 23b, inv. 11, fol. 6r). What followed was the approval and extension of the guilds' rights, including exclusive market privileges (PCA, CK, s. Kožešníci 23b, inv. 11, fols. 6r-8r). When Emperor Ferdinand III renewed butchers' privileges, he acknowledged their service in defense of the city in 1648 when the masters and all their domestics “did not hesitate to stand against the enemy by the tower” (PCA, CR, s. Řezníci 4, inv. 6, fol. 11r).

⁵The reeve was installed by the king, while councillors and the burgomaster (also a councillor) were selected by the community before being approved by the king (Tomek, 1871, pp. 280-288).

The historical records show that the extra duties guilds took on in exchange for these privileges were extensive. From the very beginning, guilds contributed to their towns' public services. Such duties were common to all citizens to a certain extent, but some roles were reserved for guildsmen, especially those requiring organizational skills. One such traditional obligation for local craftsmen was the public provision of firefighting services (Winter 1892, pp. 246-247; Brátková 2000). City charters assigned each guild responsibility for acquiring its own firefighting equipment, such as leather buckets marked with the guild's sign, hooks, and later even pumps. Some guilds had further specific obligations. Beer haulers and carriers were required to bring horses, while slaters, carpenters, stone-masons and bricklayers were to take their axes. Meanwhile, certain woodworker craftsmen, such as cabinet-makers, were required to follow specific working standards in order to prevent fire.

In peacetime, masters patrolled within the city or guarded the city's gates and towers. In times of danger, craftsmen were required to report to checkpoints in full armor and take part in defending their city. This guild function was demonstrated in 1642 during the the Thirty Years' War, when guildsmen were organized under military banners (Brátková, 2000). Certain crafts had specific duties. In exchange for royal protection, the Prague bow-makers and crossbow-makers permanently guarded the city's towers and walls (Winter, 1890, p. 250) while the New Town's painters and shield-makers had to pay for 9 men-at-arms (Chytil, 1906, pp. 16-17).

To increase the prestige of the royal towns of Prague and his majesty, guildsmen played a special role during public parades and processions such royal coronation or religious feasts. This was an opportunity for the craftsmen to publicly display their worth to the city.⁶ This is seen, for example, from the fact that the Sawyers, Plankers and Wood-sharpeners of the New Town obliged their members to repre-

⁶It also had religious and social aspects providing private benefits to guild members (Pátková, 2000).

sent the town whenever necessary for the honor of their craft and “the adornment and beautification of the city” (Tomek, 1895, p. 473). When Charles IV returned to the city in 1354, “Prague citizens with great pomp and guildsmen under their ancient banners with a burgomaster at front went to meet him” (Hücke, 1900, p. 42). During these processions, each guild took up position according its importance; members dressed up in uniforms, and their representatives waved standards bearing their guild’s mark (PCA, SR, s. 993/1, pp. 257-258). King George of Poděbrady gave a standard to the New Town butchers in 1464 as a part of his royal charter confirming guilds’ privileges. The butchers were to walk at the front of the procession, just behind the city representatives, bearing this banner. It was as much a privilege as an obligation. Guilds fined their absentees, as indeed in this case the butchers did when Jinřich Bek did not show up for the parade in 1658 having instead gone to a pub (PCA, CR, s. Řezníci 5, inv. 7, fol. 95v).

Masters were also responsible for order within their industry, performing the judicial function on the city’s behalf. Members had to follow internal rules, pay their debts, obey the law and practise their craft to a high standard of quality. Disobedience was not tolerated. Members of the New Town saddlers paid a fine of 15 groschen if “unfair goods are to be found with masters” (Tomek, 1895, p. 460). The journeymen of the Old Town cobblers punished any member who “lied, ate, drank or gambled” with indecent persons (Melichar, 1902, p. 97). The New Town smiths strictly forbade disobedience or revolts at work under manorial punishment (Tomek, 1895, p. 451). Even though masters had a certain amount of autonomy when it came to enforcing discipline within their workshops, their power was limited. When members could not resolve disputes themselves or offenses were of a serious nature, senior masters held trials during a general assembly. Such trials represented the courts of first instance in craft matters and were followed by city courts as the second instance (Winter, 1906, pp. 667-669). Judgments were

recorded in guild books. Contemporary evidence from the butchers' and furriers' fragments reveals judicial decisions to expel guild members for dishonesty, financial disputes, punishments for fighting and even cases in which members were sent for manorial discipline (PCA, CK, s. Kožešníci 8b, inv. 12; PCA, CR, s. Řezníci 5, inv. 7).

Most importantly, guilds raised revenues from multiple fees, tolls and taxes, which in turn lined the pockets of the local and central authorities. A common source of such revenues was a mandatory payment for citizenship. In order to receive a mastership in a local guild, a journeyman had to obtain the town right (*městské právo*), for which they had to pay a considerable fee. For example a furrier candidate in 1418 had to “gain the town right from the current lords and give them thirty four groschen according to old tradition” (PCA, CK, s. Kožešníci 7, inv. 9, fol. 2v).⁷ As notes from the furriers' guild's general assembly show, obtaining citizenship was often a final condition for admission to their ranks (PCA, CK, s. Kožešníci 8b, inv. 12). Furthermore, guilds generally paid for the acquisition and renewal of their privileges (e.g. Hücke, 1900, pp. 13-17), and certain professions paid rents from their shops. According to the royal degree of 1354, New Town butchers had to pay 56 groschen to a local abbey for each of their shops (PCA, CR, s. Řezníci 16, inv. 18, fols. 20v-22r). Other professions had a duty to inspect foreigners who came to trade in the Kingdom and to charge royal customs. Examples include the Furriers of the New Town, who expressed this duty in their ordinances of 1486 as: “*litkupník* of ours, from the New Town of Prague, who will be elected by us and confirmed by the *Ungelt*'s officers, has full freedom and right to go to the *Ungelt* and to inspect, to open and to examine goods, so that the *ungelt* [duty] is paid. Because it often happens that other merchants do not declare goods they sell, and as a result, damage is done to his Grace” (PCA, CK,

⁷Such a fee was a considerable sum, since a journeyman's salary was typically about 3-4 groschen a week (Winter, 1906, p. 737).

s. Kožešníci 23b, inv. 11, fols. 4v-5r). Any undeclared goods found were to be confiscated on behalf of the king. Other goods seized at markets or in workshops were usually forfeited to the guilds, but in certain cases belonged to the crown or to the city. For instance, meat seized by senior butchers was ordered to be sent to “the hospital or given away to the poor” (PCA, CR, s. Řezníci 16, inv. 18, fol. 74r). The Cobblers of the Lesser Town gave half of the seized goods from chafferers and Jewish peddlers to the poor (PCA, CS, s. Ševci 10, inv. 4, article 10). Furthermore, a proportion of all fines belonged to the authorities. The Old Town Furriers and New Town Drapers were expected to cede two thirds of the money they collected to the local authorities, while the Prague hatters divided each 60 Meissen groschen such that 30 groschen were given to the burgomaster and city councillors, 10 groschen to the reeve and the remaining 20 to the guild (PCA, CK, s. Kožešníci 7, inv. 9, fols. 6r-10r; Tomek 1895).

2.2 Privileges and Craftsmen

Craftsmen would hardly have been willing to provide their resources and labor without receiving any benefits in return. The relationship between the authorities and the craftsmen had to strike a balance between obligations and benefits in order to work successfully. In particular, guilds aimed to secure stable standards of living for their members by laying down conditions for generating economic rents and equalizing production opportunities among their members.

The *cechovní přímus* was the most important of the royal privileges, and enabled local craft guilds to achieve these goals. It required craftsmen, both local and foreign, to obtain guild membership before engaging in any sort of economic activity within the geographical area of the city (Winter 1906, p. 51; Fröhlichová-Karlová 1938).⁸

⁸There were exceptions to this rule for seasonal fairs, and depending on the guild’s position,

This privilege had two effects. First, the *cechovní přímus* made membership in local craft guilds compulsory. Any artisan who wished to practise his profession in Prague had to become a master craftsman in one of the local guilds, otherwise restrictions were placed on his work and trade. Second, the *cechovní přímus* included the legal right, even obligation, to take action against anyone who did not respect this rule. The guilds' power was then regulated by the town's mile right, which enabled guildsmen to prosecute intruders for interfering in their activities in the city and its neighborhood.

Craft guilds wrote these procedures into their formal rules, guaranteeing the guild members a certain degree of market power. The rules defined the boundaries of guild membership, distinguishing between the economic rights of members and non-members. A typical example comes from the New Town Furriers' ordinances, which state that:

if any master of our craft, or anyone else who has not been granted the right of our guild and who wishes to practise our craft, is found to practise or intend to practise our craft, his goods belonging to our craft, whether finished or not yet finished, will be seized by our guild-masters (PCA, CK, s. Kožešníci 23b, inv. 11, fol. 4r).

Similarly, two guilds of Prague hatters mandated in 1489 that “no one will bring the hatter's craft into these towns apart from local hatters except for the *jarmark* [seasonal fair]” (Tomek, 1895, pp. 488, 490). The exact form of this rule varied from cooperative to cooperative, but the notion remains the same: anyone other than the masters and their subordinates in the local guild would be punished for practicing and trading their craft within the local area.⁹

trading agreements, and the applicant's religion or social rank, among other things.

⁹For other examples, see PCA, CK, s. Kožešníci 7, inv. 9, fols. 7r-8r; PCA, CK, s. Kožešníci 23b, inv. 11, fol. 1r; PCA, CS, s. Ševci 2, inv. 3, article 15; PCA, CS, s. Ševci 10, inv. 4, article 10; PCA, SR, s. 3502, pp. 23-26; and Tomek (1895).

The economic rents stemming from the guild's exclusive rights were guaranteed by a strict policy of member selection. With the exception of some masters' relatives, any aspiring member generally had to qualify as an honest person, become a citizen of the city, show their master-pieces, provide a birth certificate, serve under a local master and pay an entrance fee. A typical example comes from the ordinances adopted in 1478 by the Goldsmiths of the New Town:

anyone who wants to settle down as a master in this town, ... shall serve as a journeyman among the masters in this town in the area where they live, and for three years shall behave honestly , ... and, further, he shall show three masterpieces of the craft: making a seal, making a shield, helm and chalice, and setting a gemstone (Tomek, 1895, p. 481).

That these rules were indeed followed is evident from the records of the Old Town Painters (1490-1582) and the Old Town Furriers (1598-1648), in which requests for membership are frequently listed with notes about completing masterpieces, providing certificates, paying fees and presenting recommendations (PCA, CK, s. Kožešníci 8b, inv. 12; Chytil 1906, pp. 202-309). Furthermore, when a master wanted to hire a journeyman or other professional laborer for his workshop, he was often required to obtain the guild's permission prior to employing him (Tomek 1895, pp. 448, 467, 472, 491; Chytil 1906, pp. 324-325). The number of employees a master could have was also limited, subject to fines from the guilds. For example, the Cobblers of the Lesser Town mandated "each master shall not have more than four journeymen and one son or apprentice" (PCA, CS, s. Ševci 10, inv. 4, article 7).¹⁰

The royal and city recognitions did not only guarantee market power to the

¹⁰See also PCA, SR, s. 3502, article 15; Tomek (1895, pp. 453, 458, 466).

local guildsmen. They allowed locals to effectively establish criteria for production and trade within the city and to legally punish noncompliant producers.

3 Theory of feudal bargaining

In this section I develop a game-theoretical model of feudal bargaining in pre-modern Prague that combines producers' interests with the interests of the rulers. The model provides only a simplified view of the choices agents in the pre-modern polity faced. However, the simplification enables us to tackle the problems that both craftsmen and their kings faced, and leads to testable implications regarding the rise, persistence and fall of guilds.

3.1 Individuals and their actions

Consider an urban economy of perfect and complete information inhabited by a ruler and $N \geq 2$ identical craftsmen of one profession. All players are risk-neutral and live during periods labeled $t = 0, 1, 2, \dots, \infty$.

Of N craftsmen, $M \leq N$ masters trade at the market and make a profit.¹¹ These masters interact in a repeated game of collusion and competition (for a similar approach, see Frezal, 2006; Chen and Rey, 2013). In the initial period, $t = 0$, they play the following stage game. At the beginning of the stage game, each master chooses one of two actions: collude or compete. If the masters compete, each competitor earns π^c . Whereas if all the masters decide to collude, they form a cartel and each gets π^m , which is more than in competition. But if a single master decides to compete while the others collude, he does not face competition and takes all the collusive premiums $\pi^m M$ for himself. This makes deviation from collusion profitable. If anyone competes, then the colluding masters receive the

¹¹Note that N represents the (natural) size of the industry, whereas M represents the actual number of traders in the industry.

lowest profit 0. To summarize, for a master: $\pi^m M > \pi^m > \pi^c > 0$. Hence, competition represents the Nash Equilibrium of the stage game. At the end of the stage game, the ruler taxes every market participant by a constant share $\tau \in (0, 1)$ of their realized profit π in the form of either money or duties.

This stage game is repeated from one period to the next with probability $q \in (0, 1)$. Once the masters meet on the market they have the chance to meet again. Here, q represents the masters' expectations about their future interactions. If q is low, the masters do not expect to interact often in the future, whereas if q is large, they expect to interact frequently over time. A master's goal is to maximize his overall payoffs from the entire game, taking into account future interactions.

The specification of the game captures the key historical evidence that early industries were far from perfectly competitive. Here, market interactions are represented by Cournot oligopoly competition: producers compete through the quantity produced. This assumption is likely to be consistent with the character of pre-industrial markets since the number of producers was limited, changes in production capacities were constrained, and goods were produced simultaneously and sold afterwards at periodical markets.

The ruler oversees the market. His authority gives him the power to provide a subgroup of craftsmen with privileges. He chooses one of the following: to grant privileges to a guild or not to grant privileges.¹² If he grants his privileges, the guild $G \leq N$ has the right to exclude non-colluding craftsmen from trade. So, there are $M = G \leq N$ trading masters and $N - G$ excluded craftsmen. If he does not grant his privileges, the market participants are not regulated and all craftsmen are allowed to trade, $M = N$. The ruler's objective is to increase his revenues, and if indifferent he prefers an industry without guilds. This is a reasonable assumption about pre-modern rulers, who did not optimize a revenue function but rather chose

¹²The rulers' ability to grant the exclusive privileges to or remove them from traders and producers is consistent with the historical practices in Prague (Mendl, 1947, pp. 23-54).

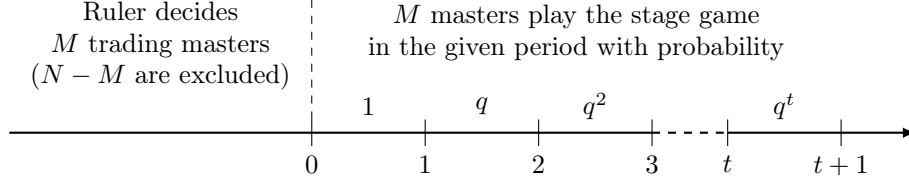


Figure 1: Timing of actions

a more profitable tax system.

Figure 1 shows the timing of the actions. Before trading takes place, the ruler decides whether to grant exclusive rights. If he grants privileges to the guild, the non-privileged craftsmen are excluded from trading forever. After this, the masters play the oligopoly game as described above. I will hereafter analyze the subgame perfect equilibria resulting from the players' pure strategies.

3.2 Equilibrium Decisions

Collusion within the industry can be achieved by conditioning the masters' current actions upon the previous course of the game. The masters' capacities to enforce collusion and hence achieve a greater profit differ based on the ruler's choice.

First, suppose that privileges are not granted. There is a simple trigger strategy available to masters that maximizes the scope of collusion: each master plays collusion as long as the others do, but reverts to competition forever as soon as any other master deviates from collusion.¹³ Therefore, collusion among $M = N$ craftsmen is sustainable if

$$\frac{(1 - \tau)\pi^m}{(1 - q)} \geq (1 - \tau)\pi^m M + \frac{q(1 - \tau)\pi^c}{1 - q}, \quad (1)$$

where the left side of the inequality represents the discounted profit from collusion

¹³Notice that competition represents a subgame perfect equilibrium and the minimax. Therefore, the threat of playing 'to compete' forever maximizes the punishment for deviants and hence the scope for collusion in the absence of any regulation by the ruler.

whereas the right side shows the discounted profit from deviation. Rearranging Inequality (1), we obtain the condition for collusion in the unprivileged industry:

$$M \leq N^* = \frac{\pi^m - q\pi^c}{\pi^m - q\pi^m}, \quad (2)$$

where N^* is the critical size of the non-guild cartel.

Inequality (2) states that craftsmen in the unregulated industry can sustain collusion by playing the trigger strategy if the number of market participants is sufficiently low. Above this number, the craftsmen will compete. Notice that its critical value largely depends on the probability of future interaction q . The more often craftsmen trade, the more likely they are to sustain their cartel.

Second, suppose that the ruler grants his recognitions to the guild. This broadens the masters' options for enforcing collusion. Now, the guild excludes competing craftsmen: anyone can trade as long as he colludes but once he competes he will be excluded from the market forever.¹⁴ Privileged masters will be able to sustain collusion if

$$\frac{(1 - \tau)\pi^m}{(1 - q)} \geq (1 - \tau)\pi^m M. \quad (3)$$

The left side represents the discounted profit from collusion. The right side shows the discounted profit from deviation, which is less than before because in this case the deviant loses the access to the market. Inequality (3) can be expressed as the condition in the privileged industry:

$$M \leq G^* = \frac{\pi^m}{\pi^m(1 - q)}, \quad (4)$$

where G^* is the critical size of the guild cartel.

¹⁴This strategy is consistent with historical practices. Guilds did not only exclude their competitors from local trade, but also their own members who did not comply with their rules (e.g. PCA, CK, s. Kožešníci 8b, inv. 12, fols. 2v, 33v).

Inequality (4) reveals the maximum size of the guild for sustaining collusion by excluding (or threatening to exclude) competing craftsmen. Given this, no one is excluded in industries with $N \leq G^*$. This property creates a paradox situation when having market privileges may in fact lead to guild cartels without any exclusions. In industries with $N > G^*$, $N - G^*$ competitors are excluded from the market in order to maintain collusion. As before, the critical value depends on the probability of future interactions q . The more often guild members interact, the greater the chance that the guild of given size sustains collusion.

Inspecting Inequalities (2) and (4) shows that the scope for collusion is greater if the ruler recognizes the guild, because $G^* > N^*$. Masters with royal privileges are better at maintaining collusion than those without because they are able to impose more severe penalties on those who deviate, by excluding them from the industry.

Whether the ruler decides to grant privileges to the guild or not depends on the total number of tax-paying producers and their ability to collude. In an economy where $N \leq N^*$, the masters will collude regardless of the ruler's decision. In relatively small industries, competition is not an option. Here, the ruler earns $\tau\pi^m G/(1-q)$ if he grants privileges or $\tau\pi^m N/(1-q)$ if he does not. Since $G \leq N$, granting privileges is never profitable. The equilibrium in the game with $N \leq N^*$ is therefore that N craftsmen collude and the ruler does not grant privileges.

However, in an economy where $N > N^*$, the masters will collude only if the guild of $G \leq G^*$ is recognized. But the ruler grants such recognitions only if it pays back. That is up to the size $G = G^*$ for which

$$\frac{\tau\pi^m G^*}{(1-q)} > \frac{\tau\pi^c N}{(1-q)}. \quad (5)$$

By rearranging Inequality (5) and plugging in G^* from Inequality (4) we obtain

the following condition for ruler recognition:

$$N < N^{**} = \frac{\pi^m}{\pi^c(1-q)}, \quad (6)$$

where N^{**} is the maximal size of the industry to which the ruler grants privileges.

Inequality (6) reveals the simple mechanism behind feudal bargaining. The ruler has to be compensated for the loss of taxes and services from the excluded craftsmen. Once $N > G^*$, the ruler loses $\tau(N - G^*) > 0$ by recognizing a guild that excludes $N - G^*$ potential competitors in order to maintain collusive profits. For the ruler, the guild leads to larger revenues only up to N^{**} , when $N^{**} - G^* > 0$ are excluded. Here, the number of excluded craftsmen essentially depends on the guild members' ability to sustain collusion, which in turn depends on the frequency of their interactions.

Since $N^* < N^{**}$, a population size N exists that satisfies $N^* < N < N^{**}$. For this population, the ruler always prefers collusion over competition. Thus the revenue maximizing strategy is to recognize the guild $G \leq G^*$.¹⁵ Hence, the equilibrium in the game with $N^* < N < N^{**}$ is that $N - G \geq 0$ craftsmen are excluded from trading and the ruler grants his privileges to the guild of $G \leq G^*$ colluding masters.

On the other hand, if $N \geq N^{**}$, the ruler's preferred strategy is not to grant privileges. Since $N^{**} > N^*$, the masters are not able to sustain collusion without privileges, and thus they compete. The equilibrium in the game with $N \geq N^{**}$ is that N masters compete and the ruler does not grant privileges.

The model reveals the critical importance of the industry's size, N , and the probability of future interactions, q , for the bargaining between local producers and their rulers. Figure 2 provides a summary of the model.

¹⁵In particular, the ruler recognizes $G = N$ for $N^* < N < G^*$ and $G = G^*$ for $G^* \leq N < N^{**}$ in order to maximize tax revenues.

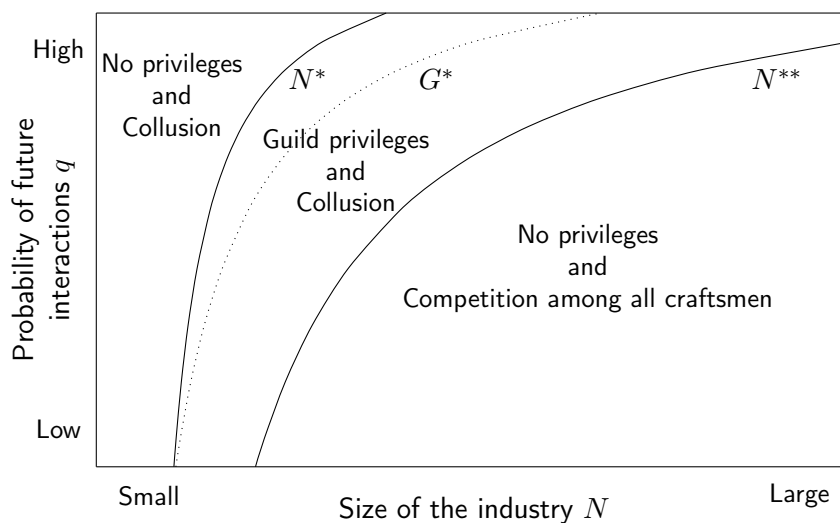


Figure 2: Equilibria for the size of industry and probability of interactions

The curve N^* and the area above it shows the combination of parameters for which collusion exists in an unprivileged industry. This result is intuitive. When a few producers interact on a daily basis, collusion can be sustained without exclusive rights, for instance through informal cooperatives.

Below N^* collusion becomes possible only if the guild is granted royal privileges. Privileges provide the enforcement mechanism necessary for fostering collusion. Here, the threat of exercising royal privileges may be a sufficient mechanism to sustain guild cartels, especially in relatively small industries with frequent interactions. This corresponds to the area above G^* , when craftsmen are not restricted from trading. However, the threat of exclusion is not a sustainable mechanism at a certain level of market development. When the number of producers is large or the frequency of market interaction is low, the guild exercises its exclusive rights in order to guarantee collusive profits to its members. This corresponds to the situation below G^* , when $N - G^* > 0$ craftsmen are restricted from trading.

Yet the privileges will only be granted if a collusive outcome is profitable to the ruler. That is the case in the space from N^* to N^{**} . Beneath N^{**} , collusion

is no longer advantageous for the ruler and competition on the market prevails. This corresponds to industries whose craftsmen do not often meet, or where guilds restrict too many producers, or a combination these two.

Which equilibrium prevails depends on the historical context. For the guild equilibrium to occur two conditions are essential. First, guild members need to secure sufficient collusive profits to pay rulers for their privileges. This depends on the regularity of interactions among the guild members and their ability to exclude potential competitors and non-compliant colleagues. Second, their payments to the ruler have to compensate him for the loss of potential tax payers that the excluded competitors represent.

4 Predictions and Evidence

My theory generates several empirical predictions that can explain the rise and fall of craft guilds, and historical evidence from Prague supports these.

4.1 Guilds Are Not Recognized when Trade Is Irregular

The theory predicts competition on unregulated markets when craftsmen do not expect to trade on the local markets in future. If q is close to zero, local producers are unable to sustain collusion and hence are unable raise high enough profits to compensate rulers for granting them privileges. We should therefore expect not to see any collusive organizations or market privileges during the early trade period, in which buyers and sellers were not permanent residents of Prague and had little or no ties to other traders of the same profession. The surviving records on early market activity in the region support this prediction.

The history of trade in Prague dates back to the Early Middle Ages. From its early days, the settlement under Prague Castle was known as an important trading

center. By the 10th century, producers and merchants from all over Europe were coming to Prague's markets and fairs to buy and sell goods of various kinds. The settlement was "one of the largest centers of international trade", which was "an important link in the trade between East and West" (Hensel, 1969, p. 56).¹⁶

When Judeo-Arab merchant Ibrahim ibn Jacob traveled to Central Europe in the late 10th century, he described Prague as a town built of "stone and lime", where trade flourished. His records describe Prague as a center for long distance trade, and mention a variety of merchants who traded at the local markets, including Jews, Russians, Slavs, Turks, and Muslims. These foreign merchants came in with a variety of goods and coins and left with slaves, tin and various kinds of wool. Jacob also records that Prague craftsmen manufactured saddles, horse bridles and heavy shields, which were used in the region (Hrbek, 1951).

Most of these early traders and producers, however, were not permanent residents in the area. This comes from the nature of early trade, built on long-distance exchanges. During this time, "the traders at the markets did not meet potential consumers but traders met traders and together supplied the redistribution mechanisms" (Klápště, 2012, p. 350). Prague was indeed an important meeting point. Many merchants and artisans came in temporarily, traded their goods, and left again. The local inhabitants' part in this trade was negligible (Janáček, 1983, pp. 19-20). It would have been very difficult for this mixture of merchants and producers from all over Europe, who did not interact frequently, to establish any cooperation in the local industries. Thus we do not find any records of organizations of local craftsmen in Prague prior to the 13th century.

As my theory predicts, when interactions were not frequent the ruler's policy regarding trade was not to limit market participants. Quite the contrary; the local dukes tried to attract as many merchants and artisans as possible in order

¹⁶For the role of Prague in early trade, see also Brutzkus (1943) and Janáček (1955, pp. 11-15).

to increase their revenues from tolls and market fees. They did so in two ways:

First, they provided a level of protection to traders coming to Prague that no one else in Bohemia could provide: the trading route was guarded by a castle on each bank of the river (Prague castle and *Vyšehrad*). Furthermore, in the 12th century, the fortified court known as the *Ungelt* was set up near the actual marketplace. Goods could be safely stored in this court, and merchants could rest peacefully under the ruler's protection (Klápště, 2012, pp. 388-390).

Second, they established permanent markets to attract more buyers and sellers. There were probably three marketplaces, each with a different nature and different trading days: one for foreign exchanges, one for local consumption and one for wood trade. In addition to these markets, the rulers held periodic fairs at which everyone was invited to trade (Winter, 1906, pp. 26-29).

4.2 Guilds Emerge as Markets Develop

Once craftsmen began to settle down in a particular city, and thus the probability of their future interactions increased, the emergence of collusive organizations became possible. When N is relatively low, the increase in q enables producers to enforce collusive agreements and hence maintain collusive rents from which the ruler can be compensated for granting them privileges. My theory therefore suggests that as market development led to the establishment of local professions, so it led, too, to the formation of guilds.

This prediction corresponds to the period of the 13th and 14th centuries, during which the settlement around the area of Prague castle was transformed into a city. Trading opportunities expanded as the internal market grew. Specialized trading places, such as a poultry and fish market, a cattle and horse market, a fruit market, a wood market and a coal market emerged. Trade became a matter of local consumption, and specialized producers moved into the city to satisfy the

local demand. In the 14th century, the majority of the city's population were craftsmen. Their prevalence was such that certain streets became associated with certain professions, as producers of the same trade tended to occupy the same area (Mendl, 1947, pp. 18-25).

The fact that the majority of producers were now permanently resident in the city and that their workshops were close to one another in this period allowed for frequent interaction among these producers, both at the market and in their everyday lives. Being in such close proximity with one another enabled the masters to cooperate in their market activities and regulate their trade together. As a result, occupational cooperatives controlling the markets emerged.¹⁷

The first local cooperatives of craftsmen in Prague probably formed in the late 13th century. During the reign of the Bohemian king Ottokar II, Prague's butchers and goldsmiths may possibly have received certain privileges for their crafts (Winter, 1904). The existence of organized crafts in the late 13th century is also suggested by records of the welcoming ceremony for King Wenceslaus II of Bohemia in 1283, during which the "city's population awaited the king according to their profession" (Tomek, 1855, pp. 202-203).

From the 14th century there is extensive evidence of the presence of organized crafts in Prague. However, restrictive guilds did not emerge immediately. Early cooperatives were voluntary fraternities, which were dedicated to a variety of saints and patrons. Among them were cooperatives of belt-makers, goldsmiths, painters and shield-makers or *institores iuniores* (Winter 1906, p. 184; Pátková 2000, p. 50). These were organizations of local producers, but they did not hold exclusive privileges to the local markets. Their goal was to help their members meet their spiritual needs. They prayed regularly, paid for funerals, called processions, cele-

¹⁷Furthermore, historical evidence shows that regular interaction, especially presence during weekly meetings in pubs and at general assemblies, was a required part of guild membership (e.g. PCA, CKR, s. Krejčí 4, inv. 4). For general practices during meetings, see Emler (1870) and Melichar (1902, pp. 29-32, 93-96).

brated feasts and held magnificent ceremonies (Pátková, 2000, pp. 50-69). These fraternities provided their members with loans or basic forms of insurance, and their regular meetings were a convenient place to discuss topics relevant to their business (Winter, 1906, pp. 64-65). For example, the brotherhood of goldsmiths, which was established in 1324 for “the honor and glory of our Lord, the Virgin Mary and all the saints”, organized masses on Ember days, required members to participate in funerals and offertories, oversaw the quality of products and tried to restrict foreign competition (Menčík, 1891). The extent to which these fraternities were successful in monopolizing the markets is unclear. However, as my model predicts, with the further urbanization of the region these cooperatives declined and were gradually incorporated into or replaced by a new form of economically oriented cooperative with exclusive privileges: craft guilds.

The rise of guilds coincided with the commercial expansion and gradual urbanization of the region. The oldest documented ordinances date from 1318 and grant the Tailors of the Old Town certain rights, though not control over the market: that was granted later, in 1341 (Mendl, 1927). Similarly, the Painters of the Old Town had a voluntary fraternity in 1348, but did not have market privileges at that time; these were probably recognized by the city councillors only after some decades (Pátková, 2000, p. 50). Guild development took off more rapidly after the Hussite Wars, when government representatives were more than willing to grant privileges to attract producers, because the recent wars and plagues had reduced trade and impoverished the city (e.g. Tomek, 1895, pp. 467,457,460,472-473). During the 15th and 16th centuries, craft guilds became the basic units of economic and social organization for most of the city’s industries. This was a time when industries were expanding and many professions established an exclusive guild, including comb-makers, wheel-makers, barbers, drivers, tavernkeepers, locksmiths, carpenters, coppersmiths and stocking knitters. During this period, the guilds

Table 1: The number of craft guilds and occupations in the towns of Prague during the 16th and 17th centuries

Period	<u>Old Town</u>		<u>New Town</u>		<u>Lesser Town</u>		<u>Total</u>	
	guilds	occup.	guilds	occup.	guilds	occup.	guilds	occup.
1500-1539	30 ^a	-	33	34	-	-	over 63	-
1540-1579	39	44	35	40	26	32	100	-
1580-1619	46	52	39	49	26	31	111	65

^a Refers to an approximate estimate, see Winter (1906, pp. 580-581).

Notes: Available numbers correspond to years 1571 and 1599 in the Old Town; 1528, 1549 and 1600 in the New Town; 1577 and 1619 in the Lesser Town.

Sources: PCA, SR, s. 1420, fols. 183r-184v; PCA, SR, s. 1481, fols. 43r-44r; Winter (1906, pp. 580-581); Winter (1909, p. 727).

definitively replaced voluntary cooperatives. Furthermore, the structures of local guilds spread well beyond their regional boundaries. Prague's guilds became models for rural organizations, providing them with ordinances and guidance in matters related to their crafts (Winter, 1925, pp. 28-36).

The records show that as the internal market expanded, measured by a population increase from about 30,000 in the 15th century to 60,000 over the course of the 16th century, the numbers of local guilds increased as well. Estimates of the increase in numbers of Prague guilds during their heyday is shown in Table 1. These estimates support the prediction that craft guilds arise as the market expands. Over time, more and more guilds emerged in the towns of Prague and at their peak around the beginning of the 17th century there were more than one hundred guilds, representing more than 65 different occupations. After the 16th century, the number of guilds in Prague stabilized.

4.3 Guilds Exclude Producers in Potentially Large Industries

Exclusive privileges guarantee collusion within local guilds and generate higher tax revenues for rulers, but this system has its downside. In order to maintain their collusive profits, guilds restrict $N - G^*$ market participants as the size of industry

N increases above G^* . The theory of feudal bargaining predicts that part of the labor force would be excluded or otherwise discriminated as markets continued to develop, and that the ruler would support these exclusive practices.

The guilds strengthened their positions on Prague's markets as trade expanded during the 15th and 16th centuries (Janáček, 1963, pp. 148-159; 222-240). Their gradual use of exclusive rights made mastership effectively "a monopoly of old craft families and rich outsiders" (Mendl, 1947, p. 40). This led to regular conflicts between privileged and non-privileged craftsmen over a variety of specific issues, from low salaries and poor working conditions to admission restrictions. All these conflicts are rooted in the guilds' privileges: they involve professionals who were not able to freely engage in their craft and trade on the local markets within the town's mile right.

The discriminated professionals belonged to one of two major groups. One group consisted of non-privileged craftsmen who were confined to working for local guilds if they wanted to earn at least a modest living, legally. These were typically journeymen, who worked for masters and were guild members but without market privileges. The second group was made up of independent professionals (e.g. *štukverníci*, *štolíři*, *fušeři*), foreign traders, producers of competing crafts and Jewish craftsmen, who often traded their handicrafts against the guilds' privileges.

Journeymen's inferior position within the guilds led them into disputes with the masters, many of which had to be settled by town councillors. It was in the city representatives' best interests to reconcile such conflicts among guild members before they became uncontrollable or even violent. For example, in 1548, a salary dispute arose between stone-mason masters and their employees. The journeymen were unhappy with their salaries and wanted to gain extra income by making doors and windows on their own. The masters did not want to allow them to do so. Their quarrel had to be resolved by the New Town councillors (PCA, SR, s.

1420, fol. 23r). Similarly, in 1594, Old Town councillors resolved a complaint from knife-maker journeymen because their masters were requiring more work of them while paying lower wages (PCA, SR, s. 2122, fol. 107r-107v).

When no agreement was reached between the masters and their employees, the laborers eventually took the situation into their own hands. This led to strikes and boycotts of masters' workshops. Records refer to a first strike in Prague in 1399; many others followed over the centuries. The journeymen of the New Town furriers went on strike in 1451 to fight for better working conditions. In the end, the town authorities stepped in to make peace between the feuding parties, such that the journeymen "begged their masters, so that they mercifully forgive them for God's sake" and "the masters well endure it with them and graciously forgive them" but should they strike again the punishment would be severe (PCA, SR, s. 2084, fol. 197r). The journeymen of the watering can makers also begged their masters' forgiveness for participating in a violent strike in 1512, during which a master was murdered (PCA, SR, s. 1128, fols. 97r-98r). Knife-maker laborers seeking better food and wages organized a strike in 1570. The outcome was that the journeymen ended up with an unfavorable agreement involving lower food ratios and no pay increase (Winter, 1913, pp. 425-426).

Guilds discriminated against other professionals as much as their own employees. Unlike guild workers, independent professionals were in a worse position to make an organised stand against the guilds' restrictions because they typically did not live in the city, nor did they know each other well. Yet when such conflicts arose they sometimes lasted for decades or even centuries. For example, frequent disputes between the New Town butchers and *huntýři* led to an official agreement between the two groups in 1446, which allowed non-guilded craftsmen to sell meat on the Saturday market but nowhere else, under the penalty of the forfeiture of all meat (PCA, SR, s. 2083, fol. 279v). This agreement guaranteed local butchers

restricted rights, secured food for citizens and provided earnings to independent craftsmen. In decades to follow, the guild from the New Town filed a series of official oppositions and requests to authorities against the *huntýři* who they considered had acted against the butchers' rights (see PCA, CR, s. Řezníci 16; PCA, SR, s. 1713). The conflict ended in 1652 when the Holy Roman Emperor Ferdinand III banished independent craftsmen from the Prague meat markets and renewed the local butchers' oligopoly in all three towns of Prague (PCA, CR, s. Řezníci 4, inv. 6, fols. 7r-13v).

Conflicts also arose between guilds of *vetešníci*, who were sellers of used goods and were typically in an inferior position, and guilds of 'regular' producers. Cobblers of new shoes and used shoes often argued over their products. An agreement was reached in 1441 and reconfirmed in 1556: the cobblers who produced new shoes would not work on or sell used shoes, with the exception of ancient privileges, while the *vetešníci* would not make or work on new shoes and if they did, those products could be rightfully seized (Tomek, 1895, pp. 440-441; 470-471). A similar dispute between coat-makers resulted in an agreement that the *vetešníci* would not produce "new cotton, fustian or leather coats" under the threat of confiscation (Tomek, 1895, pp. 441-442).

The authorities rarely responded to the demands of dissatisfied professionals.¹⁸ As the theory of feudal bargaining predicts, the royal offices did not take a stand against practices such as "high entrance fees or challenging and expensive masterpieces or otherwise" that hindered admission to the guilds (Mendl, 1947, p. 40), despite their obvious disadvantages. Instead, the authorities supported the guilds and penalized non-compliant professionals. Town councillors often imprisoned journeymen and laborers at the slightest signs of revolt against their masters.

¹⁸However, there were rare exceptions. One such example is a well-organized strike by armorer journeymen in 1454 over masterpieces and pay, which led to an agreement involving a wage increase (Winter, 1906, p. 754).

In fact, this became law from the end of 16th century: in 1598, Holy Roman Emperor Rudolf II mandated the councillors and burgomaster to punish and bring to his attention any craft laborers who attempted to rise against their masters (Winter, 1913, pp. 419-421). These regulations and laws effectively allowed guilds to prevent strikes even before they happened.

Thus the guild system and its *cechovní přímus* came with certain costs to society. It effectively “condemned some craftsmen to lifelong journeymanship and deepened class differences among members of the same profession” (Mendl, 1947, p. 40). It created social distortions, leaving many laborers either excluded from business altogether or in lifelong subordination to the local guilds. Furthermore, unlike guild members, non-privileged craftsmen were not obliged to contribute to government revenues nor to provide specific services. This outcome was a result of feudal bargaining in which well-organized interest groups with the support of the elites excluded various potential competitors from profitable market engagements.

4.4 Guilds Fall with Late Market Development

According to my theory, the greater N in guilded industries the more producers are excluded, which in turn decreases the ruler’s willingness to support the guild system. Therefore, further industrial expansion after the 17th century should have led to the abolition of guilds. The evidence of the Habsburgs’ policies in relation to guilds supports this prediction.

The towns of Prague suffered serious social and economic losses as a consequence of the Thirty Years’ War, which are reflected in a significant decrease in population. After 1650, however, the city grew steadily from around 37-51 thousand inhabitants to 67-93 thousand inhabitants at the end of the 18th century (Fialová, 2006). That growth was accompanied by economic redevelopment and industrial expansion in the era of proto-industrialization. Prague became a

metropolis characterized by industrial growth, expansion of commercial operations and technological innovations, with more than 150 thousand inhabitants by the middle of the 19th century (Carter, 1973; Mendl, 1947). During this period Prague underwent a shift from feudalism to modern bureaucracy, during which the positive effects of the guilds came into question.

The main problem with the guilds was their exclusive power over local markets, which meant that a substantial part of the population was denied the opportunity to practise their crafts. Guilds not only prolonged journeymanhood but also prevented entire groups, such as Jews, bastards and women, from engaging in the guild professions. The government reacted to these restrictions by passing new laws. An imperial decree liberalizing entry to guilds and restricting their power was promulgated in 1672 across the Holy Roman Empire. It prohibited guilds from discriminating against new members based on their religion or origin (Mendl 1947, p. 50; Whaley 2012, p. 58). Furthermore, the government in Vienna was considering a complex economic reform. The Austrian mercantilists “wanted to limit guild activities, which held back economic development, and they opposed the privileges of the aristocracy” (Klíma, 1957, p. 89).

The new course of policy was to place restrictions on, or even prohibit guilds. Before bringing in this policy, the government organized a survey in the royal cities between 1698 and 1700, in which it asked for comments about the guilds’ status. Even though the Count of Vrtba advised in 1699 that guilds across the country should be abolished, his point of view was rare among the nobility. Despite the many downsides of the urban economy being controlled by craft guilds, it seems that the guilds’ public functions were more important for city representatives than market efficiency. In particular, councillors and burgomaster defended the guilds’ presence, as they disciplined journeymen, kept them in line and educated them in religious manners, took care of their members, assisted during fires, guaranteed

their masters' income, provided the city with revenues and increased the city's fame (Mendl 1947, pp. 48-50; Urfus 1960).

This approach began to change through the 18th century. At that time, towns of Prague had recently recovered from a loss of producers during the Thirty Years War, and had expanded to beyond their pre-war sizes. New industries emerged and old ones were challenged in the upcoming era of factories and manufacturing. At the same time, alternative means of performing the services provided by the guilds became available as the feudal system transformed into a modern bureaucracy in the 18th and 19th centuries (Hledíková and Janák, 1989, pp. 161-202). With these changes, the guilds' benefits became outweighed by the costs of their restrictions.

In line with my theory, the removal of the guilds' power took place gradually, starting with the most developed industries in the region. A series of laws to reform the guilds was implemented during the 18th and 19th centuries. The new legislation aimed to suppress the guilds' economically harmful practices by removing certain privileges and promoting competition.

The new course of policy took three different forms. First, general legislation restraining guilds was announced. In particular, a law on the Imperial Guild Ordinance of 1731 was passed across the empire.¹⁹ With this law, Holy Roman Emperor Charles VI effectively overwrote the existing guild ordinances. Particular articles of the new policy undermined the local masters' power. Craft guilds could no longer regulate the number of professionals within their organizations without approval. Neither could they limit the numbers of subordinates each master could have. Both female and male craftspeople could enter guilds. The law also liberalized entry into the craft professions: although masterpieces remained one of the requirements for admission, they were to be pieces of practical use and easy

¹⁹Although this law had been discussed in previous years, it was presented to the Prague authorities in 1732 and progressively put into practice in following years. See Mendl (1947, p. 50).

to sell. Mastership fees were made affordable and even waived under certain circumstances. Furthermore, the regulation mandated that journeymen's education was equal irrespective of location and abolished unproductive practices such the ancient custom of Monday absenteeism for laborers (Karel VI, 1731).²⁰

Second, exclusive rights were progressively removed. In 1754, the *cechovní přímus* was forbidden for all new industries and some old industries. This liberation began in textiles, metal, glass, book-printing and similar crafts. The government removed restrictions associated with the *cechovní přímus* from drapers in 1765, from the linen and cotton printing industry in 1774 and even from the guilds of butchers in 1783. However, traditional organizations attempted to resist new legislation and keep their oligopolies. In 1773, the Guild of Dyers raised objections against their new competitors but their demands were not successful and the printed textile industry continued to flourish without their interference (Mendl, 1947, p. 54).

Third, competition was promoted. Entrepreneurs who founded new factories were altogether removed from guild influences. In order to stimulate industrial development, manufacturers "obtained preferential customs on the import of raw materials" and "they could employ any amount of skilled as well as unskilled labour" irrespective of guild restrictions (Klíma, 1957, pp. 93-94). This policy resulted in the first factory being built in Prague in 1753. Spinning mills and other factories focused mainly on textiles, such cloth printing and cloth production, followed in the late 18th and early 19th centuries (Mendl, 1947, pp. 54-66). These factories were strongly presented in both the output and labor markets, which made the guilds' position weaker and less relevant in this era.

All these anti-guild policies were driven by a need for economic expansion. Unlike guild workshops, which employed units of workers, a single factory required

²⁰For a further discussion on the Imperial Guild Ordinance of 1731, see Mendl (1947, pp. 50-51) and Whaley (2012, pp. 506-507).

dozens or even hundreds of workers. Hence, the guilds' power had to be limited in order to achieve the ultimate goal of industrializing the empire. In fact, one of the first to realise this was Minister Mikuláš Ludvík Zinzendorf, who “declared, after his journey through Bohemia in 1773, that all obstacles in the way of industrial development should be removed” (Klíma, 1957, p. 97). The final step in the process was the Commercial Law of 1859, which abolished guilds entirely within the Habsburg monarchy. This law officially dissolved guilds and the guilds' members lost their exclusive rights to local markets. This supports the prediction that the increasing economic burden placed on the guilds led to their fall.

5 Conclusion

This article contributes towards a better understanding of feudal bargaining and its consequences in a particular empirical context. The theory I have presented, with its accompanying historical narratives, demonstrates how the dynamics of market development influence the relationship between local professionals and political authorities. The particular nature of this relationship reveals its distributional implications, supporting the formation of exclusive occupational cooperatives at first, but they later abolishing them.

By embedding the relationship between local craftsmen and rulers in a model, I have argued that craft guilds emerged because they were able to generate high enough collusive profits from which they financed taxes and services that compensated the rulers for the costs associated with their exclusive practices. The model's predictions show how guilds developed and died out, and I have illustrated them with reference to historical records of the rise and fall of guilds in Prague. The Kingdom of Bohemia suffered perpetual power struggles and political disunity during the Early Middle Ages that led to fiscal and administrative pressures on local governors. Negotiations with various interest groups presented an effective means

of alleviating this problem. Rulers provided exclusive privileges to local craftsmen who in return offered their collective capacities to raise extra revenues and provide certain public services. Such an exchange was only possible once craftsmen had settled in the city and started to interact regularly, when they fostered the cooperation necessary to raise large enough collusive profits to pay for exclusive rights. Having industries controlled by guilds was not without costs, however. A share of the professional population was excluded from workforce and this share increased with market expansion. As a result, rulers eventually abolished craft guilds as the costs of the economy based on exclusive privileges outweighed its benefits.

My aim in this paper was to explain the rise, growth and fall of craft guilds in the towns of Prague. The explanation I have provided may also be relevant elsewhere in the Kingdom of Bohemia, since local guild structures tended to influence the surrounding region and historical records show that Prague's guilds became models for rural organizations elsewhere in the kingdom, providing them with ordinances and guidance in matters related to their crafts (Winter, 1925, pp. 27-36). The same patterns may not be generalizable to other parts of Europe, however. The explanation I have given is therefore specific to this particular time and place, while at the same time providing one more general lesson.

That general conclusion is that studying the mutually beneficial relationships between governments and interest groups can substantially improve our knowledge of the origins and evolution of public institutions. This is not limited to historical periods. The detailed examination of the relationship between private and public agents can reveal not only the nature of underlying institutional changes but also their consequences. These consequences can be beneficial or detrimental to the society and may in turn affect the institutional change itself.

6 Primary data sources

Primary sources are from the Prague City Archives located at Archivní 6, 149 00 Praha 4, Czech Republic. The abbreviations by which these sources are referred to are as follows: PCA (the Prague City Archives), CK (fond Cech kožešníků), CKR (fond Cech krejčí), CR (fond Cech řezníků), CS (fond Cech ševců), SR (fond Sběrka rukopisů), s. (signatura), inv. (inventární číslo).

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