Access to the trade: monopoly and mobility in European craft guilds, 17th and 18th centuries

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Abstract:
One of the standard objections against trade organizations in the premodern world has been their exclusiveness. Privileged access to certain professions and industries is a disincentive for technological progress. Guilds have been portrayed as providing unfair advantages to established masters and their descendants, over immigrants and other outsiders. This paper brings together the results of detailed local investigations of the composition of guild apprentices and masters, to find out to what extent this picture is historically correct. The paper finds that, with some notable exceptions, guilds were on average as open to immigrants as urban populations more generally. We also find that family members were, again with some exception, a minority among guild members and apprentices. Therefore, we argue, our understanding of urban and guild 'monopolies', and the measure of protection and reward they supplied to their members, is in need of revision.

It is generally assumed that restricted access to urban manufacturing and trade constrained the premodern economy. Restricted access was part of a wider set of regulations that imposed political constraints on economic development ('feudalism'). Urban citizenship regimes generally limited some, or even all, economic roles to full citizens, or burgesses, freemen, *bourgeois*, *burgers*, *Bürger*, and so on. Within most cities, access to specific economic roles was further constrained by guilds. Guilds were established by documents that laid down the ground rules for their role in society and were approved and supported by local governments.[1] In some cities, moreover, guilds dominated the local government. This combination of urban citizenship and guild regulation has been portrayed by many economic historians as a great villain in restricting access to markets, and thus hampering progress.[2] The guilds' abolition, and the emergence of national citizenship in the nineteenth century is, in turn, one of the conventional explanations for industrialisation and modern economic growth.[3]

A standard element of the guild organisation was that the members were granted, as a privilege of their membership, the exclusive right to produce and sell a specific product, or range of products, to the exclusion of all non-members. This privilege is usually called the guild 'monopoly'. Its uses were neatly summed up in *The Wealth of Nations* (1776) when Adam Smith, discussing the guilds, portrayed them as 'a conspiracy against the public'.[4] Questions have been raised, however, about the effectiveness of the monopoly: could guilds really monitor and enforce, especially in large urban centres, their 'monopoly'? Or were they undercut by interlopers and illicit producers, on the one hand, and by supplies of goods from other localities, some without guilds, on the other?[5] Indeed, some doubt about the applicability of the word 'monopoly' is appropriate in the first place, when we know that guilds themselves were not market actors, but merely producers' organisations.[6] These

[1] Unless stated otherwise, this article ignores merchant and shopkeepers' guilds, which faced different challenges, and often had different recruitment practices. Wherever the term 'guild' is used in the text, it should therefore be read to mean 'craft guild'.
[2] Kriedte, *Peasants, landlords*, p. 9; Cipolla, *Before the Industrial Revolution*, p. 256; Mokyr, *Lever of riches*, pp. 77, 258-60, 267, 298; Landes, *Revolution in time*, p. 219; Landes, *Wealth and poverty*, pp. 174, 223, 239, 242-45; Musgrave, *European economy*, pp. 71, 73, 89; Mokyr, *Gifts of Athena*, pp. 31, 259-60; Ogilvie, *Institutions*, ch. 3; Stasavage, 'Was Weber right?', pp. 337-40.
[3] Acemoglu and Johnson, *Why nations fail*, p. 294; Fitzsimmons, *From artisan to worker*; Frieden and Rogowski, 'Modern capitalism', pp. 386, 390-91; Clark, *European cities*, pp. 258-59.
[4] Quoted in Epstein and Prak, 'Introduction', p. 1; see also Sonenscher, *Work and wages*, p. 107.
[5] Kaplan, 'Les corporations'; Epstein, 'Craft guilds', p. 686; Farr, *Artisans in Europe*, p. 82.
[6] Cf. Epstein, 'Craft guilds', pp. 56-60; Ogilvie, *Institutions*, pp. 41-42 briefly uses 'cartel', but then quickly returns to 'monopoly' (e.g. pp. 75-89). Also Mokyr, *Culture of growth*, p. 292.

questions apply equally to the economic implications of citizens' economic privileges more generally.

Much of the 'monopoly' argument hinges on the assumption that guilds managed to limit their membership, in terms of geographical backgrounds, and in terms of descent. As Sheilagh Ogilvie states the position in a recent survey: 'To establish their monopolies and monopsonies, guilds excluded entrants'.[7] In earlier work on guilds, she found strong evidence that 'guilds seek to restrict entry so as to limit competition'.[8] Guild membership, it has also been claimed, was dominated by sons of established masters, or by people who had been born locally. Individuals without a family relationship to the membership, and especially immigrants, found it much more difficult to access incorporated trades.[9]

In this paper we evaluate the strength of guild 'monopolies' by exploring the accessibility of guild membership. How easy did those we might term 'outsiders' find it to become a guild member? This, we argue, offers one way to evaluate the significance of the economic constraints that guilds created. The array of formal rules established by guilds to define and control who could gain entry have been used to highlight the scale of barriers faced by people without a previous connection to the urban trades. By implication, they have also been taken as indicating the rewards membership brought to insiders.[10] To the extent that guilds did indeed generate valuable economic rents to insiders, they would also have created incentives for others to try to gain access – and for those who were already within the guild to try to reserve access to a small pool of their own choosing.

Our concern is with the outcome of this conflict of interest, and we use evidence on the extent to which outsiders were actually present as guild members as an indicator of the presence of effective barriers to entry. There are, obviously, more dimensions to the 'monopoly' issue than access. Some German crafts, such as those in Frankfurt and Augsburg, for example had annual quotas on the number of new masters.[11] Still, if access to the 'monopoly' was open to large numbers of 'outsiders', then it would seem that the exclusive nature of the 'monopoly' was not as strong as is often implied, and could not have led to the disastrous outcomes that many historians claim it had. We therefore want to find an answer to this straightforward question: were guild in pre-modern Europe open or closed to outsiders? In this paper 'outsiders' are defined in two distinct ways: 1. those who were not the

[7] Ogilvie, 'The economics of guilds', p. 174; Mokyr, *Gifts of Athena*, p. 260.
[8] Ogilvie, *State corporatism*, 463.
[9] Discussion in Leunig, Minns and Wallis, 'Networks', pp. 415-16.
[10] Ogilvie, 'The economics of guilds', p. 176.
[11] Soliday, *Community in conflict*, p. 151 n41; Stuart, *Defiled trades*, p. 193; Kluge, *Die Zünfte*, pp. 230-33.

descendants of active guild members; 2. those originating from outside the town where the guild's 'monopoly' was established. For reasons of data availability we have limited our investigation to the seventeenth and eighteenth century. At times we will refer to some sixteenth-century material that is, however, too thin to produce a reliable survey.

Recent scholarship on the history of Europe's guilds has produced evidence about these questions that is almost by definition local. Remarkably, nobody has so far collected and compared these local data. This is the objective of the present paper. Our paper cannot claim to be exhaustive; the archives hold many more data waiting to be explored. We have, however, data about masters for 60 individual guilds in 17 different towns, plus data on a mixture of guilds for five towns. Together the data cover over 100,000 masters. For apprentices our sample is much larger in the number of individuals covered: 450,000. However, they come from fewer guilds and places: ten guilds from six towns, plus eleven towns where we can observe a mixture of various guilds. In all, the observations and analyses offered in this article are supported by evidence relating to over half a million individuals, across a range of towns from Bristol to Vienna and from Gdansk (Danzig) to Madrid. Much of the data relates to England and the Low Countries, where some of the most active guild research has been concentrated, but there is just enough evidence for France, Germany and Central Europe, and for Italy and Spain, to claim that the picture presented here is valid for Europe as a whole, rather than for a small – and possibly a-typical – part of it. To overcome the dominance of the number of observations from London or Paris, we have ignored the volumes and used un-weighted observations in our analyses. The results from tiny Wildberg therefore count for as much as those from huge London, also because we assume that Wildberg is potentially representative of a whole class of small towns.

Measuring openness is harder than it sounds. One methodological challenge for establishing the impact of restrictions on entering the economic arena arises from benchmarking openness. Critics of the guilds often seem to implicitly posit a completely open labour market. Labour economists, however, now question whether this scenario ever exists outside of the textbook, with current thinking emphasising the importance of frictions in the labour market that generate rents to almost all jobs.[12] Formal and informal barriers create 'segments' that privilege some groups of workers over others. Segmented labour markets have also been identified in the pre-industrial period.[13] The implication is that we cannot

[12] Manning, *Monopsony*, p. 3.
[13] Vries, 'Labour market'; Crowston, *Fabricating women*, pp. 86-94.

assume that in the absence of guilds there would be no other obstacles producing similar effects.

It is well-known that after the abolition of the guilds some occupations displayed strong intergenerational continuities, not necessarily as a result of formal selection mechanisms. In industrial Lancashire, over 60 per cent of textile workers followed their fathers, and in nineteenth-century London, around half of those working in engineering, building, shoemaking and tailoring were following the same occupation as their fathers.[14] In modern Canada c. 40 per cent of young men work for the same employer for which their father also worked, and 6–9 per cent have the same employer in adulthood.[15] This percentage is likely to be higher among the self-employed, who turn over businesses to the next generation.[16] In other words, the segmentation of the labour market that would be produced by other factors in industrial societies raises questions about how we can empirically identify the distinctive role of guilds in the promotion or inhibition of flexible labour markets.

In this paper, we circumvent this problem by assuming that large numbers of entrants previously unrelated to the trade constitutes a situation of openness, while small numbers of 'new' entrants points in the direction of high barriers. Our aim at this stage is to map patterns of relative openness that may allow us to assess the causes and distribution of barriers, and their likely significance across the European landscape of citizenship regimes. As a simple rule of thumb, we have classified guilds as 'closed' where two-thirds of masters or apprentices were 'insiders', i.e. originated locally or, alternatively were the sons (sometimes daughters) of masters. We classify organisations as 'open' where two-thirds were 'outsiders', i.e. originated from outside the local community, or were by implication not directly related to the membership. Where the numbers fell between those values, we labelled the organisation as 'neutral'. We have also compared our results for the percentage of local immigrants among guild members in Holland with similar percentages for the town's population as a whole.

Guild barriers varied in cities across Europe. In places where citizenship was a prerequisite for joining a guild, access to urban economic activities might be limited by citizenship barriers.[17] In others, the guild itself was the first hurdle that newcomers had to overcome, before becoming a citizen. In those towns citizenship was, in other words, a

[14] Chapman and Abbott, 'The tendency of children', pp. 66-67; Crossick, *An artisan elite*, pp. && (tab's 6.4 and 6.5); Zijdeman, 'Like my father', p. 476.
[15] Granovetter, *Getting a job*, p. 5; Montgomery, 'Social networks'; Corak and Piraino, 'Intergenerational transmission'.
[16] See for the modern era: Dunn and Holtz-Eakin, 'Financial capital', p. 289 (table 2).
[17] Lourens and Lucassen, 'Zunftlandschaften'.

secondary effect of guild membership.[18] These various institutional structures affect the sources that were created. Sometimes guilds recorded the place of origin of their members and apprentices, or if their parents were perhaps a member of the guild. In many other cases we have to gauge this from the fact that the entrance fees distinguished such categories as sons of masters, or local origin. Much of the data presented here was collected by the authors from primary sources, but other data stems from secondary materials. For more detail we refer to the data appendix.

The data presented in this paper capture access to guilds at two different points. First, we can look directly at new entrants through the study of membership registers. In some cases at least, as well as allowing us to establish how many newly enrolled members were the sons of existing guild members, they provide information about their background, such as their place of origin. Rarely do we have both place of origin and family descent for the same guild. Where places of origin were recorded we can sometimes also distinguish between short-distance and long-distance migration. Short-distance migration was usually within the same region, county or province as the city under observation. Second, we can gauge the characteristics of the membership through apprenticeship. Craft guilds usually required their members to spend several years learning the craft. Not all apprentices would become masters, but this was a stage which gave individuals the potential to become a master. Therefore, evidence about the characteristics of apprentices will be used to help flesh out our picture of the openness – or lack thereof – of the premodern urban and corporate system in Europe.

Finally, one area where exclusionary mechanisms were also in force, was gender. This will be briefly discussed below, but is not the main point of this paper, which concentrates on kin and migrants.

I

Four theses have been proposed to explain variations in guild openness. The first refers to guilds' political influence: where guilds had a stake in local governance, they were able to erect barriers for newcomers.[19] A strong example comes from sixteenth-century Ghent. Before 1540, and again between 1579 and 1584, the guilds of Ghent had a strong voice in local government. Between 1541 and 1578, and again after 1584, the Habsburg government

[18] Wallis, 'Apprenticeship and training', p. 834.
[19] Landes, *Revolution in time*, p. 211; Stasavage 'Was Weber right?', pp. 341-42.

excluded guilds from local government and promoted an open-door policy for guild membership. The brewers, tailors, and other guilds in Ghent were forced to become more accessible to outsiders. The Ghent evidence suggests that, when left to their own devices, guilds preferred to exclude outsiders from their ranks.[20] An equally compelling example from the seventeenth and eighteenth centuries was uncovered by Ogilvie's investigation of the Wildberg weaving district in Württemberg.[21]

A second thesis that perhaps be seen as a variation on the first, might be inferred from the literature on state-formation. As states became more powerful, we should expect them to exert greater control over guilds, and support guilds' attempts to remain exclusive. Therefore, guilds in the eighteenth century might be generally more closed to outsiders than they had been in the seventeenth century.[22] Alternatively, it has been argued that states were promoting greater equality and therefore attempted to reduce the impact of 'special interests' like guilds.[23]

A third thesis looks at the size of communities. In his famous *German home towns* from 1971, Mack Walker connected the German guilds' strict admission rules to the tightness of the face-to-face communities in which they operated. His 'home towns' were typically communities of one to ten thousand inhabitants.[24] From a demographic perspective, Michael Sonenscher has made the same point: large and growing towns were in greater need of immigrants to increase their size.[25] If this is correct, we should expect more openness in larger towns.

The fourth thesis highlights regional variation. There is a broad consensus that English guilds became less important in the eighteenth century, although it has also been argued that this was not generally correct; in some economic sectors they became less powerful, in others they remained significant.[26] Ogilvie has expanded this idea to claim that whilst guilds in England and the Dutch Republic had become more open, those of the German lands remained exclusive.[27]

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[20] Dambruyne, 'Guilds', p. 51
[21] Ogilvie, *State corporatism*.
[22] Vries, *Economy of Europe*, p. 238; Ogilvie, *State corporatism*, p. 475.
[23] Epstein, *Freedom and growth*, pp. 36-37, 110, 146; Clark, *European cities*, p. 214; Stasavage, 'Was Weber right?', p. 353.
[24] Walker, *German home towns*, pp. 27, 30; but see also Hochstadt, 'Migration' for the opposite view.
[25] Garden, 'Urban trades', p. 293.
[26] Compare Forbes, 'Search, immigration', with Berlin, 'Guilds in decline?'.
[27] Ogilvie, *State corporatism*, pp. 436-37, 449; Hohenberg and Lees, *Making of urban Europe*, p. 128; for Britain alone: Landes, *Unbound Prometheus*, p. 62; Mokyr, *Gifts of Athena*, pp. 260, 269.

II

In the second half of the eighteenth century, the membership of the butchers' guild of 's-Hertogenbosch consisted entirely of people whose fathers, or fathers-in-law, had been or still were members of the same guild. Remarkably, new members were admitted as toddlers, i.e. before they could possibly have completed an apprenticeship or otherwise demonstrated their skills. The reason behind this unusual state of affairs was the fixed number of places, in the forms of stalls, in the town's meat hall, and the private ownership of those stalls.[28] This allowed the guild to impose cartel conditions on the meat supply. However, precisely because the butchers were in this position, the local authorities opened up the market to external suppliers in 1770, after the commander of the local garrison had complained that his soldiers were over-charged for their meat. Several new butchers then settled in 's-Hertogenbosch, among them eight Jews, and started to sell meat outside the meat hall. In 1773 the guild filed a bitter complaint, about how these outsiders were able to charge lower prices because they sold poor-quality product. The guild's privileges were restored – on the condition that its members would restrain their prices.[29] This state of affairs in the butchers' guild conforms with one popular image of the guilds: membership was routinely transferred from father to son, sometimes from father to son-in-law or mother to daughter. Inheritable membership was therefore the most exclusive mechanism that privileged established masters and their off-spring over outsiders, be they locals without previous connections to the guild, or immigrants.

Many guilds actively shaped their rules to favour the children of members: for non-family members it was between 1.3 and 2.7 times more expensive to join the Antwerp coopers' guild, depending on the fluctuating tariffs.[30] Among Dutch tailors' guilds the gap tended to be on the lower end of the Antwerp spectrum, but almost all of them discriminated against non-locals by charging them higher entrance dues; family members were treated even more favourably.[31] The question is to what extent such preferential treatment actually shaped the composition of the membership. Or to phrase this in a different way: were the butchers of 's-Hertogenbosch typical for the state of affairs among guilds of the period?

[28] In Paris, nearly half of all masters were sons of butchers: Watts, *Meat matters*, p. 108; for Antwerp: Jacobs, 'De ambachten in Brabant', p. 576.
[29] Erfgoed 's-Hertogenbosch, Municipal Archive of the City 1262-1810, 394: 28 April 1773, fol. 174r-177r and 395: 16 March 1774, fol. 101r-105v; also Prak, *Republikeinse veelheid*, pp. 95-96, 100.
[30] Willems, 'Loon naar werken?', p. 42.
[31] Panhuysen, *Maatwerk*, pp. 297-99

Table 1: Openness of guild mastership to people without a direct kinship connection, 1600-1799

	Open (> 2/3 outsiders)	Neutral (1/3 to 2/3 outsiders)	Closed (< 1/3 outsiders)	N=
1600-49	8	2	-	10
1650-99	7	1	2	10
1700-49	15	7	2	24
1750-99	16	6	2	24
total	*46*	*16*	*6*	*68*

Notes: the table reports the number of guilds (or in 5 cases towns) that are open, neutral, or closed (as defined on page 5), based on the share of new masters who have no kinship tie (through a parent) to an existing member of the guild.

Sources and further notes: see Data Appendix, Masters

The two most spectacular pieces of evidence that support the thesis that guilds offered preferential treatment to relatives, come from Northern Europe. The first are the butchers we already discussed, who happened to live in a region that is often portrayed as 'liberal', with 'weak' guilds, i.e. the Dutch Republic. The high percentage of sons in 's-Hertogenbosch was closely followed by an almost equally extreme example, the town of Wildberg in southern Germany. Wildberg, located in the Swabian Black Forest, had a population of 1,500-2,000. Its economy was dominated by the textiles industry, which was embedded in a larger regional proto-industry, dominated by the *Calwer Zeughandlungskompagnie*, a merchant guild that controlled both the production and the export of the worsted industry of the Calw and Wildberg area.[32] Together with Wildesheim, Wildberg is one of the two smallest town in our data-set.

Elsewhere – even in Wildesheim – the share of new masters who were sons or daughters of guild members were much more modest (table 1). In Wildesheim the weighted average of father-to-son successions was 35 per cent. In other regions this was the highest percentage, and in most guilds the numbers were well below this level. In England, masters' children only rarely exceeded twenty per cent of new masters, for France and Italy we found an unweighted average of 17 per cent. Three guilds in the Habsburg Low Countries record an average of 25 per cent. Data from eighteenth-century Hildesheim suggest that other relatives,

[32] Ogilvie, *State corporatism*, pp. 3, 106-11, and *passim*.

such as son-in-laws and new partners of masters' widows, could add substantial numbers. Four guilds there recorded sons making up 29 per cent of new masters, but another 32 per cent had married the daughter or widow of a master.[33] Additional data from London about other family connections than direct descent also suggest that these will push up the share of new members who had a family connection with the guild, but by much lower percentages.[34]

For the guilds and towns for which we have been able to collect information on apprentices, together covering over 445,000 individuals, the number of sons/daughters does not climb beyond one third and often remains well below that threshold. In England, apart from one outlier, the percentage never reaches thirty. In Lyon and Madrid, where direct information is missing, the percentage of local apprentices, which must by definition include those who followed in their father's footsteps, also hovered around one third.

The evidence as it is currently available shows that only in very exceptional circumstances were guilds dominated by dynasties of masters who passed on their businesses from one generation to the next. The normal situation was that a minority, often quite a small minority, of masters had entered the guild as the successor of their father (or mother). Our result confirms the related observation that endogamy among guild members was unusual.[35] Financial and other barriers were no doubt advantageous to relatives of established masters, but only rarely did they effectively prevent non-kin membership.

III

In January 1757 the journeyman stonemason Franz Strickner filed a petition with the council of Vienna, asking to be confirmed in his mastership. Strickner, who originated from the small border town of Eggenburg to the north-west of Vienna, had taken over the workshop of the Viennese master Matthias Winkler, on the condition that he would look after Winkler's widow and marry his granddaughter. All looked set for a successful career, but the guild refused him the opportunity to present a masterpiece, and therefore entrance to the guild. According to the guild's counter petition, the granddaughter was long dead, and the widow was rich enough to take care of herself. Instead of the outsider Strickner, the guild had a

[33] Calculated from Kaufhold, *Handwerk der Stadt Hildesheim*, 254 (table 3b).
[34] Leunig, Minns and Wallis, 'Networks', pp. 423-25.
[35] Mitterauer, 'Zur familienbetrieblichen Struktur'; Farr, *Artisans in Europe*, pp. 245-46; Kluge, *Die Zünfte*, p. 244; Leunig, Minns and Wallis, 'Networks', p. 425.

strong preference for the 'citizen and master's son' Carl Schunko, whose father had already tried to persuade Winkler's widow to allow Carl to take over the workshop.[36]

The records do not tell who was ultimately victorious in this conflict about masterships, but the story does highlight the contentious nature of access to the guilds. It also reinforces, at first sight, a suspicion in the literature about guilds' innate tendency to prevent outsiders from joining their ranks in order to advantage insiders. We have no way of knowing the strength of those intentions, but we can say more about the results of the actions by again looking at the distribution of insiders and outsiders, but this time from the perspective of migration. Using the three categories of 'openness' that we distinguished, produces the results presented in table 2.

Table 2: Openness of European guild mastership to migrants, 1600-1799

	Open (> 2/3 outsiders)	Neutral (1/3 to 2/3 outsiders)	Closed (< 1/3 outsiders)	N=
1600-49	4	2	1	7
1650-99	2	16	6	24
1700-49	13	11	3	27
1750-99	1	4	2	7
total	*20*	*33*	*12*	*65*

Notes: figures show the number of guilds (and towns) that are open, neutral, or closed (as defined on page 5), based on the share of new masters who did not originate in the town and city in question.

Sources: see Data Appendix, Masters

The table shows that most guilds fell into either the open and neutral categories, with a minority being closed. Had we dropped the 'neutral' category and split the data into just open and closed along the 50 per cent divide, 41 out of 65, or 63 per cent, would have been classified as open. A large part of this result is driven by the distribution in the first half of the eighteenth century, when German Europe (Berlin and Vienna) contributes a large share of the observations. Another way of looking at this is by distinguishing between larger and smaller guilds. For those guilds where we have over 1,000 observations, we see a greater tendency to

[36] Buchner, *Möglichkeiten von Zünft*, pp. 121-22.

openness, whilst smaller guilds were more likely to be closed. This result is dominated by the English data, however. In general, most guilds encompassed a substantial share of migrants among their membership; few were dominated by locals.

To what extent does the pattern of guild openness that we observe here support the four theses that exist to explain why guilds raise barriers to entry: their power over local government; the size of the community; divergent regional traditions; and change over time? The explanation that the local political 'regime' might have impacted on the ability of guilds to close their ranks is in one way difficult to evaluate: only a few of the towns in our dataset actually had governments in which guilds held much power. And two of those stand at opposite extremes: Wildberg was unusually closed, London was much more open. In another way our data suggest, however, that regime was not terribly important, as they show that even in towns where guilds were not directly involved in local government, guilds could fit into almost any point along the complete range from very open to very closed.

In the same vein we have to reject the view that guilds in England and the Dutch Republic were somehow more liberal because of regional differences in political economy and institutions (table 3). We find guilds in Spain and Italy that are as open as any in the Netherlands or England. London's pattern very much resembles Berlin and Vienna; only Paris looks more closed. Wildberg was, in other words, not typical for the German world, where other towns are similar to the European pattern, with a mixture of open, closed and neutral guilds. Remarkably, it is the Low Countries that turns out to have the highest percentage of exclusive guilds, one in four, whilst France, Italy and Spain together have the most open guilds.

Table 3: Openness of European guild mastership to migrants and non-kin, 1600-1799, by region

	Open (> 2/3 outsiders)	Neutral (1/3 to 2/3 outsiders)	Closed (< 1/3 outsiders)	*N=*
German Europe	12	10	5	*27*
Low Countries	12	3	5	*20*
England	6	28	5	*39*
Mediterranean Europe	10	3	0	*13*

Notes: figures show the number of guilds (and towns) that are open, neutral, or closed (as defined on page 5), based on the share of new prospective masters who did not originate in

the town and city in question, or were sons/daughters of masters in the same guild. Where both types of data are available, we have only used the percentage of migrants.

Source: see Data Appendix, Masters

If geography cannot explain guild openness, is town size perhaps a good predictor? It is by no means perfect, but table 4 suggests that it does a better job than the other theses. There is a clear drift from closed to open as we move from smaller to larger towns. The pattern is not entirely consistent, as we still find two closed guilds in the largest category, but otherwise the match is good. In a way, this should not come as a surprise, because large towns simply required large numbers of immigrants to grow to the size they had attained.[37]

Table 4: Openness of European guild mastership to migrants and non-kin, 1600-1799, by town size

	Open (> 2/3 outsiders)	Neutral (1/3 to 2/3 outsiders)	Closed (< 1/3 outsiders)	*N=*
<25,000	11	10	12	*33*
25-50,000	8	14	3	*25*
50-100,000	6	1	0	*7*
>100,000	21	18	2	*31*
Total	*46*	*43*	*17*	*106*

Notes: figures show the number of guilds (or towns) that are open, neutral, or closed (as defined on page 5), based on the share of new masters who did not originate in the town and city in question, or were sons/daughters of masters in the same guild. Where both types of data are available, we have only used the percentage of migrants.

Source: see Data-appendix Masters

As a large number of Europe's guilds were active in medium and small-sized towns, this result suggests that the pessimists have a strong argument: it is possible that the majority of guilds were closed, because they were located in small towns. However, because small towns also had small guilds, the impression is somewhat more optimistic if we think about the

[37] For England, see Williamson, *Coping*, p. 26.

numbers of individuals affected. In the Netherlands in 1795, almost 30 per cent of the population lived in cities of 10,000 and over, and only 12 per cent more in cities below the 10,000 mark. In England and Wales (1801) the percentages were 20 and 11 respectively. Our data thus capture the most substantial part of the population in these two countries. In Prussia (1801) only 8 per cent lived in large towns, but 14 per cent in small towns; in the German territories on the left bank of the Rhine (1806) the percentages were 7 and 10.[38] This suggests that the 'small town' numbers in table 4 better capture the German situation, whilst the 'large town' numbers are more representative for the Low Countries and England.

Still another way to think about openness of guilds, would be to compare the percentage of outsiders in their ranks with the percentage of migrants in the total population. There are clearly endogeneity issues here: if guilds dominated the local economy, they may have influenced migration data of the town as a whole. The data that we have for towns in Holland are unlikely to suffer from this problem. Most Holland towns were welcoming foreigners as a policy, especially during the seventeenth century.[39] The share of locals in the population were, therefore, unusually low at the time. In the eighteenth century, these towns experienced demographic stagnation, sometimes outright decline, and the numbers of immigrants went down accordingly. The Rotterdam goldsmiths and Delft painters were closed guilds, displaying substantially higher percentages of locals than the population as a whole. The Amsterdam tailors, on the other hand, had more immigrants in their ranks than we should expect on the basis of their share of the town's population, whilst the Haarlem dyers had more locals than the general population in 1663, but almost the same percentage in 1714. Other data about the Amsterdam population in the seventeenth century, which includes masters as well as journeymen, demonstrates huge variations along the locals versus immigrants axis. If we look only at incorporated trades, we find the bakers dominated by (German) immigrants, whilst the shipwrights were two-thirds locals. The bakers had more immigrants than the population as a whole, the shipwrights less.[40] Despite major variations between guilds, it looks as if, in Holland at least, guilds on average accepted a similar percentage of foreigners into their ranks as was present in the population as a whole. This is confirmed by data for Madrid, where the immigrant population between the mid-seventeenth

[38] Vries, *European urbanization*, p. 59.
[39] Lucassen, 'Holland', pp. 207-10.
[40] Kuijpers, *Migrantenstad*, ch. 6 and p. 406.

and mid-eighteenth century varied between 53 and 70 per cent among marriage partners. Two thirds of Madrid's guild membership came from outside the city.[41]

Guilds were, possibly, losing power as time went on, because the growth of markets and states decreased the need and scope for such producers' organisations. One might expect greater openness to be the result. If anything, the data suggest that guilds were becoming marginally less open over time (table 2). The share of open guilds measured by kinship falls from 80 per cent to 66 per cent between the early seventeenth and later eighteenth centuries. The share of open guilds measured by migration increases in the early eighteenth century, with the inclusion of a pool of German guilds, but otherwise hovers around a third. At the same time we see a decrease of openness in almost all guilds for which we have longer series with multiple sub-periods. This is even true for the English guilds, which were supposed to have become so weak.

Scattered data from the fifteenth and sixteenth century are insufficient to create a clear story about that earlier period. In the five quarter-centuries between 1375 and 1500 the percentage of masters' sons registered by the coopers' guild in late medieval Bruges fluctuated between 11 and 31. The weighted average came to 22 per cent, or approximately one in five.[42] In sixteenth-century Ghent, the percentages were much higher than that and the highest values were found for the periods when the guilds were in power.[43]

Marriage contracts from sixteenth-century Aix-en-Provence suggest generally more open guilds: none of the twenty-seven marriage contracts for tailors reports a tailor as the father of the groom. A similar pattern was found among the carders, tanners, and shoemakers of Aix. Only one out of eighteen tanners was a tanner's son. The weavers, on the other hand, tended to follow their fathers' profession and also frequently married weavers' daughters or women who were otherwise connected to the weaving community. This happened rarely in the more open guilds. For example, only three out of 36 shoemakers married a daughter or sister of another shoemaker.[44] These examples fit into the broader pattern that we observed for the seventeenth and eighteenth centuries but do not suggest a clear trend towards or away from greater openness.

[41] Carbajo Isla, *La poblacion*, p. &&; we owe this reference to José Nieto.
[42] Stabel, 'Mobility', p. 170.
[43] Dambruyne, 'Guilds', p. 51
[44] Dolan, 'Artisans', pp. 181-5.

IV

Thomas Gent was born in Ireland, probably in 1693. He started an apprenticeship as a printer in Dublin, but ran away to England in 1710. The published version of his autobiography actually starts with Gent being seasick on the ship that took him across. Finding no printing press in Chester, his first port of call, he travelled on to London, where he continued to learn his trade. In 1713 Gent had completed the seven years of training that was required under English law from every master artisan. At the end of his apprenticeship term, his master Midwinter offered Gent hospitality and protection: 'I do not prefer my interest to your good; and though you came [as] an almost stranger to me, God forbid that I should send you as such abroad.' He helped secure Gent some odd jobs and finally a place as a journeyman-printer in York. Subsequently, Gent returned to London and his former master, and in 1717 was accepted as a master (freeman) by the Stationers Company, the guild of London booksellers.[45]

Once again the question is: was Gent's experience typical? This time there is no short answer, because the picture is more variegated than with the masters (table 6). Taken together, we find roughly equal number of open and neutral guilds, and only fewer that are closed. Were we to split the results down the middle (50-50) we would have 15 closed and 24 open. Even though the margins are relatively small, the figures lean more towards the 'open' than the closed. As we saw earlier, this is confirmed by the numbers of apprentices with fathers in the trade; with two exceptions they all fall in the open category (31 observations, N= 445,889). As the examples of London (open) and Paris (closed) demonstrate, city size did not determine the pattern. London is the only city in our sample with a local government operating under the influence of guilds, but this can only lead us to conclude that guild influence did not automatically translate into closed guilds. The small sample makes it difficult to say much about the impact of time. In Leicester, Lincoln and in the Lyon silk industry the situation remained unchanged, but in Madrid, Bristol, Gloucester and London, as well as among the Antwerp goldsmiths, we see the percentages of locals creeping up.

[45] Gent, *The life*, pp. 11-12 (quote), 66-67; see also Gadd, 'The Stationers' Company'.

Table 6: Openness of guild apprenticeship to migrants 1600-1799

	Open (> 2/3 outsiders)	Neutral (1/3 to 2/3 outsiders)	Closed (< 1/3 outsiders)	N=
1600-49	2	2	2	6
1650-99	2	5	3	10
1700-49	6	4	2	12
1750-99	3	5	3	11
total	*13*	*16*	*10*	*39*

Notes: figures show the number of guilds (or towns) that are open, neutral, or closed (as defined on page 5), based on the share of prospective apprentices who did not originate in the town or city in question.

Sources: see Data Appendix, Apprentices

V

One very large exception to this general picture of mostly open guilds needs to be underlined: there can be no doubt that the great majority of guild members were men. This was at least partly the result of a deliberate exclusion of females. Especially in the late fifteenth and sixteenth centuries, partly as a result of the reinforcement of patriarchy during the Reformation, partly as a result of changes in the labour market, some guilds included clauses to this effect in their rule books.[46] In many more places the gender imbalance was simply the result of shared biases among the membership. The precise contribution of guild policies – explicit or implicit – is difficult to measure, because the distribution across the workforce would not be equal, even if there had been no obstacles, and because guild policies were embedded in broader societal patterns.[47]

Some crafts, however, give us a better sense of the relationship between guild control and gender discrimination. The production of clothes was generally separated by gender: males were dressed by male tailors, females by female seamstresses who also made children's clothing. Access for females to the clothing trades, which were usually incorporated, was formatted in three distinct ways: subservience in male-dominated tailors'

[46] From a more substantial literature, see Wiesner-Hanks, 'Guilds', Kluge, *Zünfte*, pp. 132-40, and Crowston, 'Women, gender and guilds'.
[47] Nederveen Meerkerk, *Draad*, pp. 162-3.

guilds, quasi-independence within tailors' guilds, or independent seamstresses' guilds. One such independent guild was established in Paris in 1675 and it quickly became the largest guild in the city, and home to the single largest group of apprentices. In Rouen a similar guild was set up, but in Caen, Aix-en-Provence, and Marseille seamstresses remained subordinate members of the tailors' guild.[48] Similar variations occurred in the Low Countries. In the Northern Netherlands seamstresses found it much easier to join guilds than in the South, where guilds were politically powerful and used their position to exclude women. As a result, the tailoring trade remained a male preserve in the South, where the ratio of tailors versus seamstresses was three or four to one in the smaller centres. The figures from the Low Countries also show that in the large centres (Brussels and Antwerp, but also Amsterdam) males and females were neatly balanced in the clothing trade, irrespective of the fact that in the latter city guilds had no direct role in local government and in the other two they did.[49]

VI

How exclusive were guilds? Measured by the share of migrants, among both apprentices and masters, most guilds were clustered at the upper end of the open category, and in the lower half of the neutral category. Closed guilds were a minority. This picture is reinforced when we consider the share of masters with family ties; only one out of six among the guilds investigated here recruited half or more of its members among the masters' children, whereas in forty per cent of our guilds less than one in five members were the sons or daughters of another guild member. Given the fact that the parents could also have transferred the property of a workshop and its equipment to their children, it is especially indicative that this was relatively unusual.

Our results suggest that blanket references to guild 'monopolies' are very misleading in many places. For both apprentices and guild masters, entry barriers did not result in very strict restrictions on entry based on social or geographical backgrounds. No doubt all kinds of obstacles stood in the way of joining the guilds, but those obstacles proved surmountable for large numbers of 'outsiders'. In many places, the so-called guild monopolies were accessible to such a wide range of people that the word loses its explanatory value.

[48] Crowston, *Fabricating women*, ch. 4, p. 402.
[49] Deceulaer and Panhuysen, 'Dressed', esp. p. 139 (tab. 5.1).

However, we should also acknowledge that there was substantial variation between guilds. One reason why the picture is mixed, must be that guilds themselves had conflicting interests: constricting admissions might generate economic rents but increased individual members' shares of the various financial and administrative burdens of guild membership.[50] Exclusionary policies on the parts of guilds, stimulated 'illicit' entrepreneurs to set up business outside the control of the guild, for example in the suburbs or the adjacent countryside.[51] The authorities were equally ambivalent: they wanted strong guilds to help them impose political and social control, but they also feared the guilds as potential platforms for revolutionary activities.[52]

Of the four theses that have been used to explain guild exclusiveness, we found support for only one. The size of towns was a reasonable predictor of guild openness. Most open guilds were found in larger communities, whereas small communities seem to have had more closed guilds. The caveat is that both our smallest towns were located in Germany. We can safely say that among our data, Ogilvie's results for Wildberg are in every respect among the most extreme we found and therefore cannot be seen as representative until further evidence has been found. Both commonplaces about regional differences across Europe and political regime proved to be a poor predictor of guild openness, and where indications were found of a decrease of openness, the trend was not very strong.

An instructive parallel is offered by immigration policies in the twentieth century. Nation states have the capacity to use citizenship to bar prospective migrants from entering their labour markets. The policies that states follow in practice have varied significantly, but the net effect has been to provide very substantial rents to the citizens of the developed world, if measured by unskilled wage differentials.[53] This is reflected in much of the debate surrounding the introduction of restrictive immigration policies in the United States prior to 1917; attention was focused squarely on the potential effects of international population inflows on the high wages received by American workers.[54] This offers a modern benchmark for the capacity of institutions to reward insiders, and one that is, we would suggest, indicative of far larger labour market distortions than existed in the early modern world. There were good reasons for the authorities in premodern societies to be wary of closing their communities to outsiders, but two stand out in particular. One is that urban communities

[50] De Munck and Davids, 'Beyond exclusivism'; Kluge, *Die Zünfte*, p. 231.
[51] Kaplan, 'Les corporations'.
[52] Reynolds, *Kingdoms*, pp. 68, 75; Soly, 'Political economy'.
[53] Hamilton and Whalley, 'Efficiency', estimate that abolishing all restriction on international labour migration would increase world GDP per capita in the 1980s by approximately 150 percent.
[54] Walker, 'Restriction of immigration'.

found it very difficult to reproduce themselves demographically. To maintain the size of the local population, not to mention fuelling growth, an influx of immigrants was simply necessary. Again, there is an interesting parallel here with modern welfare states.[55] The second is that all these communities, but especially the larger ones, found it difficult to consistently police the boundaries of their communities.

[55] Lindert, *Growing public*, pp. 205-07.

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Data Appendix Artisans

The appendix lists for each town for which we have data

- Name of guild
- Years of observation: where the dates cover more than one half century we have counted them in both half centuries; when the data straddle two half centuries they have been allotted to the half century with which there is the biggest overlap
- Population of the town, taken from De Vries 1984, pp. 269-87; we selected the value in the middle of the period covered by our data, or else the closest to these dates
- Immigrants: the percentage of the population born outside the city; for Amsterdam, Leiden, and Haarlem these come from J. Lucassen, Immigranten in Holland 1600-1800: een kwantitatieve benadering, CMG Working Paper 3 (Amsterdam 2002), pp. 25-28
- Government: 1 = guild participation, 0 = no guild participation
- Local: percentage of apprentices from the town itself
- Close: percentage of apprentices from the same county, but in England a 50km radius
- Far: percentage of apprentices from outside the county
- Sons/daughters: percentage of apprentices whose parents were members of the same guild

Note:

English towns: The exact sample size for each indicator varies depending on the availability of data for individual apprentice registrations. For distance, we use a random 5% sample for London and a random 20% sample for Bristol post 1700

Apprentices

place	trade	years	pop '000	imm	gov	local	close	far	Sons/ daugh	N=	source
Paris	all	1761	576		0	.72	.16	.12		815	Crowston (below)
Lyon	silk	1710-39	97		1	.29	.53	.18			Garden 1970, 57
		1740-69	114			.32	.61	.06			
		1770-90	100			.29	.55	.16			
		1710-90				*.31*	*.57*	*.12*		*1651*	
	various	1746-47	114			.26				405	Garden 1970, 63
Madrid	various	1607-99	96			.07	.22	.71		215	Lopez/Nieto 2016, tab.6
		1700-49	110			.28	.08	.64		131	
		1750-99	138			.47	.06	.47		289	
		1607-1799				*.30*	*.12*	*.58*		*635*	
Antwerp	silversmiths	1600-50	59		1	.75	.10	.15		32	De Kerf 2014, 98
		1650-1700	70			.78	.07	.15		123	
		1700-50	59			.83	.10	.07		58	
		1750-1800	53			.90	.03	.07		31	
		1600-1800									
	coopers	1671-1700	70						.34	635	Willems1999, 35
		1701-1750	59						.30	479	
		1751-1793	53						.17	186	
		1671-1793							*.31*	*1300*	
	cabinetmakers	1691-1760							.03	412	De Munck 2007, 166
	carpenters	1701-90							.08	975	De Munck 2007, 167
	tinsmiths	1711-50							.25	150	De Munck 2007, 165
		1751-90							.19	105	
A'dam	surgeons	1597-1659	120	.35	0	.67				1057	Schalk (below)
Haarlem	coopers	1649-68	38	.48	0	.03	.33	.64		61	Tump 2012, 127
	shoemakers	1736-97		.72		.91			.06	790	Boogerd 2017, tab. 1
Leiden	surgeons	1683-1729	55	.69	0	>.70			.15	391	Schalk (below)

Gloucester	all	1600-49				.36	.57	.07	.11	1789	Wallis (below)
		1650-99				.47	.49	.04	.15	2266	
		1700-49				.55	.42	.03	.18	1576	
Leicester	all	1600-49				.42	.56	.02	.22	131	
		1650-99				.39	.58	.03	.09	43	
		1700-49				.41	.56	.03	.07	199	
		1750-99				.44	.54	.02	.23	197	
London	43 guilds	1600-49			1	.18	.10	.72	.02	101914	
	68 guilds	1650-99				.32	.11	.57	.04	145180	
	75 guilds	1700-49				.51	.13	.36	.08	106307	
	73 guilds	1750-99				.62	.19	.19	.01	59545	
Boston	all	1650-99				.98[56]		.02	.15	259	
		1700-49				.25	.75	0	.64	411	
		1750-99				.03	.90	.07	.29	1069	
Bristol	all	1650-99				.45	.42	.13	.17	2227	
		1700-49				.53	.32	.15	.10	5290	
		1750-99				.62	.27	.11	.06	10157	
Lincoln	all	1650-99				.40	.58	.02	.23	603	
		1700-49				.29	.61	.10	.08	823	
		1750-99				.36	.60	.04	.08	748	
Shrewsbury	all	1650-99				.39	.52	.09	.28	331	
Liverpool	all	1700-49				.12	.64	.24	.02	701	

[56] Includes ‘close’.

Sources:

Paris: Archives nationales Y 9330, Y 9331, and Y 9332.

Amsterdam: Stadsarchief Amsterdam, Archief Gilden en het Brouwerscollege 366, inv. 254.

Leiden: Regionaal Archief, Archief der Gilden 0509, inv. 351.

English towns: Boston: Boston Town Clerk's Papers, Apprenticeship Registers, calendared by the Lincoln Family History Society; Bristol: for 1525-49 we use a sample covering 1533-34 from D. Hollis, ed. Calendar of the Bristol apprentice book, 1532-1565: Part 1 1532-1542 (Bristol: Bristol Record Society, 1949), for 1575-99, our sample years are 1590-91 from McGregor, ed. Calendar of the Bristol apprentice book, Vol. 4 : 1586-1593 (Bristol: Bristol & Avon Family History Society, 1994); for 1675-99 our sample years are 1584-96, from Bristol Record Office, MS 04353/2; for 1725-99, we use Bristol & Avon Family History Society, Bristol Apprenticeship Books Volumes 1(o) to 1(z) 1724-2009 (Bristol: Bristol & Avon Family History Society, 2012); Gloucester: we use J. Barlow, ed. A Calendar of the Registers of Apprentices of the city of Gloucester, 1595-1700 (Bristol and Gloucester Archaeological Society vol. 14, 2001) and J. Barlow, ed. A Calendar of the Registers of Apprentices of the city of Gloucester, 1700-1834 (Bristol and Gloucester Archaeological Society vol. 20, 2011); Lincoln: Lincolnshire Record Office MS Li/5/2, Li 5/4/1, Li 5/4/2, calendared by the Lincoln Family History Society; Liverpool: Power, M., Lewis, F. and Ascott, D., Liverpool Community, 1649-1750 [computer file]; London: data is drawn from Webb, C., London Livery Company Apprenticeship Registers, 48 vols. (London, Society of Genealogists, 1996-2005); Records of London's Livery Companies Online (www.londonroll.org), and M. Scott's calendar of Merchant Taylors' Apprentices. Oxford: for 1525-49 our sample covers 1530-49 and for 1575-99 we sample 1590-94 from A. Crossley, ed., "Oxford City Apprentices, 1513-1602", Oxford Historical Society, new series, vol. XLIV (Woodbridge: Boydell and Brewer, 2012); Shrewsbury: Shropshire Archives MS6001/126 (Glovers); 6001/4263 (Mercers); 6001/5837 (Tailors); 6001/3360 (Weavers); 6001/4583 (Smiths). Many thanks to Jill Barlow, Anne Cole, Matthew Davies, Mark Merry, Michael Scott, and Cliff Webb, for their generosity in sharing their work with us.

Data Appendix Masters

The appendix lists for each town for which we have data

- Name of guild
- Years of observation: where the dates cover more than 75 years we have counted them in two half centuries; when the data cover less than 75 years they have been allotted to the half century with which there is the biggest overlap
- Population of the town, taken from De Vries 1984, 269-87; we selected the value in the middle of the period covered by our data, or else the closest to these dates
- Immigrants: the percentage of the population born outside the city
- Government: 1 = guild participation, 0 = no guild participation
- Local: percentage of guild masters from the town itself
- Close: percentage of guild masters from the same county
- Far: percentage of guild masters from outside the county
- Sons/daughters: percentage of guild masters whose parents were members of the same guild

Notes:

For London, sons are defined as sons of masters in the same guild, not sons of any member of a London guild. Local is defined as coming from London or Middlesex. The share of locals and sons is expressed as a proportion of entrants by apprenticeship and patrimony (inheritance). Masters by purchase account for between 2 and 10 per cent of entrants in this period and we have no information on their origins.

Masters German Europe

	trade	years	pop '000	imm	gov	local	close	far	sons/ daugh	N=	source
Danzig*	Bakers	1640-1709	60			.53				416	Penners-Ellward 1954, tab 4-5
	Butchers					.47				181	
	Construction					.38				203	
	Coopers					.58				235	
	Textiles					.45				2257	
	Unweighted av.					*.48*					
Berlin*	Bakers	1709-50	77		0	.27	.05	.68		489	Kaeber 1934, tab 9-11
	Butchers					.36	.05	.59		303	
	Construction					.21	.07	.72		480	
	Coopers					.30	.16	.54		89	
	Metal					.34	.07	.59		689	
	Shoemakers					.24	.08	.68		913	
	Textiles					.15	.07	.78		2499	
	Unweighted av.					*.27*					
Vienna	Bakers	1742	175		0	.26				102	Ehmer 1997, 180, 182
	Bookbinders					.56				18	
	Brewers					.01				70	
	Butchers					.47				32	
	Cabinetmakers					.14				140	
	Coopers					.22				67	
	Goldsmiths					.48				116	
	Shoemakers					.15				555	
	Sword-cutlers					.70				36	
	Tailors					.13				640	
	Weavers					.10				31	
	All trades					*.24*	*.20*	*.56*		*4773*	
Wildberg	Worsted weavers	1598-1647	2		0				.60	247	Ogilvie 2004, 309
		1666-99	2						.91	131	
		1700-60	2						.91	228	
	All trades	1666-1760	2			>.90			>.80		Ogilvie 1997, 171-72

Hildesheim	Barbers	1700-49	11		1				.13	16	Kaufhold 1980, 253-54
		1750-99	11						0	23	
	Basketmakers	1700-49							.32	13	
		1750-99							.67	12	
	Blacksmiths	1700-49							.50	24	
		1750-99							.48	23	
	Smiths (other)	1700-49							.34	80	
		1750-99							.49	80	
	Tailors	1700-49							.06	68	
		1750-99							.23	99	
	Tinsmiths	1700-49							.38	13	
		1750-99							.20	10	
	Wheelwrights	1700-49							.53	15	
		1750-99							.45	11	
	Bookbinders	1750-99							.50	18	
	Unweighted av.	*1700-99*	*11*						*.35*	*505*	
Germany total										*11672*	

Notes

* = citizens

Masters Low Countries

place	trade	years	pop '000	imm	gov	local	close	far	sons/ daugh	N=	source
Rotterdam	Goldsmiths	1665	30	.45	0	.77				34	Tump 2012, 133
Amsterdam	Tailors	1730-1769	210	.49	0	.17				1345	Panhuysen 2000, 300
		1770-1798	210	.47		.23				1129	
Haarlem	Dyers	1663	38	.52	0	.83				36	Tump 2012, 131
		1714	33	.31		.65				60	Tump 2012, 131
Delft	Painters	1613	20	.60	0	.38	.22	.40		32	Montias 1982, 140
		1613-49	22	.45		.70	.20	.10		92	
		1650-1679	21	.40		.75	.25	0		40	
		1613-1679	*21*			*.65*	*.21*	*.14*		*164*	
's-Hertogenbosch	Butchers	1749-75	14	.52	0				100	120	Prak (below)
	Coopers	1749-75							.09	65	
	Goldsmiths	1749-75							.12	17	
Antwerp	Coopers	1671-1700	70		1				.24	177	Willems1999, 46
		1701-50	59						.30	204	
		1751-93	53						.35	89	
		1671-1795							*.29*	*470*	
	Tailors	1714-79	56						.22	813	Deceulaer 2001, 330
	Shoemakers	1766-90							.17	127	De Munck 2007, 164
Ghent	Woodworkers	1616-30	31		0				.23	137	Dambruyne 1994, 72
		1631-67							0	206	
Brussels	Tailors	1694-1786	71		1				.22	828	Deceulaer 2001, 330
Low Countries total										*5551*	

Masters England

place	trade	years	pop '000	imm	gov	local	close	far	sons/ daugh	N=	source
London	Clothworkers	1600-49	300		1	.18			.09	5341	Wallis (below)
		1650-99	490			.28			.14	4537	
		1700-49	625			.50			.21	3180	
		1750-99	770			.61			.24	1995	
	Apothecaries	1617-49				.26			.03	384	
		1650-99				.36			.07	1253	
		1700-49				.41			.09	383	
	Drapers	1600-49				.26			.12	2954	
		1650-99				.37			.16	2368	
		1700-49				.52			.22	1345	
		1750-99				.56			.20	981	
	Goldsmiths	1600-49				.27			.13	2234	
		1650-99				.38			.15	2150	
	Merchant Taylors	1600-49				.20			.10	11394	
		1650-99				.37			.18	7771	
		1700-49				.54			.24	3221	
		1750-99				.62			.26	1824	
	Stationers	1600-49				.34			.15	1539	
		1650-99				.45			.19	1898	
		1700-49				.62			.21	1709	
		1750-99				.68			.17	1992	
Bristol*	Bakers	1685-95	25			.39				53	
	Barber-surgeons					.52				65	
	Coopers					.40				158	
	Cordwainers					.46				78	
	Shipwrights					.47				158	
	Soapmakers					.37				79	
	Weavers					.73				73	
Lincoln*	All	1684-95	<10			.54				922	
Ipswich*	All	1650-1799	10			.68				2031	

England total										*64070*	

* = citizens

Masters France, Italy, Spain

place	trade	years	pop '000	imm	gov	local	close	far	sons/ daugh	N=	source
Dijon	All	1693-1730	22						.23	1822	Shepard 1986, 123
		1731-60	22						.13	2397	
		1761-90	22						.09	3661	
Rouen*		1600-99							.54	6840	Bardet 1983, 237
		1700-99							.59	8488	
Paris	Seamstress	1735-76	576		0				.08	5509	Crowston 2001, 329
	Locksmiths	1735-50	576						.20	186	Sonenscher 1989, 107
		1742-76	576						.34	346	
	All	1766-75	576						.26	13426	Crowston (below)
Turin	Tailors	1705	42		0				.05	288	Cerutti 1990, 163, 167
Madrid**	Various	1643-49	130			.33	.4	.63		569	Nieto/Zofío 2016, 260
		1700-49	110			.33	.12	.55		2187	
		1750-99	138			.30	.09	.61		3233	
Medit. Europe total										*48301*	

* percentages possibly refer to sons (daughters) who entered any guild, not necessarily the same guild as their parents

** recalculated without the 'unknowns'

Sources:

Sources Paris:

Source: London data except stationers: Rollco; Stationers, London Book Trade Database.