

## A Rent Seekers' Paradise, or Why There Was No Revolution in Fifteenth- to Eighteenth-Century Nuremberg

by  
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*Abstract:* This paper, which concerns the political economy of late medieval and early modern Nuremberg, is motivated by discontent with the dominant explanation of the city's outstanding economic position at that time, which stresses the importance of the wisdom and goodwill of the ruling oligarchy. This traditional explanation seems to be supported by the fact that the political situation in Nuremberg was exceptionally stable, the rule of the mercantile council being accepted by the members of other social groups. Lehmann analyses two hypotheses: The first is that the policy pursued by the council was consistently designed in the interest of the ruling merchant oligarchy, the decisive points being the preservation of power and the capturing of rents. Her second hypothesis is that social groups like the craftsmen disadvantaged by this policy did not try to change Nuremberg's distribution of power because of the experiences they had made in 1348, when a coup which they had attempted had failed. Assuming that the council would be able to put down any further attempts, too, it would be more profitable for the craftsmen to accept the given political situation.

### *1. Introduction*

In 1039-40, shortly after his accession to power, King Henry III (1017-56) established the castle and market of Nuremberg. By the end of the Middle Ages, the city had become one of the largest and most prosperous in Southern Germany. It housed about 30.000 inhabitants, and boasted splendid churches, an impressive town hall and imposing fortifications. It ruled, moreover, the largest territory of any city north of the Alps and was the place where the crown jewels of the Holy Roman Empire were kept - a circumstance which implied immense political prestige (for a general history of Nuremberg see Pfeiffer, 1971b).

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The literature on Nuremberg's economic history abounds with praise for the wisdom and goodwill of the city's government which steered the urban economy through the turmoil of the late Middle Ages into the golden age of Renaissance and Reformation (Müller, 1909, pp. 597f, 628; Dettling, 1926, p. 103; Ammann, 1970, p. 46; Kellenbenz, 1971, p. 176). As was usual in pre-modern cities, the government took the form of a council. In Nuremberg's case this was a self-perpetuating oligarchy which drew its members from the ranks of the richest and most highly respected citizens who, by the early sixteenth century, formed an exclusive patriciate of some 40 families (Endres, 1970, p. 196). In the fourteenth and fifteenth centuries, the patricians owed their wealth to commerce, engaging mainly in wholesale trade, but being occasionally involved in retailing, as well (Lentze, 1964, p. 210). In the course of time, however, the patriciate's and with it the council's social composition changed. By the late seventeenth century, the members of the ruling oligarchy had given up all commercial activities, though the origins of their families' wealth still lay in trade (Bog, 1970, pp. 304f).

In respect of industrial policies, the course pursued by the council of Nuremberg differed fundamentally from that of any other urban government in the Holy Roman Empire: in Nuremberg, politically autonomous craft guilds were prohibited. To be sure, on one occasion in 1348, the artisans seized the opportunity provided by factional fighting among the merchants to overthrow the council and openly to establish craft guilds.<sup>1</sup> However, despite its initial success the coup proved ill fated, and the ban on guilds was renewed as soon as Emperor Charles IV (1346-78) had reinstated the old council. In the later fourteenth and fifteenth centuries, the merchant oligarchy used to consult individual artisans when it needed expert information on matters concerning specific trades. It even tolerated the development of a fixed group of eight representatives of prosperous crafts whom it sometimes invited to its sessions (Lentze, 1964, p. 228f). In this way the council created the impression that it took account of artisanal interests without really giving up any of its power. Since the 1470s, it controlled trade by means of a new department called "Rugsamt" - literally "reprimanding office" - which was formed by five councilmen supported by a secretary, and which headed a bureaucracy of increasing size. The "Rugsamt" fulfilled the tasks of an industrial tribunal, a chamber of trade and a trade supervisory board (Bog, 1970, pp. 304f). As far as industrial policies were concerned, its establishment was the last major change in governmental structures before the beginning of the nineteenth century. Fundamentally, the settlement reached after the failed coup of the

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<sup>1</sup>The rebellious merchants favoured closer ties with the Bavarian counts who controlled the trade route to Venice, whereas the old council wanted to preserve Nuremberg's good standing with the Emperor who dominated the east-west road from Bohemia to France (Stromer, 1978).

mid-fourteenth century remained stable until the demise of the Holy Roman Empire in 1806.

This sketch of social and constitutional conditions in Nuremberg gives rise to several questions. First of all: is traditional research right in ascribing the city's economic success to the council's goodwill and capability? From a public choice perspective, this view does not look convincing. Governments do not act like omniscient, all-powerful and benevolent dictators: they lack the necessary information, the means and, apart from exceptional cases, the will to behave in that way. Is there, then, an alternative interpretation? Can Nuremberg's economic policy be explained with other motives, its success thus being an external effect of political measures taken for other reasons? This is the first question the present article sets out to answer (section 3). The second question concerns the exceptional stability of the city's constitution. The distribution of political power was highly unequal, and one important section of the population which was excluded from power had, at least on one occasion, demonstrated that it was not at all content with the status quo. Is it possible to explain the internal peace which reigned from the middle of the fourteenth to the beginning of the nineteenth centuries as the result of the fact that the council occasionally consulted some artisans about matters of trade? This does not seem very likely - the measures which the oligarchy took after its reinstatement by Charles IV smacked too much of face-lifting. Is there, then, a more systematic explanation? This question will be addressed in section 4 of the paper. A final section (5) contains a summary of the results of the study and of its central hypotheses. First, however, it is necessary to take a closer look at the industrial policies pursued by the council of Nuremberg (section 2).

## *2. Industrial policies in Nuremberg*

As in other large medieval cities, a great number of specialised trades and crafts existed in Nuremberg (Kellenbenz, 1971, pp. 176f). The ban on guilds, which was enforced with increased severity after the mid-fourteenth century, might give rise to the impression that the city was a free-trade island in a sea of heavily regulated towns. However, this was by no means the case. Trades were allowed to grow up in a legal vacuum, but once they became conspicuous enough for the council to take notice, they were subjected to detailed and restricting statutory rules. Thus, in the second half of the fourteenth century about 50 officially recognised trades existed in Nuremberg, whereas 250 years later there were twice as many (Ammann, 1970, pp. 45f). What distinguished the city from other towns was that while elsewhere artisans were able to devise their own institutions - which they could moreover enforce in their own courts of law (Neuburg, 1880) - craftsmen in Nuremberg had to accept the rules which their council

imposed on them, and which it enforced without the affected individuals having the chance to exert much influence. The following examples show the extent to which the city's oligarchy intervened into the market. They provide the factual basis for the subsequent analysis of the council's industrial policies.

Like in all medieval and early modern towns, one trade which was submitted to particularly close control was that in food. Since the early fourteenth century, the council issued many statutes which aimed at regulating this sector in minute detail. One such catalogue of institutions was the "Regulation of Bread and Bakers" which applied to the preparation, quality and prices of diverse kinds of bread, cakes and pastries (Lentze, 1964, p. 215). In order to enforce these institutions, the council appointed four "*magistri pani*", that is, "bread masters". With their help, it controlled obedience to the rules. From then on, the Nuremberg bakers faced comparatively adverse conditions, being expected to put up with losses whenever there was a rise in the price of grain. The council even consciously exposed them to intensive competition by rural bakers, who did not only come from the city's own territory, but also from the territories of other lordships (Bog, 1970, p. 306). Presumably, nobody made sure that foreign bakers prepared their goods along standards like those which applied to Nurembergers, so that imported bread was probably sold at lower prices than the urban product. The butchers' trade was also regulated in detail. The council enacted rules which applied to the purchase of cattle as well as to the quality of meat and sausages. In this case, six "*magistri super carnes et carnes vitulinas*" enforced compliance with these institutions (Lentze, 1964, p. 215).

Still, council intervention was not confined to the food market. Most officially recognised trades were subjected to restrictions regarding the number of journeymen and apprentices - a measure which limited the size of individual workshops. By controlling the licence to work as a master craftsman, the council was also able to determine the number of workshops per trade. For example, in 1402 it decided to reduce the number of brassware producers to twelve. The decision was implemented by prohibiting both the establishment of new workshops and the take-over of existing ones whose owners had died. In a similar way the number of dyers was fixed at 80. Entry to this trade was additionally impeded by the minimum fortune of 200 guldens which the council prescribed for master dyers (Lentze, 1964, pp. 243).

On the other hand, there were comparatively free trades like e.g. the broadcloth weavers, who were supervised by overseers appointed by the council, but who did not need to execute a special piece of work in order to qualify as a master. They were, moreover, not subject to restrictions regarding journeymen, apprentices or auxiliary workers (Bog, 1966, p. 520). In some cases, the council even promoted specific trades, offering for example tax cuts and subsidies to artisans like fustian weavers who were not yet established in Nuremberg and whom it wanted to attract to the city (Lentze, 1964, p. 244). Under all condi-

tions, however, it enforced a strict barrier between commerce and industry: artisans who tried to enter commerce and to become merchants themselves were dragged to court and bound by law to their old occupations (Bog, 1970, p. 311).

Different trades were obviously regulated to a different extent and in different ways; the council did not have a unified approach to industrial policies. The question is: what motivated its choice of policy, and how can the different treatment of different trades be explained? According to Lentze (1964, p. 243), Nuremberg's policy as a whole was designed to promote economic development by encouraging "understaffed" trades, while "overstaffed" crafts were regulated in a way which made them less attractive. However, even if the council was perspective enough to conceive of such a long-term economic plan, it is hard to imagine how it managed to collect the necessary data without having a statistical apparatus at its disposal. Lentze would not have been the first historian uncritically to adopt terms like over- and understaffed, which appear in medieval sources and were used by medieval individuals in a hardly disinterested way (cf. Fischer, 1955, p. 11).

In fact, there are cases where it is easy enough to discern the motives which guided the council of Nuremberg's industrial policy. Consider, for example, the market for food. As the population regarded low prices of bread and meat as an indicator of good government, the issue was important for the security of the city's government (Lentze, 1964, p. 214). And because the members of the council were obviously not only aware of the link between their popularity and the level of food prices, but also between this and the existence of monopolies, they promoted competition in this sector of the market. The oligarchy's choice of policy was expected to preserve its power.

Still, what about other trades? Leaving aside the hypothesis of the benevolent government, there are a number of alternative explanations of Nuremberg's discriminatory industrial policies. Arguably, the council may have wanted to stabilise its rule by choosing a divide-et-impera strategy. In view of the instrumental role artisans had played in the coup of 1348, it may have favoured some crafts in order to give them a vested interest in the status quo, at the same time impeding the development of others. The fact that the metal trades, which had played a prominent part in the coup, were the first to be subjected to restrictions regarding the size of their workshops supports this interpretation (cf. Lentze, 1964, p. 234). Power politics may not have been the only concern of the oligarchy, though. The business interests of the merchant oligarchy may have been just as important. The following section shows that the industrial policies pursued by Nuremberg's council can indeed be conclusively explained on this basis.

### 3. *Rent seeking*

In common usage, the term rent seeking describes the utilisation of resources by private actors or business organisations with the aim of persuading politicians to create entry barriers to some market, thereby allowing them to capture politically created monopoly rents (Tollison, 1982). Used in this sense of the word, the rent seeking concept requires that political actors can be distinguished from private individuals, in other words, that there is a clear distinction between state and society. As everywhere in pre-modern Europe where states invested with monopolies of force did not exist (Volckart, 1998, p. 53; Epstein, 2000), such a distinction was impossible to make in late medieval and early modern Nuremberg. In fact, given the intimate links between Nuremberg's mercantile patriciate and the council, the city's constitutional conditions are a particularly striking example of a pressure group having come to power, thus having the chance to shape urban institutions in its members' interest. Under pre-modern conditions the term rent seeking can therefore be used in a wider sense than usual: It does not necessarily imply an interaction of political and private actors, but describes any attempt to capture rents by creating entry barriers to a market, provided these barriers were enforced with the help of coercive means (Volckart, 2002, p. 124).

In its analysis of the economic consequences of monopolies, traditional welfare analysis ignores all effects not covered by the Harberger triangle (cf. Harberger, 1954). Rent seeking is, however, more harmful. It causes massive external costs, most of all because engaging in it means trying to change the rules of the game in a way that reduces competitive pressure and incentives to innovate, and that distorts prices and resource allocation. Profit seeking, in contrast, means to strive for a temporary gain within the framework of the existing rules and in the context of market competition. Profit seeking creates incentives for technological innovations, and has thus prime importance for economic development and Schumpeterian growth (Bartsch and Thomas, 1993, p. 64; cf. Mokyr, 1990, p. 6).

There were several ways in which the council could create conditions which allowed its members and the other patricians to capture rents at the expense of the rest of the city's population. One was to promote trades, for example fustian weaving, which was previously unknown in Nuremberg. In this case, the council used part of the revenue it received from the urban tax payers to establish a new trade. As the patrician council prohibited any non-merchant to buy this product from the producers and to sell it to the consumers, Nuremberg's merchants had the chance drive up its price on the home market (Lentze, 1964, p. 244). Hence, they exploited consumers in a double way: On the one hand through the demand for taxes, and on the other hand through the capture of a monopoly rent.

Another strategy was to widen the price gap for goods sold inside and outside of the city. This could be achieved in two ways. One was to legally fix the level of prices. These were strictly controlled by the Rugsamt, which, as mentioned above, was the executive arm of the council. The other way to hold the price level at an artificially high level was to restrict competition by reducing the number of workshops per trade. In both cases, the patrician merchants had the chance to import substitutes for the goods whose prices they had driven up by political means, thereby capturing rents and at the same time creating the impression that they acted in the favour of the craftsmen: After all, restricting competition among urban producers appeared to be in the artisans' interest.

The council pursued a similar strategy for example in respect of the trade of bell and button makers. In 1684, the members of this trade levelled a complaint about the patrician merchants whom they accused of buying from non-urban producers. The representatives of the council, who were responsible for supervising the market, stated in an appraisal that the complaining trade was cartellised, that restrictions on output had been introduced, and that this was why prices were unreasonably high (Bog, 1970, p. 306). In fact, however, price-formation was the result of the council's policies: it had fixed minimum prices for the bell and button makers who had reacted to this measure by reducing their output. Other crafts, like for example gold spinners and nail smiths, were affected by similar measures (Wiest, 1968, p. 144).

Sometimes, members of the council were even engaged in manufacturing in other cities. Nuremberg's patricians had, for example, a large stake in the metal plate production of Amberg, a town in the Upper Palatinate about halfway between Nuremberg and the border of Bohemia. As Nuremberg's armourers were famous, metal plates were much needed, and Nuremberg's patricians were well placed to satisfy the armourers' demand (Dettling, 1926, p. 150). In effect, they reduced the purchasing costs by producing the goods themselves and abroad - incidentally evading the strict division between trade and industry kept up in Nuremberg itself -, while at the same they profited from the price level in the city which the council kept artificially high.

Nuremberg's commercial policy needs to be seen in this context. The council created optimal terms for trade by reducing tariffs on goods imported by the urban patricians, in some cases even going so far as to agree on reciprocal tariff reductions with other important centres of trade. However, this policy did not imply that foreign merchants were not at all discriminated against. Except on fairs, they were for example not allowed to engage in retailing (Müller, 1909, p. 601; Dettling, 1926, pp. 115f). Altogether, Nuremberg's commercial and industrial policies were designed to benefit the merchants, whose families composed the council. Examples could be continued, but at this point the few instances examined above in some detail should be sufficient to show how easy it was for

the council to create institutional conditions which allowed the merchants to capture rents.

Craftsmen, in contrast, had fewer chances to shape urban institutions in their interest. Artisans repeatedly attempted to form organisations in order to capture rents. Among these organisations, co-operatives which were established for longer periods of time were as important as short term pacts and informal agreements (“*Einungen*”). In many cases, the formation of these pacts lead to the codification of customs which had been practised by the craft since a long time (Lentze, 1964, p. 220). While the council prohibited most pacts, there were also so-called “good pacts”, which it tolerated. It did this because the costs of comprehensively supervising all crafts would have been prohibitive, as would have been the costs of regulating all potentially relevant aspects of manufacturing. As long as the pacts formed by craftsmen did not noticeably pursue aims which were at conflict with those of the council, toleration was an attractive option. However, because comprehensively supervising what went on in the officially recognised pacts was impossible, there was some chance that artisans might use these organisations as forums where they agreed about the restriction of competition among themselves. The necessary institutions might then be implemented by master-craftsmen who had been sworn in by the council and who existed in all officially recognised trades. The sworn masters could, for example, restrict admission to the rank of master with the aim of keeping out potential competitors (Lentze, 1964, pp. 222f). This could be done in ways which were not immediately obvious to the council. For example, the custom of the master-meal which newly admitted masters had to give was important. The sworn masters demanded a meal so lavish that only very wealthy craftsmen could afford it. Additionally, the master meal offered a good opportunity to meet other members of the craft and to negotiate about restrictions of competition, particularly since there were few other opportunities for craftsmen to meet without being supervised. Tap rooms for certain groups of trades, for example, which were common among the guilds in other towns, were illegal in Nuremberg. It was just permitted to meet occasionally at home or in open parlours of public houses (Lentze, 1964, pp. 222f). Hence, artisans had the chance to take advantage of information asymmetries between them and the ruling oligarchy in order to reduce the size of the market.

Religious fraternities could also be used in order to restrict competition in urban industry. In these organisations, the anti-competitive intentions of their members were hidden behind social tasks. In fact, fraternities needed to stress these tasks in order to be recognised by the oligarchy which otherwise tended to regard them as illegal. In 1441, for example, the council opened an investigation against illegal fraternities, which dragged on until 1443. Two illegal fraternities, which had collected money for hospitals, were discovered. One, which had been formed by the bakers, was now dissolved by the council but seems clandestinely

to have continued to exist at least into the sixteenth century (Lentze, 1964, p. 257). In order to make it more difficult for the members of fraternities to restrict competition among themselves, the council prohibited all advanced organisational features like for example regular budgets, membership fees etc., thereby making it difficult to sanction defectors (Lentze, 1964, pp. 236f). Fraternities tended therefore to be comparatively unstable organisations. Altogether, in Nuremberg craftsmen had much fewer opportunities to capture rents than merchants. However, in some cases they managed to restrict competition among themselves without being detected by the council, and on other cases they had the chance themselves to benefit from the policy pursued by the mercantile patriciate.

The above analysis shows that the conventional interpretation of the council's policies as being driven by welfare motives can be comprehensively refuted. While in some respects, the direct interest of the ruling oligarchy in stabilising its political position was relevant, in most cases mercantile rent seeking was decisive. This, however, is only part of the answer to the first question posed above. After all, the reason why traditional research ascribed so much wisdom and goodwill to the council of Nuremberg was the city's exceptional economic position: It was one of the largest and most splendid of the Holy Roman Empire. Given the fact that most of the political measures implemented by the council were designed to allow the merchant oligarchy to capture monopoly rents, and given the adverse economic effects of rent seeking described above, it is all the more necessary to explain Nuremberg's outstanding position among the cities of the Empire.

As mentioned above, the impression that Nuremberg held such a position is mainly due to her size and to the splendour of her public buildings. Hard series of data about the per-capita income or output of her inhabitants do not exist. However, Abel (1978, pp. 63ff) mentions some isolated data from the late fourteenth and fifteenth century which he used to calculate the real wages of unskilled workers in Nuremberg and some other German towns. In this respect, Nuremberg's position does not seem to have been very exceptional. All this indicates that the city's wealth crucially depended on the that of the merchants. It was they who, just because of their successful rent seeking, were able to pay for the lavish furnishing of the public buildings and to develop a high demand for locally produced manufactural goods. Moreover, it was the merchants because of whom foreign demand became effective in Nuremberg. The outstanding importance which long-distant-trade had for the city's fortune is also made evident by the fact that when this trade broke off because of political measures taken by the Imperial Diet in the wars against France during the second half of the seventeenth century, the result was a serious economic reversal (Wiest, 1968, p. 29). Hence, Nuremberg's large size seems to have been primarily due to the large local demand of the merchants, which created exceptionally many income opportunities for other occupational groups. It does not imply that the individual

members of these groups were more wealthy or better off than in other late medieval or early modern cities. In this way it is possible to reconcile the apparent contradiction between mercantile rent seeking and urban prosperity.

#### *4. Why was the situation stable?*

Having answered the first question on which this paper is based, let's now turn to the other problem indicated above: Which factors determined the exceptional stability of the political situation in late medieval and early modern Nuremberg? In order to solve this problem the situation of the relevant actors - that is, of Nuremberg's council and of the artisans working in the city - is here modelled along game theoretic lines. Both social groups are treated as homogenous actors. Above, anecdotal evidence has been given which shows that both merchants and craftsmen were able to act collectively - the latter so to a lesser extent. In order to make the following arguments convincing, it is, however, necessary to make more explicit how both groups managed to solve the free-rider problem.

Elsewhere, craft guilds provided sanctions in order to prevent their members from free-riding. Following Olson (1965, p. 20; cf. Oliver, 1980), it suggests itself to distinguish positive and negative sanctions, negative ones being for example fines for non-co-operative behaviour. The most important positive incentive lay in being admitted as a member. Guilds had the character of clubs. Privileges like for example social security and chances of personal development were linked to membership, the important circumstance being the fact that individual artisans could be excluded from the club, thereby losing all benefits (cf. Buchanan, 1965). In sum: membership in an association of craftsmen constituted a club good. All of the above applied in principle to Nuremberg as well as to any other town, both the officially recognised and the illicit artisanal associations showing that craftsmen were indeed capable of co-operating here, too.

As for the council, it employed basically similar means to solve the problem of collective action. As mentioned above, it drew its members from the city's patriciate, which was an increasingly exclusive club. Whereas until the 1520s it was open to newcomers - 28 families, among them even one of artisanal descent, rose to patrician rank since the late fourteenth century - admission was closed in 1521 (Endres, 1970, p. 196). Obviously, one of the privileges enjoyed by the patricians was the chance to become a member of the council and to influence legislation - a privilege which could well be lost. Between the early sixteenth and the seventeenth centuries, the number of patrician families dropped from 42 to 23 (cf. Bog, 1970, p. 304). This decline is so steep that it cannot be ascribed to physical extinction alone, but must be due to the fact that some families - probably those who failed to measure up in wealth - were excluded from the club. By no means all of Nuremberg's merchants held identical views on eco-

conomic policies: as mentioned above, at least on one occasion the artisans had been able to exploit differences of opinion among them. This happened, however, before the patriciate began to close its ranks. As far as the later Middle Ages and the early modern period are concerned, it is therefore possible to treat not only the craftsmen but also the council as homogenous actors.

The question which needs to be answered is: why did the craftsmen of Nuremberg not try to improve, prevent and/or limit the rent seeking of the council? Apart from their participation in the rebellion of 1348, they made no attempt to overthrow the autocracy of the council, and thus to take control of their own economic situation. In what follows, the options of the council and the craftsmen are more closely examined, making use of a simple game theoretical approach.

The situation in Nuremberg can be modelled as a market entrance game with two players. Initially, suppose that the game is played for two periods only. The players involved are a monopolist (player 1) and a potential competitor (player 2). In the first period, player 2 decides whether he enters the market. If he does not enter ( $s_{11}$ ), he obtains a gain of  $\prod_{s_{22}} s_{11} = a$ , while player 2 receives the monopoly rent  $\prod_{s_{11}} s_{22} = b, b > a$ . If player 2 enters the market, player 1 must decide in the second period whether he starts a crowding out battle ( $s_{21}$ ), in which both parties have cost of  $q$ , with  $q > b - d$   $\prod_{s_{21}} s_{12} = a - q$  and  $\prod_{s_{12}} s_{21} = b - q$ . The alternative for player 1 would be to share the market with his competitor ( $s_{22}$ ). Both then obtain  $\prod_{s_{22}} s_{12} = \prod_{s_{12}} s_{22} = d; a - q, b - q < a < d < b$ .

If this game is projected onto the Nuremberg situation, the craftsmen can be assumed to have been in the position of player 2, and the council in the position of player 1. The craftsmen had two options. In order to improve their chances for rent seeking, they could decide to repeat the coup of 1348 in the first period, this time trying to be successful ( $s_{12}$ ). Alternatively, they could continue to accept the power of the council ( $s_{11}$ ). The council took its decision in period 2, that is, after the craftsmen had revealed their choice of strategy. It could either accept the rent seeking of the craftsmen ( $s_{22}$ ); in this case both players would receive a pay-off of  $d$ . Alternatively, the council could fight back and oppose the new market situation created by coup of the craftsmen ( $s_{21}$ ). In this case, internal warfare would by assumption be so destructive that both players incur a cost of  $q$ .

Under the assumption that the council would fight back in the second period, there would be no incentive for the craftsmen to attempt a coup. In other words, if the craftsmen accepted the strategy of the council as given and considered its threat to fight back to be credible, Nuremberg was in a political equilibrium ( $s_{12}, s_{22}$ ). This would be the case even though for the council, it would not be optimal to fight back ( $b - q < d$ ).

There are two arguments in favour of the assumption that the craftsmen would under all conditions have expected the council to fight. On the one hand,

there were the experiences they had made in 1348 when the coup which they had supported had failed because of the determined resistance of the established oligarchy. On the other hand, and more importantly, Nuremberg's role as the place where the crown jewels of the Empire were kept needs to be taken into account. From 1424 to 1796, the city was in charge of the Charlemagne's sword, Otto the Great's crown, the imperial orb and the holy relics which went with these symbols of imperial power (Pfeiffer, 1971a, p. 87). The crown jewels were perfect pledges of the Emperor's co-operation which made it more than likely that he would mobilise support for the ruling oligarchy. Given these circumstances, there was no reason why the craftsmen should have expected the council to put up with any attempt to change the distribution of power in Nuremberg.

The following decision tree shows the options of both parties involved in Nuremberg, and the pay-offs they receive accordingly.

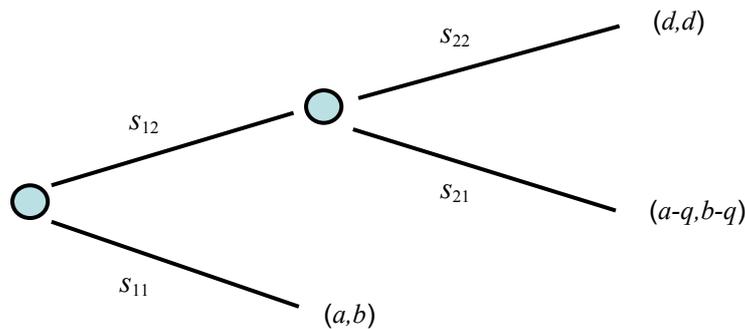


Figure 1

Let's now abandon the assumption that the game is played for two periods only, and assume that it is infinitely repeated. In real life, games are of course never played infinitely. However, whereas in games which are defined as finite there is common knowledge about which round is the last one, this is not the case in games which are assumed to be played infinitely. Because in late medieval and early modern Nuremberg, neither the craftsmen nor the council knew which round would be the last round, an infinitely repeated market entrance game is well suited to represent their situation. The question which now is considered is whether, under the expectation of an endlessly repeated game, the craftsmen would have started a coup (in period 0). Future gains will be discounted. The first pay-offs are distributed after the council has made its decision in the following period (1). Therefore the analysis starts in that period.

If the council fights back in the first period, it obtains the following pay-off:

$$(1) \quad \Pi_2^F = c + \sum_{t=1}^{\infty} \delta_2^t = c + b \frac{\delta_2}{1 - \delta_2}$$

If it accepts the rent seeking activity of the craftsmen, the pay-off obtained is:

$$(2) \quad \Pi_2^A = d \sum_{t=0}^{\infty} \delta_2^t = \frac{d}{1 - \delta_2}$$

Thus, fighting back is profitable if the following condition is given:

$$(3) \quad c + b \frac{\delta_2}{1 - \delta_2} > \frac{d}{1 - \delta_2}$$

or, put differently:

$$(4) \quad \delta_2 < \frac{c - d}{c - b}$$

In the case of not entering the market and accepting the rent seeking of the council, the craftsmen receive the following pay-off:

$$(5) \quad \Pi_1^A = a \sum_{t=0}^{\infty} \delta_1^t = \frac{a}{1 - \delta_1}$$

In the case of starting a coup, this is their expected pay-off:

$$(6) \quad \Pi_1^F = (1 - p) \left( \frac{d}{1 - \delta_1} \right) + p \left[ c + a \frac{\delta_1}{1 - \delta_1} \right]$$

where  $P$  is the probability of the council fighting back.

Under the assumption that the craftsmen, because of their experience in 1348, believe that the council would indeed fight back ( $p=1$ ) they would expect the following pay-off:

$$(7) \quad \Pi_1^F = c + a \frac{\delta_1}{1 - \delta_1}$$

If  $p = 1$ , the craftsmen do not enter the market, if the following condition is given:

$$(8) \quad c + a \frac{\delta_1}{1 - \delta_1} < \frac{a}{1 - \delta_1}$$

or put differently:

$$(9) \quad \delta_1 < \frac{a - q - a}{a - q - a} < 1, \text{ which is always satisfied.}$$

Under the assumption that they expect the council not to fight back, they would start the coup, if the following condition is given:

$$(10) \quad \frac{d}{1 - \delta_1} > \frac{a}{1 - \delta_1}, \text{ which is always satisfied because } d > a.$$

In other words, if the craftsmen expect the council not to fight back, they attempt a coup. If they expect the council to fight, they do not attempt it. The higher the expected probability of the council fighting back, the lower is the probability of a coup.

In sum, if the situation is modelled as a two period game, it becomes evident that for the craftsmen, it would under all conditions have been attractive to attempt to overthrow the rule of the patrician oligarchy, thereby gaining the chance themselves to engage in rent seeking. Only if the fact is taken into account that the relevant parties were participating in an infinitely repeated game, does it become clear why this was not the case. The reason was that the council was able credibly to assert its will to oppose attempted coups. Hence the stability of the political situation in Nuremberg was due to the credibility of the political acting of the ruling oligarchy in much the same way as, according to North and Weingast (1989) the situation in England after the Glorious Revolution of 1688.

## 5. Conclusion

The motivation behind this paper was discontent with the dominant explanation of Nuremberg's outstanding economic position during the late Middle Ages and the early modern period, which traditional research ascribes to the wisdom and goodwill of the city's ruling oligarchy. On the face of it, this explanation seems

to be supported by the fact that the political situation in Nuremberg was exceptionally stable, the rule of the merchant oligarchy being accepted by the members of other social groups. Hence, the paper addresses a double question: on the one hand, it is asked whether the policies pursued by the patrician council can be explained in different way, that is, without arguing that the members of the oligarchy were motivated by kind of general welfare notion. On the other hand, the paper asks how else it is possible to account for the political stability of Nuremberg.

The paper presents two hypotheses:

1. The policy pursued by the council of Nuremberg was consistently designed in the interest of the ruling merchant oligarchy. Here, two motives were decisive: on the one hand the preservation of power, and on the other the capturing of monopoly rents. Thus, Nuremberg's lack of guilds did not imply that the council pursued a free-trade policy. It is important to note, though, that many of the political measures implemented by the council had positive external effects at least for some crafts, too. This was the case because a) some crafts benefited directly from economic regulation, for example when the council imposed minimum prices, and b) because the rents which the merchants appropriated were spent on the Nuremberg market, thus creating income opportunities for a large number of craftsmen.
2. The political stability of Nuremberg was not due to the benevolence of the council whose wisdom was recognised and accepted by the rest of the population, but rather to the fact that the city's relevant interest groups were engaged in an endlessly repeated market entrance game. In principle, there were a number of crafts whose members suffered from the councils interventionist policies and who could conceivably have benefited from a successful coup. However, in the game played in Nuremberg, the ruling group, that is the mercantile council, could credibly threaten to defeat any attempt of the other group, i.e. of the craftsmen, to overthrow its rule. The threat was credible because the council had managed to do exactly this in 1348, and because the crown jewels constituted a pledge which made it likely that the emperor would support the established oligarchy.

The game theoretic model helps to understand the situation of the craftsmen. Certainly it is not sufficient to mirror the real situation. Thus, it does not include competition with other cities. Starting a coup would also have involved high transaction costs - mainly negotiation costs which the craftsmen would have had to incur -, which are not considered in the model. Still, as far as answering the core question is concerned, the model seems to be adequate. There is nothing which indicates that making it more complicated by including more variables would improve the explanation.

After the Thirty Years War, Nuremberg weakened (Bog, 1970). The number of inhabitants and of trading partners decreased, thus reducing domestic demand. The adverse economic situation was not only the result of exogenous causes, but also a consequence of some centuries of persistent interference in the market. The council prevented the growth of many crafts by regulating their number, the number of workshops, and the prices with the aim of gaining trade benefits.

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