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Apprenticeship in Early Modern Venice

Giovanni Colavizza, Riccardo Cella and Anna Bellavitis

The desire of the Venetian state to regulate the production and sale of food led to the establishment, during the twelfth century, of the *Giustizia Vecchia*, a court that later developed an authority over the majority of the city's guilds. The further decision to create a public register of contracts of apprenticeship reflects the ambition of Venetian authorities to regulate and control both vocational training and access to the urban job market, acting as a guarantor between masters and young apprentices. This chapter presents an historical overview of apprenticeship in early modern Venice, examining the development of the city's legislation on the matter, and analysing a new sample of contracts recorded in the city's apprenticeship registers during the sixteenth and seventeenth centuries to investigate the implementation of these rules. In particular, we discuss the complex relationship between the general legal framework established by Venetian public authorities and the particular set of norms detailed in guilds statutes.¹

Our analysis reveals that apprenticeship contracts were used to accommodate a variety of situations, while following the general framework provided by state and guild regulations. We then present an in-depth study of apprenticeship contracts from three crafts (goldsmiths, carpenters and printers), chosen for their economic importance, and because they represented different realities in terms of technological specialization, capital (or labour) intensity and market typology. Our results highlight yet another aspect of apprenticeship in Venice: the influence of guilds. Some guilds such as the Goldsmiths, were more closed to foreigners, favouring Venetians instead. Apprenticeship in early modern Venice was an institution which, despite appearing to be highly regulated and formalized, accommodated a variety of realities with remarkable flexibility.²

¹ Previous research on apprenticeship in early modern Venice focuses on institutions (Lazzarini, 'Antichi ordinamenti'; Costantini, *L'albero della libertà economica* and 'La formazione professionale'), specific crafts (Vianello, *L'arte dei calegheri e zavatteri*; Trivellato, *Fondamenta dei vetrai*; Della Valentina, 'The silk industry in Venice'), or its relationship to the economic decline of Venice during the seventeenth century.

² The chapter is the result of a collaborative work, and it is part of the research project GAWS (*Garzoni: Apprenticeship, Work, Society*), funded by the *Agence Nationale de la recherche* (France) and the *Fonds National Suisse de la Recherche* (FNS), in collaboration with the universities of Lille3 (resp. Valentina

1. The institutional and historical framework

Apprenticeship in Italian cities was diverse in its structure and functions, and its edges were blurred. The variety of lengths, salaries and clauses found in apprenticeship contracts reflected the craft, the age and gender of the apprentice, and also the diverse relationships between the master and the apprentice or his/her family. The registration of a contract was not necessarily the beginning of a work relationship between two actors without any previous social or economic relationship. It was sometimes the conclusion of a probationary period, during which masters tested the apprentices.³ As an apprentice, the boy or girl was involved in several activities: learning the trade; working; taking part in the more general family life of the master. Domestic tasks were commonly expected of apprentices, especially girls, but other activities, ranging from selling in the shop to helping with the harvest were also mentioned in contracts.⁴

A recent study has shown that fewer than half of Italian guilds, in all kind of crafts, had specific rules on apprenticeship.⁵ Guilds' rules and apprenticeship contracts give very little information about what was actually taught to an apprentice or what they needed to know in order to become a member of a guild. This has certainly a lot to do with the 'mysteries' and the secrets of the crafts, but also with the continuous evolution of standards and quality requirements that was necessary in order to deal with competition. As pointed out by Mocarelli, in several Italian cities 'apprenticeships were not officially recognized. However, that does not necessarily mean they were non-existent. In various cases, in fact, it has been possible to discover that increasingly a private contract between the parties was adopted'.⁶ Nevertheless, apprenticeship regulations did exist in the most important Italian manufacturing centres, resulting in a variety of different legal frameworks.

The variety of contract terms also affected the methods of payment. Sometimes apprenticeship contracts were used to provide similar conditions to those given to journeymen. Even when they came closest, as in the textile industries of the great industrial

Sapienza), Rouen Normandie (resp. Anna Bellavitis) and the École Polytechnique Fédérale de Lausanne (resp. Frédéric Kaplan). We would also like to acknowledge the support of the State Archive of Venice and thank all the *Garzoni* team for their contribution. For more information see: <http://garzoni.hypotheses.org>.

³ Curatolo, 'Apprendistato e organizzazione del lavoro'; Caracausi, 'The price of an apprentice'; Maitte, "'Garzonetti" et "Garzoni"'.
⁴ Sciarrotta, 'Artigiani nella Salerno Settecentesca'; Klapisch-Zuber, 'Disciples, fils, travailleurs'.

⁵ Mocarelli, 'Guilds reappraised'.

⁶ Mocarelli, 'Guilds reappraised', 175-6.

cities of the Italian Renaissance – Florence, Milan or Venice – where apprentices did not commonly pay a premium to their master and received instead a *salario* (literally ‘salary’, but in most cases a one-off payment) at the end of their terms, the use of an apprenticeship contract entailed an institutional distinction with journeymen. In most cases, when compared to journeymen’s salaries, ‘apprenticeship salaries’ look almost symbolic: for example, in the wool industry of Florence, apprentices were paid up to 15 liras per year, while the average annual salary of a journeyman was about 500 liras.⁷ On the one hand, this payment can be considered an incentive to complete the contract, but on the other it sometimes resulted in sums that support the idea that apprentices could constitute a cheap labour force or compensate for a scarcity of waged workers.

Another difficulty in interpreting rules is the endpoint and language of apprenticeship, which are often vaguer than we might expect. Not only should the career trajectory from apprentice to journeyman to master not be taken for granted, but the meaning of the words used to designate those stages is debated by historians.⁸ Masters could head a workshop, with journeymen and apprentices under their authority, but they could also work under someone else’s authority. In some crafts, this distinction was captured by different titles: ‘chief-masters’ (*capo maestro*) headed the workshop while ‘masters’ (*maestro*) had passed the masters’ examination but lacked a workshop of their own.⁹ A crucial ambiguity sometimes existed in the language used for apprentices and waged workers: *garzoni* could either be apprentices or junior salaried workers.¹⁰ This was not always the case. In the Venetian glass industry two words, *garzonetto* and *garzone*, designated separate stages in apprenticeship, with the first used for younger apprentices who were not yet trained in glass-blowing.¹¹

We focus here on apprenticeships between individual masters and apprentices. However, apprenticeship within charity institutions was also widespread across Europe. In early modern Italy, institutions that provided an education and a dowry to poor girls were particularly important.¹² The likelihood that girls would leave their family home to become apprentices or servants is debated among historians and has even been offered as an explanation for the so-called ‘little divergence’ between Northern and Southern Europe.¹³ We shall not enter that debate here but will merely emphasise some simple facts. As part of the

⁷ Marcello, ‘Andare a bottega’.

⁸ Martinat, ‘L’apprendistato’.

⁹ Molà, *The Silk Industry of Renaissance Venice*; Della Valentina, ‘The Silk Industry in Venice’.

¹⁰ Caracausi, *dentro la bottega*.

¹¹ Maitte, “‘Garzonetti’ et ‘Garzoni’”.

¹² Groppi, ‘Dots et institutions’.

¹³ De Moor and Van Zanden, ‘Girl power’.

guild system, apprenticeship was much more accessible for boys, while domestic service was one of the most widespread activities for young women. Yet, the boundaries between domestic service and apprenticeship were often blurred.¹⁴

2. The Institutions of Apprenticeship in Venice

The existence in Venice of a specific court charged with recording apprenticeship contracts for the majority of guilds, albeit not all, is an exceptional opportunity for historians. The *Giustizia Vecchia* supervised all guilds, except those in wool, silk and Murano glass, which fell under the *Provveditori di Comun*, the *Provveditori di Comun* and *Consoli dei Mercanti*, and the *Podestà di Murano* respectively. After 1291, Venetian craftsmen had to inform the *Giustizia Vecchia* about any apprentices in their workshops. This rule aimed to protect apprentices from abuse by their masters, and to safeguard masters from misbehaviour by their apprentices. The master was obliged to record the *accordo* (agreement) with the apprentice in a register at the *Giustizia Vecchia*; sometimes this agreement could be preceded by a written contract (*cum carta*) made before a notary. The court's main task was to check whether the length of the agreement respected guild statutes; it could also change the salary and sometimes impose a tax on the agreement.¹⁵

Formally, guild statutes also had to be approved by the *Giustizia Vecchia*. Guild laws passed by the assembly of their members needed confirmation from the *Giustizieri* to obtain the force of State laws. Therefore, in disputes between artisans – including apprenticeships – the *Giustizia Vecchia* was the relevant court.

In 1396, the *Giustizia Vecchia* passed a new law about the registration of apprenticeship contracts. The main difference with the earlier system was an explicit prohibition against using a notary for contracts. The reason given was that apprentices were being forced to sign less favourable contracts in front of a public notary or the *Capi di Sestiere*, the magistrates that supervised domestic service.¹⁶ In 1444, the law became even stricter, with a fine of 100 *lire* for offenders. Masters were now obliged only to hire apprentices who were over a certain age (set by the guild) and to ensure they had adequate living and working conditions. Forty years later, the *Giustizieri* passed another law requiring the recording of both 'apprentices hired for a long time' (*garzoni ... accordati per lungo*

¹⁴ Bellavitis, *Il lavoro delle donne*.

¹⁵ State Archive of Venice (ASVe), *Compilazione Leggi (CL)*, b. 49, March 10th 1396 and Lazzarini, 'Antichi ordinamenti', 885.

¹⁶ ASVe, *CL*, b. 49, March 10th 1396 and Lazzarini, 'Antichi ordinamenti', 885-6.

tempo) and those hired yearly. At the end of the fifteenth century, Venetian craftsmen were required to register any apprentices hired for a period longer than one month.¹⁷

The surviving records of the *Giustizia Vecchia* cover the years 1575-1772, with some gaps.¹⁸ The number of apprenticeship contracts exceeds 53,000. The *Giustizia Vecchia* did not register journeymen, although some guilds kept their own registers. As mentioned, three of the most prominent guilds, the silk weavers, the wool producers and the Murano glass makers, were not included, nor was the most important state industry, the Arsenal. From 1586 to 1624 the population of Venice declined from 148,637 to 141,625.¹⁹ Given that during the 1590s, approximately one thousand contracts a year were recorded by the *Giustizia Vecchia*, apprentices in the guilds it covered represented less than 3.5 percent of the population.²⁰ This is just a rough approximation, but it indicates that apprenticeship was not as widespread as it was in London, for example. Instead, in Venice apprenticeship was, at least from an institutional point of view, strictly linked to the crafts and regulated by the guilds and the state. This contrast was noted in 1498 by the Venetian ambassador in London, who wrote that English parents did not love their children, because at the age of seven or eight they sent them as servants into someone else's house for seven or nine years calling them *aprendizi*.²¹

Interestingly, the expression used in the *Giustizia Vecchia* registers is not contract (*contratto*), but *accordo*, literally 'agreement'. According to an eighteenth-century handbook of Venetian legislation, a contract is a 'pact made between two or more people, with which one of the parties or each of them is obliged to give or do something, or agrees to give or do something for a third party', while an agreement is a 'consensus ... between two parties, who are contending' and generally is an out-of-court settlement whose main purpose is to solve to a conflict.²²

¹⁷ Lazzarini, 'Antichi ordinamenti', 889.

¹⁸ ASVe, *Giustizia Vecchia (GV)*, b. 112, r. 151 (1575-6), 152 (1582-3); b. 113, r. 153.1 (1583-4), 153.2 (1584-5), 154 (1591-2); b. 114, r. 155 (1592-3), 156 (1594-5); b. 115, r. 157 (1596-7), 158 (1597-8); b. 116, r. 159 (1598-99), 160 (1606-7); b. 117, r. 161 (1609-10), 162 (1620-21); b. 118, r. 163 (1621-22), 164 (1625-27); b. 119, r. 165 (1632-33), 166 (1642-44); b. 120, r. 167 (1644-46), 168 (1646-48); b. 121, r. 169 (1653-4), 170 (1656-58); b. 122, r. 171 (1658-60), 172 (1662-4); b. 123, r. 173 (1664-5), 174 (1669-71); b. 124, r. 175 (1681-82), 176 (1703-7), 177 (1707-10); b. 125, r. 178 (1710-3), 179 (1713-8), 180 (1724-36); b. 126, r. 181 (1736-51), 182 (1766-72).

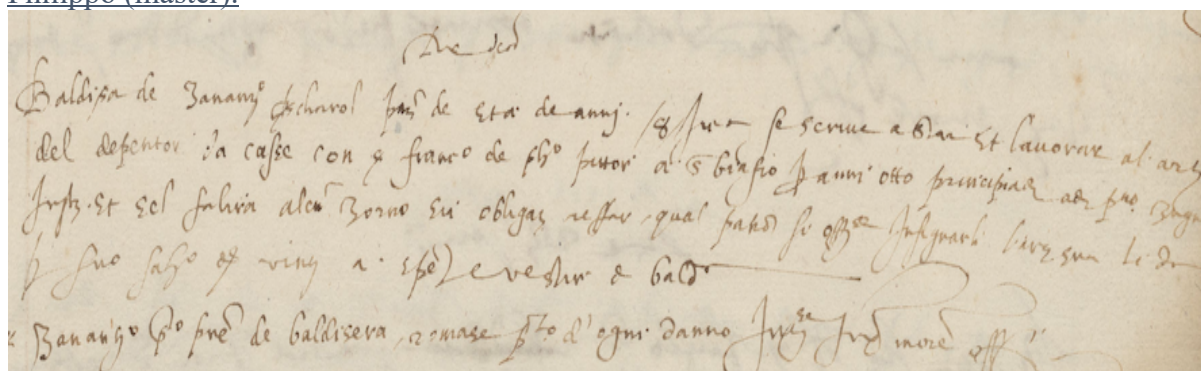
¹⁹ Beltrami *Storia della popolazione di Venezia*, 38.

²⁰ In 1592, 984 contracts were registered with an average length of 5 years. Other contracts have been recorded in a less systematic way by other magistrates or by notaries: research on these sources is still in progress.

²¹ Bellavitis, 'Maestre e apprendiste a Venezia'.

²² Ferro, *Dizionario del diritto*.

Figure 1: *Accordo* between Baldissera de Zuanantonio (apprentice) and Francesco de Philipppo (master).



According to the formula set out in the law, the contracting parties were the apprentice, most of the time underage, and the master. Contracts were typically brief (see Figure 1):

“Baldissera de Zuanantonio boatman, now about 8 y.o., registers to work as *depentor da casse* and to stay with *messer* Francesco de Philipppo painter in San Biagio for eight years, starting from next June 1st and if he will lose any day, he is obliged to recover it, and the master will teach him his trade, and he gives him a salary of 20 ducats and the apprentice has to buy his clothes”.²³

The name of a guarantor, usually the apprentice’s father or widowed mother, was not always registered. The *accordo* established two sets of mutual obligations: the master committed to teach his trade and to provide adequate living conditions (and sometimes a salary); the apprentice committed to remain with and work for their master for the full term of the contract. Sometimes, other obligations were also mentioned, such as providing clothing. From a legal perspective, these agreements were not exactly contracts in their own right, because contracts needed to be undertaken by adults, who were fully accountable for their acts, in the presence of witnesses.

Apprenticeship contracts had to respect the law as well as each guild’s rules. Compared to many Italian cities, the statutes of Venetian guilds are quite detailed on apprenticeship. The majority of guild statutes were first established in the thirteenth or fourteenth centuries and were modified over time. In 1519, the Council of Ten instituted a special magistracy, the *Cinque Savi sopra le Mariegole*, tasked with revising all guild statutes ‘for the good of our

²³ “Baldissera de Zuanantonio Barcharol [al] presente de età de annj 8 jn circa se scrive a star et lavorare al arte de depentor da casse con messer Francesco Philipppo pittor a San Biagio per anni otto principianti adi primo Zugno infrascritto et sel falara alcun zorno sii obligato reffar, qual patron si offerisse insegnarli l’arte sua, li da per suo salario ducati vintj a spese e vestir di Baldissera”, ASVe, GV, b. 112, r. 151, June 23rd 1575. Image: <https://images.center/iiif/0d4a6d1e-20dc-4ddd-80ea-2a035dc9dcad-000031/586,3286,3650,869/full/0/default.jpg>.

Venetians and of our city'.²⁴ The Senate passed numerous laws, often at the request of individual guilds, to regulate apprenticeship in particular crafts.

The rules of the Venetian crafts were complex and changeable. They mainly concerned contract duration, apprentices' starting ages, the number of apprentices masters could take, and exams for journeymen to become masters. For example, the Silk and Gold Weavers set the minimum length of apprenticeship at four years, while the Mirror Makers required five years. The statutes of the Glass Makers did not mention duration but set a minimum age for apprenticeship at fourteen years. The statute of Mirror Makers specified two exams and 'masterpieces', one to become a journeyman and another for mastership, while the Silk and Gold Weavers only examined new masters. The Mattress Makers demanded apprenticeships of two years. The Fustian Makers expected six years, yet reduced this to two at the end of the sixteenth century.²⁵ The Goldsmiths did not specify a length for apprenticeship, but required that seven years pass between starting one and taking the master's exam: after his apprenticeship, a young man could work in a goldsmith's shop before sitting the mastership exam.²⁶ At the beginning of the sixteenth century, the Cap Makers required a new master to have served as an apprentice for four years and as a journeyman for two, to be older than twenty, to pay taxes and entry fees, and to pass the exam.²⁷ In 1623 the Dyers' Guild forbade contracts with apprentices older than eighteen; the limit imposed by the Bricklayers' Guild was twenty, and twenty-five in the Boatmen's Guild.²⁸

The openness of Venetian guilds varied according to economic circumstances. In the fifteenth and sixteenth centuries, some guilds, such as the Silk Weavers and Wool Weavers, excluded foreigners, or required them to attain Venetian citizenship to become members and, especially, officers of the guild. However, it seems that it was only the Goldsmiths that always had different rules for Venetians and foreigners.²⁹ Guilds became increasingly closed to foreigners during the eighteenth century, as a consequence of the crisis of the Venetian economy. Laws passed at the start of the century were relatively permissive. For example, a 1719 law established that in guilds that 'have already been opened admitting subjects and foreigners', someone who had trained in another city, in the Venetian State or abroad, and

²⁴ ASVe, *Provveditori di Comun*, b. 1, *Capitolare*, f. 235, October 13th 1519, in the Council of Ten.

²⁵ ASVe, *CL*, b. 50, January 23rd 1512.

²⁶ Fiorucci, 'L'apprentissage dans les statuts'.

²⁷ ASVe, *CL*, b. 50, July 16th 1506.

²⁸ Lazzarini 'Antichi ordinamenti'.

²⁹ Mozzato, *La mariegola dell'Arte della lana*; Rauch, *Le mariegole delle arti dei tessitori di seta*; Perez, 'Apprentissage, transmission des connaissances'.

who lacked the capital to open a workshop as a ‘chief master’, could just pay the admission tax for workers. However, by the 1760s, the focus had changed. A law in 1767 restricted access to apprenticeship in many guilds. Apprentices in many food retailing guilds, and also, ironically, in the German Gold Beaters’ Guild, now had to be from the city of Venice. In other guilds, for example the Shoemakers and the Carpenters, apprentices had to be Venetian natives or subjects; guild officers now inspected apprentices’ baptismal certificates.³⁰ Other regulations passed in 1767 and 1768 also tried to protect the Venetian labour force. The guilds were divided into three groups: guilds for those born in Venice; guilds for those born in Venice or the Venetian mainland; and guilds open to Venetians and foreigners.³¹

Venice’s formal regulations on apprenticeship were not always fully enforced. According to a report by the *Inquisitorato alle Arti*, at the end of the eighteenth century more than 300 apprentices in 35 guilds were not registered; some had been with their master for more than three years.³² The degree to which apprenticeship rules were enforced is still debated; it is clear that several regulations were widely ignored, especially in the eighteenth century. Guilds monitored apprenticeship, yet they needed the support of the *Giustizia Vecchia* to enforce their regulations. The apprenticeship system became less and less effective during the last century of the Republic, as Venetian manufacturing, with a few exceptions, shrank, and new industries outside the guilds grew on the mainland.

3. Apprentices in Venice

We consider here a sample of apprenticeships registered at the *Giustizia Vecchia*. Our dataset includes 5,962 contracts,³³ selected to represent specific trades from three periods: the late sixteenth century (2,474 contracts, from 1582 to 1598), which was a period of renewed prosperity and demographic growth after the 1576-77 plague; the early seventeenth century, when Venice was struck again by a major epidemic (1,099 contracts, from 1621 to 1633); and the middle of the seventeenth century (2,389 contracts, from 1640 to 1665, plus a few later contracts), when the decline of the Venetian economy had commenced; see Figure 2. Our sample covers trades in several sectors: luxury and fashion (jewellers, gold beaters, tailors,

³⁰ ASVe, *CL*, b. 59, f. 833, April 19th 1721; f. 1009, September, 12th 1767.

³¹ ASVe, *IA*, b. 2, after 1771.

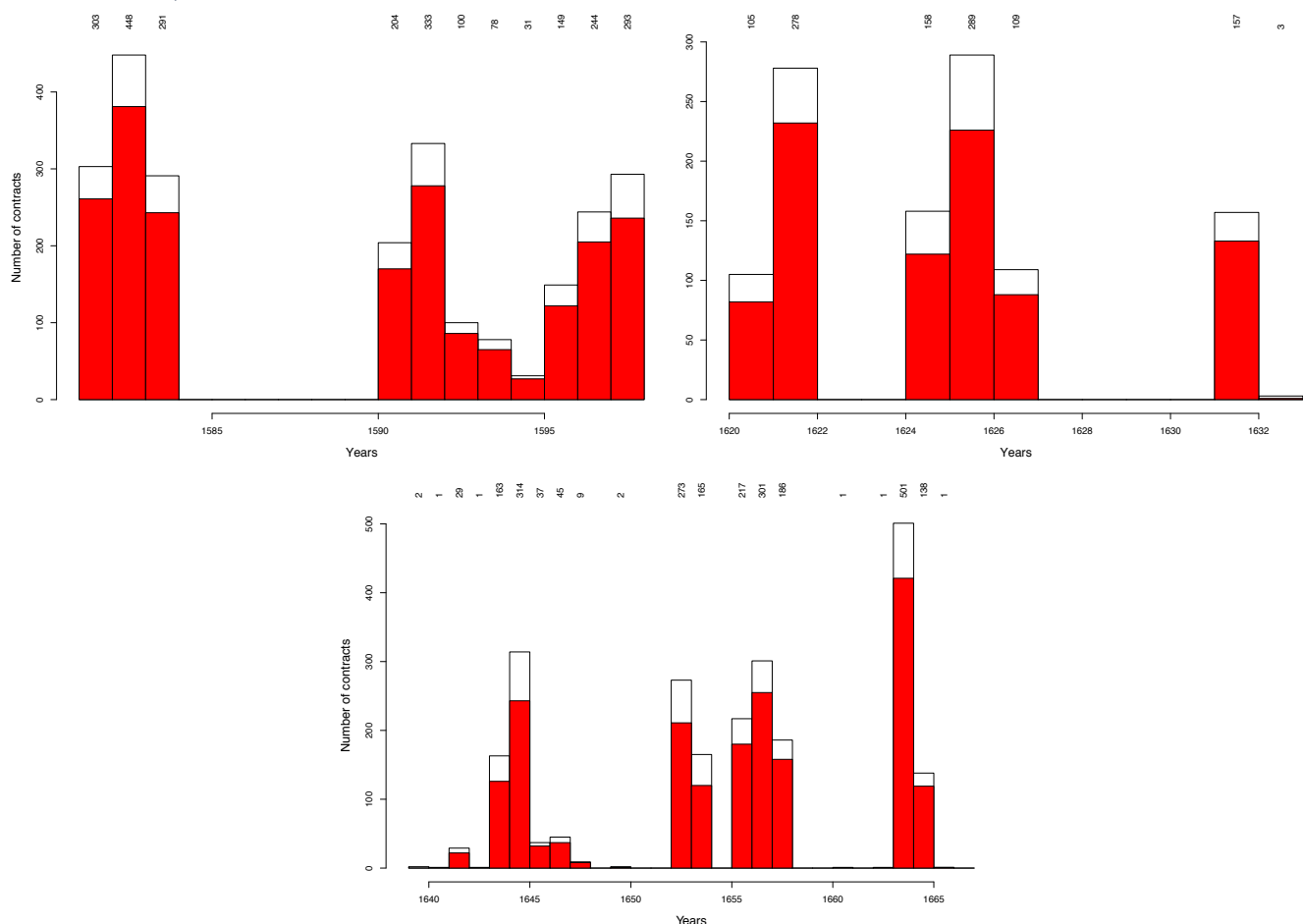
³² ASVe, *IA*, b. 2, no date but end of the eighteenth century.

³³ Our full sample includes 6,117 contracts, but we exclude contracts without a registration date (18) or which use foreign currency for payments, instead of Venetian ducats (137). The contracts are from: ASVe, *GV*, *Accordi dei Garzoni*, b. 112, r. 152; b. 113, r. 153-4; b. 114, r. 155-6; b. 115, r. 157-8; b. 118, r. 163-4; b. 119, r. 165-6; b. 120, r. 167-8; b. 121, r. 169-70; b. 123, r. 173.

shoemakers and mercers), art, architecture and furniture (painters, stonecutters, carpenters, glass makers) and printing. Unfortunately, partly as a consequence of this selection, it contains only 11 female apprentices and 59 female masters: women were mostly apprenticed in textile trades.³⁴

By sampling three periods, we can examine the stability of the terms of contracts. It has been suggested that during periods of crisis, even though many masters were unemployed, the number of apprentices did not collapse. Apprentices were instead used as an unskilled labour force and were rarely trained properly. As a consequence, during such periods, apprenticeship contracts were a means to control and exploit the workforce.³⁵

Figure 2: The distribution of contracts per year, for the three periods (top left to right to bottom).



Note: The shaded section of each bar records contracts that included a salary for the apprentice; the unshaded section are contracts without a salary. The total count of contracts is given above each bar.

³⁴ Bellavitis 'Apprentissages masculins, apprentissages féminins'.

³⁵ Rapp, *Industry and economic decline*; Pezzolo, *Il fisco*.

To ease comparison, we group the occupations in our sample into a hierarchy. An *activity sector* contains occupations which relate to the production or sale of similar goods or services and/or use similar materials. An *occupation* or trade is a recognised activity within a sector. A *specialization* is an identifiable sub-group within an occupation. A guild in Venice usually contained the masters of a single occupation or specialization, as in many textile guilds, but could sometimes cover one or more activity sectors. For example, the guild of printers and booksellers included all aspects of the production and distribution of books. It was organised in this way to sustain censorship as well as to control the market. Its registers usually state both the master's occupation and their apprentice's specialization: a master printer might register apprentices in specific specializations, for example as workers at the press. Occasionally contracts mention multiple specializations, and for simplicity we exclude these relatively rare cases in our analysis. The most important guilds and activity sectors in our sample are relatively stable across the sixteenth and seventeenth centuries, with two notable exceptions: printers virtually disappeared during the seventeenth century, while mirror makers were a new occupation which quickly became the most common craft in our sample.

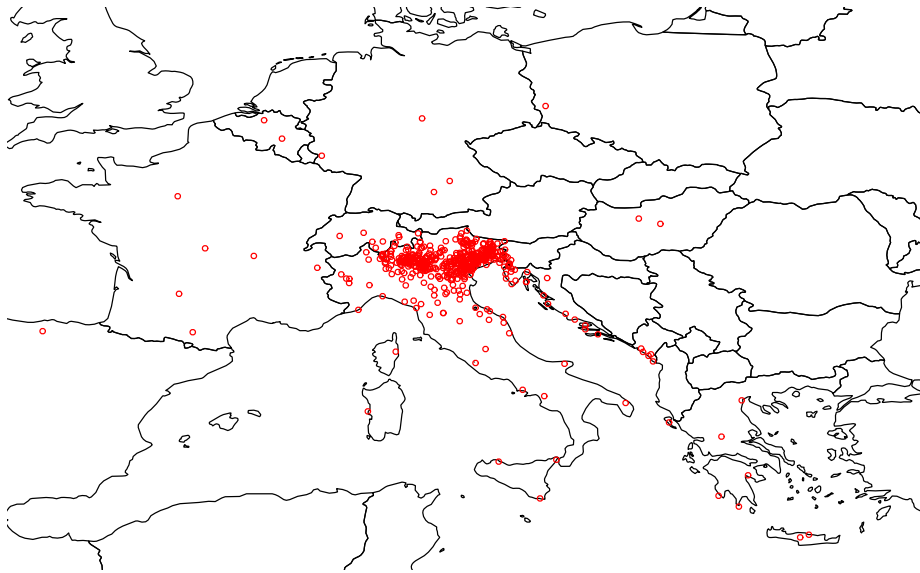
Who became an apprentice?

Several cities in the Venetian dominions, such as Padua, Vicenza, Verona, Bergamo and Brescia, possessed thriving economies with their own guilds and apprenticeship systems. Yet Venice was always in need of workers, even if this also depended on economic circumstances. The crisis of the seventeenth century may have reduced the importance of the capital compared to the mainland.³⁶

Signs of this change are apparent in the increase from 34% to 44% in the share of Venetians among the city's apprentices (Table 1), even though the city encouraged foreign immigration after the plague of 1630-31. Nonetheless, Venetians never exceeded half of registered apprentices, showing how important immigration continued to be for the city. Figure 3 illustrates the origins of Venetian apprentices at the European level. Despite Venice attracting some Spaniards, Germans, Frenchmen and Italians, the bulk of new apprentices came from Venice's own mainland. In general, all the main areas of the Venetian mainland were well represented: Bergamo, Brescia, Verona, Vicenza and Padua, Treviso, the Bellunese area and Friuli. Noteworthy, also are the Grisons and Milan.

³⁶ Lanaro, 'Corporations et confréries', 32.

Figure 3: The origins of Venetian apprentices.



Source: see text.

The pattern of migration into apprenticeships in Venice changed between the late sixteenth and mid seventeenth centuries, as can be seen in Figures 4a to 4c. In the late sixteenth century, Venice was still the main hub of the state, a position it gradually lost during the seventeenth century. The importance of Venice had dropped sharply by the 1620s and 1630s. By the 1640s to 1660s, Venice was attracting immigrants from nearby surrounding cities and countryside, or from the more underdeveloped areas of its territory, such as the Friuli, rather than the metropolitan centres in the western parts of the mainland.

Figure 4a: Apprentices, 1582-1598

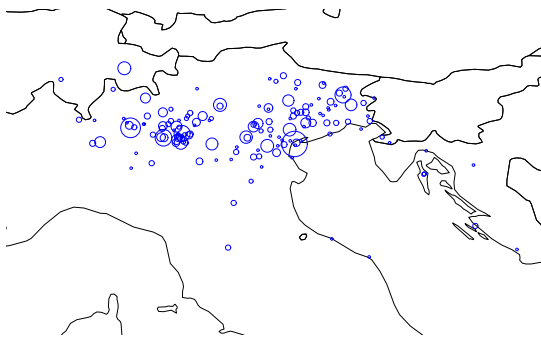


Figure 4b: Apprentices, 1621-1633

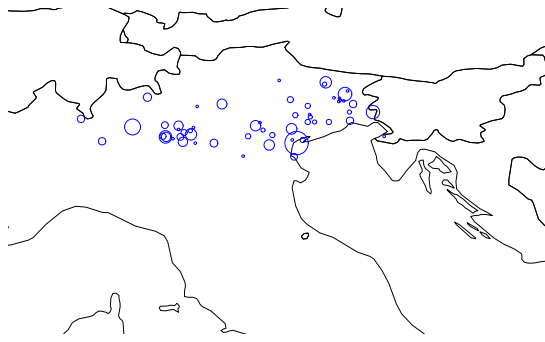
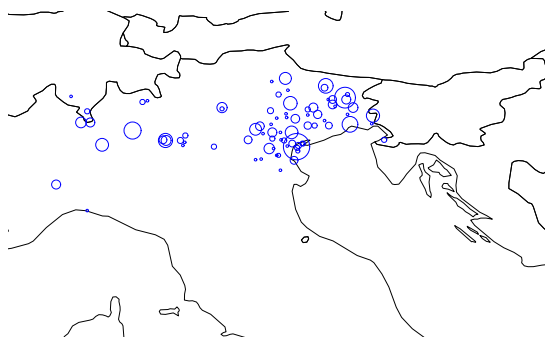


Figure 4c: Apprentices, 1640-1665



Note: The size of the circles is proportional to the logarithm of the number of apprentices from that place. Longitude and latitude coordinates have been approximated to second digit precision.
Source: see text.

Table 1: The characteristics of new apprentices in Venice.

| | 1582-1598 | 1621-1633 | 1640-1665 | All |
|--|------------------|------------------|------------------|------------|
| Age (years) | 14.4 | 14.7 | 14.4 | 14.4 |
| Term (years) | 5.2 | 5.1 | 5 | 5.1 |
| Male (%) | 99.6 | 100 | 99.9 | 99.8 |
| Female guarantor (%) | 6.8 | 4.9 | 3.3 | 5.1 |
| Father deceased (%) | 38.2 | 42.9 | 31.4 | 36.3 |
| Geographical origins (%) | | | | |
| Venice | 34.6 | 44.7 | 44.9 | 40.6 |
| Venetians (father deceased) | 35.1 | 34.8 | 28.3 | 32 |
| Foreign (father deceased) | 39.8 | 49.3 | 34 | 39.3 |
| Share of contracts giving master responsibility for: | | | | |
| Accommodation | 72.6 | 70.9 | 80.1 | 75.3 |

| | | | | |
|---------------|-------|-------|-------|-------|
| Personal care | 72.5 | 67.8 | 67.6 | 69.7 |
| Expenses | 72.3 | 71.8 | 80.1 | 75.5 |
| Clothes | 20.4 | 12 | 15.4 | 16.9 |
| N | 2,474 | 1,099 | 2,389 | 5,962 |

Source: see text.

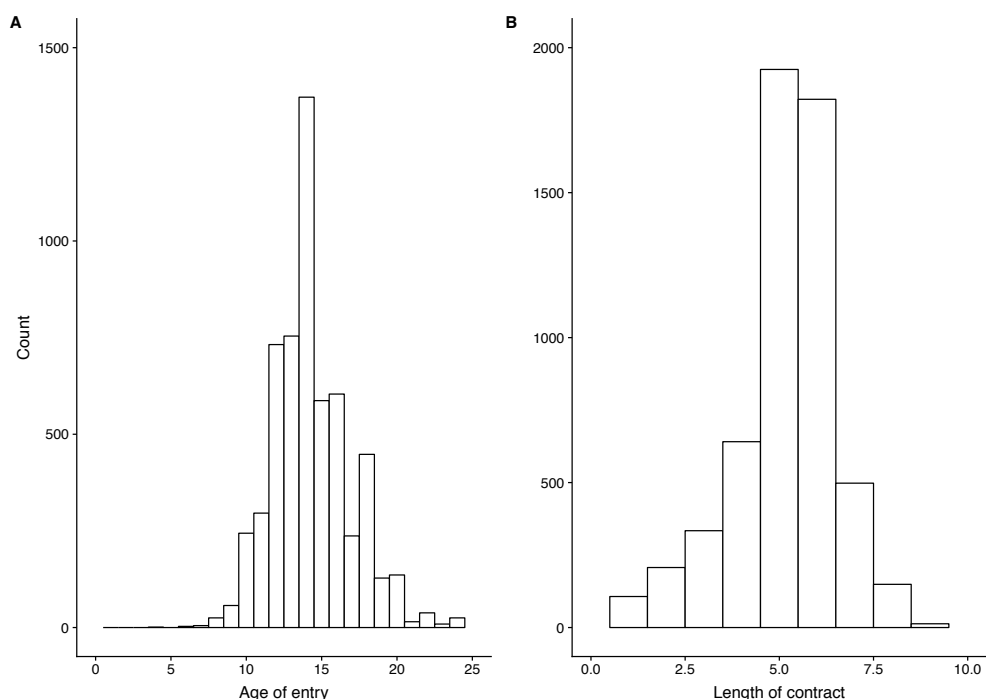
Previous studies showed that apprenticeships in Venice on average started at around age fourteen. The majority of contracts lasted four to six years, meaning apprentices finished their contract at around eighteen to twenty years old. There were some, exceptional, younger apprentices, but few older ones, whose occasional presence can be explained by the need to meet the minimum requirements for mastership.³⁷ Our data support these previous findings. Both the age of apprentices and the length of their contracts were stable over time, and normally distributed. In general, apprentices' age affected the length of their contract. Older apprentices tended to have shorter contracts and vice-versa.³⁸ For example, the 1,884 apprentices who were over fifteen years old entered contracts that on average lasted for four years, and the 240 apprentices who were over twenty-five years old, lasted just over three years on average, while the 1,574 apprentices below thirteen years old were apprenticed for six years, on average.

Although apprenticeships for older apprentices were usually shorter, they were not below the minimum duration set by guild rules. In general, most contracts were designed to finish when the apprentice was around nineteen. However, a considerable number of contracts did not meet the guilds' minimum terms. While perhaps not surprising in itself, as internal regulations could easily be overlooked, this disregard for guild requirements indicates that not all apprenticeships were expected to lead to becoming a journeyman or master.

Figure 5: Histograms of the age of entry (A) and length of contracts (B) in Venice.

³⁷ Lazzarini, 'Antichi ordinamenti', 877-8.

³⁸ Bellavitis, 'Apprentissages masculins, apprentissages féminins'.



Note: We exclude 246 contracts in which the apprentice was over 24 years old.

Masters in different occupations had specific preferences for apprentices who shared certain common characteristics, or *occupational profiles*, including their age at entry.³⁹ This preference was stable over time. Some occupations recruited older apprentices, for example mirror makers or press workers in a print shop, while others usually recruited younger apprentices, such as goldsmiths or stonecutters. It is difficult at this stage to explain this, as these occupations had no obvious commonalities in terms of the strength required, the geographical origins of the apprentices, or the degrees of specialization involved.

Apprenticeship was also part of the system for welfare and poor relief. A substantial proportion of apprentices had deceased fathers, as Table 1 shows, although it is difficult to know if the share was higher than in the wider population, particularly at times of plague. The drop in the proportion of orphans during the mid-seventeenth century might be due to the recovery through immigration after the plague.

Our data only contain a very limited number of female apprentices. However, the powerful way gender affected apprenticeship has been recently explored through a random sample of one thousand contracts from the end of the sixteenth century. Only 7 percent of apprentices were girls, mostly in textile crafts, retail and domestic service. The length of their contracts was extremely variable: apprenticeships in wool weaving could last from two to

³⁹ Colavizza, 'A View on Venetian Apprenticeship'.

seven years; in silk weaving from six to eight; in sewing from two to eight. In some cases, these differences depended on the age of the apprentice, but this was not always so. While boys were mostly apprenticed at the age of fourteen, girls started at a wider range of ages. Some, mostly in knitting or sewing, were very young, only four to six years old: they did not lodge with their masters or mistresses but returned home every night. A wage was usually paid at the end of these contracts, mostly in money, but sometimes in goods.⁴⁰

A crucial issue for our understanding of apprenticeships is the rate of completion. The practice of switching masters or interrupting a contract and registering a new one at a subsequent time, seems to have been relatively uncommon in Venice.⁴¹ When a contract was terminated with the mutual consent of both parties, the master and the apprentice asked the *Giustizia Vecchia* to cancel the agreement in the register, and cancellation entries usually concluded with the statement ‘they declare themselves satisfied and pleased’. The proportion of contracts that ended by mutual agreement has been estimated at under 10%.⁴² Similarly, the number that ended by a court decision was likely negligible due to the costs involved.

In Table 2, we report the proportions of apprentices declared to have run away in the registers of the *Giustizia Vecchia*. We distinguish between Venetian and foreign apprentices. On this evidence, only a small proportion of apprentices, around 11 percent, ran away. The share decreased over time among both Venetians and foreigners, although locals were consistently less likely to run away. Possibly, some foreign apprentices went to Venice for training, and then returned to their homeland to work, giving them little interest in official recognition by the city’s guilds.

Table 2: The proportion of early interruptions because the apprentice ran away.

| | 1582-1598 | 1621-1633 | 1640-1665 | All |
|----------------|------------------|------------------|------------------|------------|
| Apprentice (%) | 14 | 12.6 | 7 | 10.8 |
| Venetians (%) | 12.6 | 8 | 5.2 | 8.4 |
| Foreigners (%) | 14.8 | 16.4 | 7.9 | 12.5 |

Source: see text.

These figures are based on the Registers of the *Giustizia Vecchia*, where an interruption of any kind could be recorded in the margins beside a contract. Interruptions

⁴⁰ Bellavitis, ‘Apprentissages masculins, apprentissages féminins’ and ‘Maestre e apprendiste a Venezia’.

⁴¹ Colavizza, ‘A View on Venetian Apprenticeship’.

⁴² MacKenney, ‘The Guild of Venice’, 37-8.

were likely to be systematically recorded only when the apprentice was declared as ‘runaway’: this kind of evidence was the only proof a master could offer to support his wish to register a new apprentice, and at the same time respect guild caps on apprentice numbers.

Paying for Opportunity

One important aspect of apprenticeship in Venice was the degree of freedom to negotiate payments between parties. Compensation was given to either the apprentice or the master (no contract mentions both receiving payments), during or upon completion of the apprenticeship. There is no evidence that premiums were paid in advance to the master, although this practice existed in several other Italian cities. Colavizza suggests that, as a result, apprenticeship in Venice followed a *double-track* system.⁴³ On the one hand, large numbers of contracts stated that the apprentice would receive a regular wage or end-of-term payment. In these, the amount of (skilled and unskilled) work required of the apprentice likely surpassed the time spent on training. This was a *slow track* into the occupation, in which apprentices accepted less intense training and extra work in exchange for higher wages. On the other hand, another, smaller group of contracts included no wage or payoff for the apprentice, or even required payments to the master during or after the apprenticeship. These contracts emphasised training, and perhaps the apprentice’s good positioning to later enter the craft, offering a *fast track* into the occupation.

The most common practice in Venice was for an apprentice to be rewarded at the end of their contract, usually with a sum of money, or goods of an equivalent value. Most end-of-term payments were relatively small, but not negligible. As Table 3 shows, 74% of apprentices in our sample received an end-of-term payment. On average, they received 5 Venetian ducats for each year they served: 25 ducats in total, given the average length of contracts of five years. As in Florence, these were almost token payments, if compared to the wages received by other workers. Yet most apprentices also received food and shelter.⁴⁴ The size of end-of-term payments was relatively stable over time, even if perceptible differences existed, that depended on the craft, the apprentice’s age, and the length of the contract. These final payments provided both an incentive to complete the contract, and compensation for the work supplied by the apprentice.

⁴³ Colavizza ‘A View on Venetian Apprenticeship’.

⁴⁴ For comparison, see Zannini, ‘L’economia veneta’.

Three other regimes can be distinguished. Sixteen per cent of apprentices received no payment of any kind, and nor did their masters. This type of agreement became increasingly common over time. The other two regimes are more distinctive, representing two extremes: in one, apprentices received a regular wage, with contracts that equated to regular employment (very slow track); in the other, a payment was given to the master (fastest track).

In the first case, apprentices' average wages were substantially higher than most end-of-term payments. Wages which rise over time – usually increases occurred every one or two years – were common during the late sixteenth century but were later mostly replaced with stable wages. We consider these later payments to be akin to salaries because, despite being lower than the wages paid to living-in journeymen's, they were paid in yearly, half-yearly, monthly, or sometimes even weekly instalments, and the lack of an increase over time implied that the apprentice was not being compensated for their improved capacity due to training. Regular wages of this kind could perhaps also be the result of unregistered, pre-contract training, occurring during the period of assessment of the apprentice prior to formal registration. This might have led to a better deal being given to apprentices who were in fact already partly trained.

In the second case, when payments were made to the master, it is striking that the amounts paid were substantially higher, on average 16 ducats for each year. These payments were made by the apprentice's parents or close relatives. Several times, contracts specify that the payment was a contribution to the cost of lodging and training the apprentice; at times, they even detail how the training was to unfold. For example, Colavizza discusses an apprentice apothecary whose family paid decreasing amounts of money to his master to guarantee his training, and who was to be sent to school to learn how to read and write during his first year.⁴⁵

Table 3: The distribution and size of payments in apprenticeship contracts.

| | 1582-1598 | 1621-1633 | 1640-1665 | All |
|---|------------------|------------------|------------------|------------|
| Master to apprentice | 2074 (84%) | 884 (80%) | 1935 (81%) | 4893 (82%) |
| At end of contract (% relative to row above) | 1867 (91%) | 771 (87%) | 1755 (92%) | 4393 (90%) |
| Average amount | 4.4 (3.3) | 5.1 (4) | 5.9 (5) | 5.1 (4) |

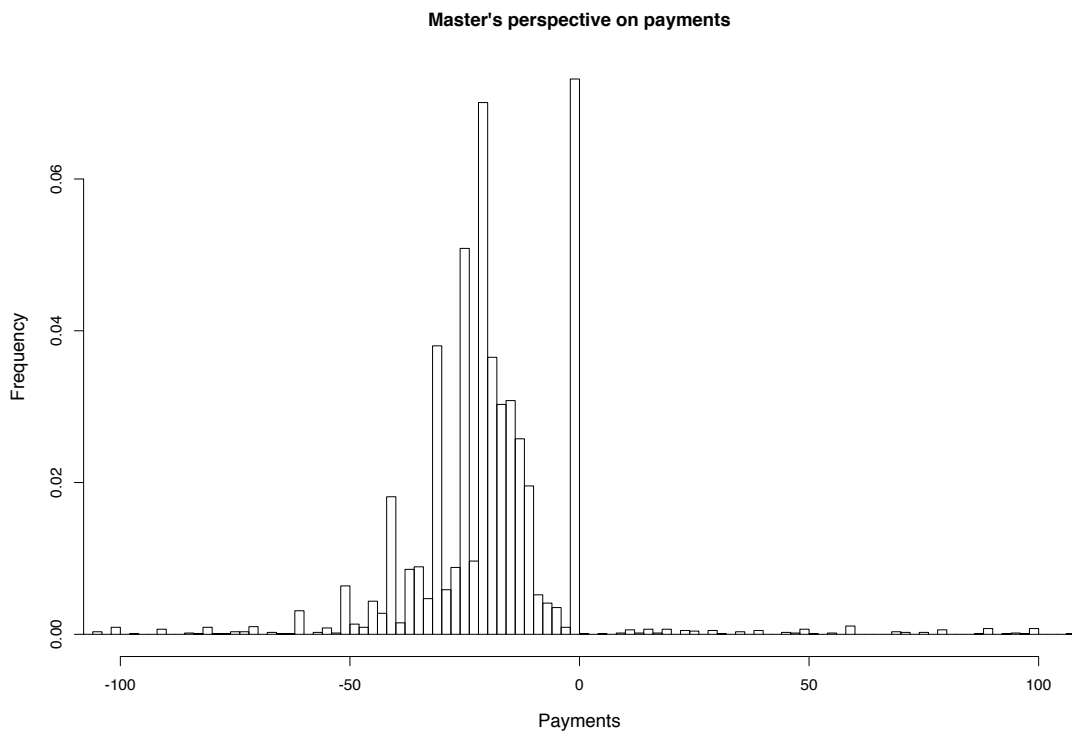
⁴⁵ Colavizza, 'A View on Venetian Apprenticeship'.

| | | | | |
|----------------------|-----------|-------------|-----------|-----------|
| Regular wage | 83 (4%) | 94 (11%) | 143 (7%) | 320 (7%) |
| Average amount | 13 (6) | 8 (6) | 9.7 (6) | 10 (6) |
| Incremental wage | 105 (5%) | 17 (2%) | 17 (1%) | 139 (3%) |
| Average amount | 7.8 (6) | 6.1 (6) | 10.9 (8) | 8 (6.3) |
| No payment | 333 (13%) | 169 (15%) | 371 (15%) | 873 (15%) |
| Apprentice to master | 67 (3%) | 46 (4%) | 83 (3%) | 196 (3%) |
| Average amount | 15 (10) | 17.7 (14.5) | 21.5 (20) | 18.4 (15) |

Note: Payments are normalised by the duration of the contract and given as amounts per year in ducats. The average size of payments is presented as the arithmetic mean with the median in parentheses.

The distribution of payments, given in Figure 6, highlights the variety of tracks taken by Venetian apprentices. Negative payments are sums given by the master to the apprentice; positive are payments from apprentices to their master. The long tails visible on both sides reflect the very slow and fast tracks, while the bulk of contracts involved a small payment or no payment being given to the apprentice.

Figure 6: The distribution of payments to apprentices, from the master's perspective.



Note: The plot is trimmed at plus and minus 100 ducats.

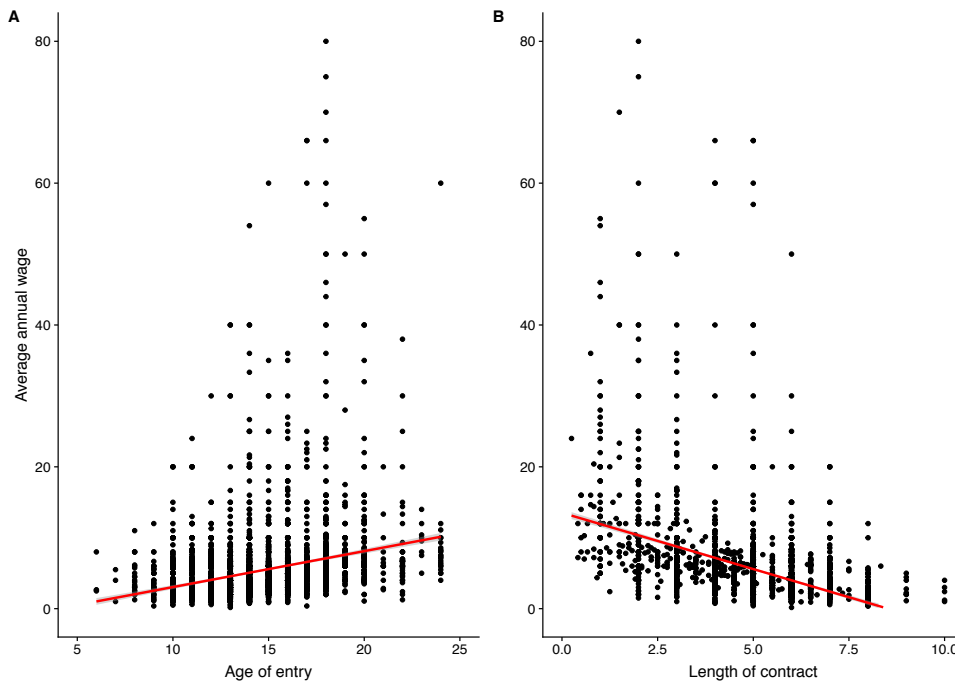
Payments between masters and apprentices have to be considered alongside the other elements of apprenticeship. These included accommodation, clothes and other expenses, and care provided to the apprentice, as in the case of illness. A small number of contracts also involved securities, given in kind or money to the master. Masters were usually expected to house and feed their apprentices, who typically lived with them, and supply other basic needs. Apprentices mostly provided their own clothes (cf. Table 1). More complex arrangements do appear, for example when special and costly tools were needed, but were uncommon.

The impact of other contextual factors on the size and direction of payments is clear from our data. Younger apprentices were less likely to receive a payment, implying they were less useful, or needed less incentive and perhaps more training: whereas 88% of apprentices aged over fifteen received a payment, only 78% of apprentices below thirteen years did. The shorter contracts entered by older apprentices were also associated with higher wages, further hinting at the use of apprentices as workers. Both trends are visible in Figure 7. Furthermore, conditions differed between Venetians and foreigners. Table 4 reports the proportion of each group whose contracts involved a payment to the apprentice. This was lower among Venetian apprentices, which may reflect their preferential access to guild occupations, or their lower propensity to run away, which reduced the need for masters to provide them with an incentive to finish their term. Differences are also visible between apprentices who had lost their fathers and those who had not. Only 45% of orphans received a payment, compared 55% of non-orphans, suggesting they had less bargaining power. The lower wages received by apprentices whose guarantor was female is a further indicator of this effect.

Table 4: The share of apprentices receiving payments from their masters, by origin.

| | 1582-1598 | 1621-1633 | 1640-1665 | All |
|----------------|------------------|------------------|------------------|------------|
| All (%) | 83.8 | 80.4 | 81 | 82 |
| Venetians (%) | 79.6 | 79.2 | 77.2 | 78.5 |
| Foreigners (%) | 86 | 81.4 | 84.1 | 84.5 |

Figure 7: The relationship of apprentice wages to their age of entry (A) and length of contract (B), Venice 1585-1665.



Note: The figures only include wages paid to apprentices. We exclude apprentices older than 24 years to reduce the effect of older, trained workers using apprenticeship contracts to circumvent guild rules. Red lines provide linear fits to the data.

Various trade-offs emerge as partial explanations for the mechanics of the contracts of apprenticeship in Venice: (a) Higher wages to the apprentice likely signify less intense training, while payments to the master reflect more intense training; (b) Shorter contracts, especially below guild regulations, entailed higher wages as compensation; (c) Younger apprentices received lower wages, probably because they were less fit and lacked previous training; (d) Less well represented apprentices received lower wages (father deceased, woman as guarantor); (e) Apprentices who were less likely to quit received lower wages; (f) Other contractual conditions could impact on wages, for example wages fell if the apprentice lodged with their master.

Points (a) and (b) are particularly relevant for the double track system, and the possible use of apprenticeships to secure workers, or anyway balance work and training intensity. The rest are part of a relatively standard model of apprenticeship.⁴⁶ We provide the results of an OLS regression in Table 6, where the average annual wage is regressed upon a set of predictor variables, including a control on the master's guild modelled as fixed-effect.

⁴⁶ Minns and Wallis, "The Price of Human Capital in a Pre-Industrial Economy".

Both models (with and without outliers) provide similar results. This analysis only considers payments to the apprentice, thus point (a) can only be discussed indirectly. That said, the results support the trade-offs just discussed. The length of the contract was negatively correlated and the age of the apprentice was positively correlated to the wage: older apprentices serving shorter contracts, a correlation previously observed by Hamilton in Montreal⁴⁷, were also paid more in Venice, implying that their main interest lay in the wage. Contract length had a greater effect than the apprentice's age in this respect. Wages were also lower when apprentices received accommodation and expenses from their master. In some cases, when regular salaries were paid, the wage was usually higher: these contracts may represent a rare win-win situation where initial training and subsequent compensation were given in order to retain the skilled apprentice until completion. Incremental salaries do show a minor effect, further balanced by their rarity (cf. Table 3). We cannot see conclusively that less well represented apprentices were discriminated against, at least with respect to orphans. Female apprentices and guarantors were so rare that any result in this respect is essentially inconclusive. Venetians were not discriminated nor favoured if they received a wage or payment, yet we know they were less likely to be in this category in the first place (cf. Table 4). There existed a correlation between some guilds and the chance for the apprentice to be paid, and on the amount of the wage. In particular, in a set of mostly luxury professions (drawers, painters, diamond cutters and jewellers, carvers, miniaturists, gilders, goldsmiths and turners), masters usually paid lower than average salaries, while in other professions (especially carpenters, colours and wax makers, bricklayers, stone cutters, glass makers and sand dealers) there was both a higher chance to get a payment⁴⁸, and a higher one at that. It is worth noting that the former group of guilds showed a higher than average proportion of Venetians taken as apprentices, despite the general lack of influence of the apprentice's origins on the wage.

In conclusion, Venetian apprenticeships mostly followed guild regulations and fitted well with standard models of apprenticeship in terms of the trade-off between the youth's need for training and the master's need for compensation for the risks and effort involved. There were exceptions. Masters sometimes used apprenticeships to hire skilled or semi-

⁴⁷ Hamilton, "The Market for Montreal Apprentices: Contract Length and Information".

⁴⁸ This results from a Probit model considering contracts with a wage to apprentices or not, which we omit for brevity.

skilled workers, in order to secure a cheap workforce in times of need. On the other hand, some apprentices were able to pay for speedier training and privileged conditions.

4. Case Studies: Goldsmiths, Carpenters and Printers

In order to delve deeper into the practical use of apprenticeship, we now compare five trades, spanning three activity sectors and their respective guilds: goldsmiths, a luxury, high-value trade; carpenters, both general carpenters and furniture builders; and printers, including typesetters and press workers. The characteristics of apprentices in these three sectors can be found in the Table 6.

These trades were among the largest in the sample. Mirror makers and mercers, two other guilds with numerous apprentices, were not considered because of the former's relative novelty and growth during this period, and the overly varied composition of the latter. Moreover, the three trades each had different markets, systems of production, amounts of training and capital, and workshop organisation. Carpenters produced a variety of goods of both high and low value and assisted in other manufacturing activities as well. Goldsmiths specialised in luxury objects, such as jewellery, where the market was smaller, but valuable, and workers' skills were likely higher. Lastly, print shops produced very specific goods through a well-defined division of labour between typesetters and press workers (plus more episodic activities such as proof reading).

Goldsmiths

The guild of Goldsmiths had been established 1233. According to their statutes, in order to become a full member, an artisan from Venice had to work for a master for 7 years and pay a fee of 3 ducats; while artisans from the mainland and foreigners paid 15 ducats.⁴⁹

Apprentices were thirteen on average when they started, younger than the norm, and served five years, around the median for the city. Combined with the period spent afterwards as journeymen, youths normally met the guild's regulations. An unusually high proportion of contracts were without payments to the apprentice (31%), and relatively few apprentices had lost their fathers (25%). Furthermore, Venice supplied an overwhelming majority of apprentices: 73% on average, increasing to 81% by the 1640s to 1660s. Probably as a consequence of this, relatively few runaways were recorded. If quits reflected a disregard for

⁴⁹ Biblioteca del Museo Correr, *Manoscritti, Classe IV*, n. 139.

a working future in the city, then this also suggests that the goldsmiths' guild was relatively closed, with a higher barrier to foreigners. As such, the high proportion of 'fast track' contracts, without any payment to the apprentice, may have been motivated either by the desire to guarantee training or simply the reduced need to incentivise completion.

Carpenters

The guild of Carpenters was founded in the fourteenth century.⁵⁰ The guild included four groups (*colonelli*) by the sixteenth century, defined by their products (furniture, frames, building etc). The contracts, however, reference several different specializations. The two we consider here, generic 'carpenters' and furniture makers, a more focused specialization, were numerous. After a minimum five-year training period, an apprentice could become a *lavorante* ('worker', or journeyman), by enrolling in the guild within six months; there was no exam. An exception was provided for the sons of masters, who simply had to register themselves as masters and pay an entry fee once they reached the age of 18. Most *lavoranti* specialized as generic carpenters, for which the mastership exam was likely easier; once they passed, they could use any specialisation within the craft. Perhaps the most dangerous consequence was that some masters reached only low skill levels.⁵¹ The exam required the construction of a square and a round door and a framework. The relative high share of apprentices who ran away (15%) was linked to one of the major problems for the guild: these unfinished ex-apprentices worked for other masters in an informal labour market outside guild control. Similarly, in the eighteenth century, according to the *Inquisitori alle Arti*⁵², many apprentices quit after two years of training; this suggests that the time needed to acquire the basic skills of the craft was shorter than the period required by the guild and the continued importance of the parallel 'black' labour market and opportunities outside Venice for youths.

The variety of specializations pursued by apprentices in carpentry increased over time. During the last period, among 167 apprentices, 49 specialized in mirror frames, 37 in veneering, 28 in wooden chests, 10 in walnut-wood furniture, and 7 in construction, as well as a few other specializations. General 'carpenters' accounted for only half of contracts, compared to nearly four-fifths during the late sixteenth century. Apprentices in carpentry were slightly older (14.5 years) than the overall average, and usually served longer terms than

⁵⁰ Biblioteca del Museo Correr, *Manoscritti, Classe IV*, n. 152.

⁵¹ Caniato and Dal Borgo, *Le arti edili*.

⁵² ASVe, *IA*, b. 58, Scrittura 3, September 1752 and Scrittura 5, May 1753.

the guild required. Most masters offered a modest payment to their apprentice on completion. One apprentice in four was from Venice, and there was no obvious difference between the treatment of locals and foreigners. The proportion of locals varied between specializations, but contractual terms were similar. Finally, the ratio of apprentices recorded as running away was just above average (15%).

In the Carpenters' guild, apprentices possibly had a greater importance as a source of skilled and unskilled labour. The wage or final payment offered to the apprentice in the large majority of contracts suggests the need for an incentive to encourage completion and implies that youths contributed significantly to the productivity of workshops while they were training.

Printers

The guild of Booksellers and Printers, the *Università de librai e stampatori*, was officially established by the Council of Ten in 1548-49, as part of an effort to control the sector through censorship and workshop regulation. In 1572, the guild revised its admission procedures, requiring new masters to serve a five-year apprenticeship, properly registered at the *Giustizia Vecchia*, followed by three years as a journeyman: 'he shall then be examined by experts named by the prior and officers of the guild, and, if found able, he shall, on the payment of five ducats, receive matriculation'. Foreigners needed to work for five years in the city before taking the exam; their fee was ten ducats. Sons of masters paid nothing.⁵³ No further regulations were introduced until the later eighteenth century, when several attempts at reform and regulation occurred. For example, in 1767, the *Riformatori allo Studio di Padova*, responsible for regulating the sector, imposed a limit of one apprentice per master and banned any workshop from taking new apprentices for the next fifteen years, in an attempt to recover the long-past quality in the activity.

Printers' apprentices fell into one of three groups: press workers (*torcoleri*), typesetters (*compositori*), and general printers (*stampatori*). In general, they were slightly older (14.5 years) than average, entered contracts of around five years, as specified by guild regulations, and nearly all (96%) received a wage or final payment from their master - above the sample average. Both the share with deceased fathers, and the share who absconded were around average. The distribution of locals across the three specializations was uneven: press workers included few from the city (14%), typesetters fell in the middle (25%), while most

⁵³ Brown, *The Venetian Printing Press*, 88.

general printers were Venetians (55%). The explanation for this is uncertain. However, we do know that the press workers incorporated two specializations: the *battitore* inked and changed sheets, and the *tiratore* operated the press. Their work was repetitive and fatiguing. The two roles required different levels of skill, and *tiratori* were usually paid more than *battitori*, sometimes even more than typesetters.⁵⁴ In our sample *tiratori* were on average older, served shorter contracts and were paid more, typesetters were younger, had longer contracts and less pay, while generic *stampatori* fell in the middle. It is not clear whether the *torcoleri* apprentices registered in the *Giustizia Vecchia* included both *battitori* and *tiratori*: it is possible, though, that some apprentices to the better paid *tiratori* specialization were following a slow track, which would explain their contractual terms and fit with their origins abroad.

In sum, we find many similarities and few specificities between apprenticeship in these three trades. Apprenticeship contracts generally remained within the bounds of guild regulations, with most contracts lasting long enough to qualify the youth for entry to the guild. However, some specific guild and trade characteristics do emerge. Goldsmiths stand out as a strongly local, Venetian guild, with a larger share of apprentices who did not need the incentive provided by a payment to complete their contracts, and who were more likely to follow a fast track. By contrast, Carpenters and Printing press workers provided a basic payment to the large majority of apprentices, and very rarely used fast track contracts. Compositors and workers at the press further highlight how even within the same guild different trades adapted contracts to match the profile of the apprentices they needed.

Conclusions

Apprenticeship in Venice was only one of the ways in which vocational training could be provided. Hospitals and charitable institutions offered opportunities for training to orphans or poor children. At the same time, official apprenticeship rarely accounted for training within the family: from father to son, mother to daughter, or husband to wife. These alternative paths to training remain obscure due to the lack of formal records. In other cases, oral or notarial apprenticeship contracts were often simply never registered officially, as witnessed by the frequent, futile reminders of masters' obligations issued by the authorities. Nevertheless, both the state and the guilds put much effort into regulating apprenticeship.

⁵⁴ Richardson, *Stampatori, autori e lettori*, 34-5.

Both were interested in apprenticeship for a variety of reasons, including responding to the specific needs of a craft, assuring the reproduction of a skilled workforce while limiting exploitation during training, and regulating the city's labour markets, whether by opening them to foreigners after major epidemics, or closing them during periods of economic crisis. As the cases of goldsmiths, carpenters and printers show, trades attracted different types of apprentices, varied the incentives they provided, and differed in their openness to foreign workers. For example, goldsmiths hired a substantially higher proportion of Venetians and paid in general lower wages, while printers adjusted their preferences and contractual conditions to different tasks (print press worker or compositor). The provenance of apprentices also changed over time, as Venice's role in its subject territories shifted and the city drew immigrants from an increasingly smaller area on the mainland

Apprenticeship in early modern Venice possessed some strong common features, in terms of the age of entry (14 years), the length of contracts (5 years), and the adjustments used to accommodate a variety of situations, especially the payments to masters or apprentices. Most contracts entailed a payment to the apprentice from the master (82%), which depended on the apprentice's trade and age, the contract's length, and the form of the payment. Importantly, contracts for locals and foreigners specified similarly sized payments to apprentices when these were included in the agreement, and the proportion of contracts including a payment did not differ significantly. Nevertheless, payments from apprentices and their families to masters were more common among local apprentices.

Our data therefore suggests the possible existence of a double-track system of apprenticeship in Venice, reflecting different balances between training and working. At one end, the amount of work expected from an apprentice receiving an end-of-term payment or wage, even if it was still inferior to that of a journeyman, was likely greater, and their training less intense, than that expected from an apprentice who received no payment or who paid his master. Such a system, largely identified in previous studies during period of economic crisis, may have been a regular feature of apprenticeship in Venice. Indeed, despite its changes and adaptations, the main feature of Venetian apprenticeship was its high degree of flexibility, to be sure a characteristic shared with other cities in the Italian peninsula.

Data and code availability

All the data and code supporting this chapter are openly available:
<https://doi.org/10.5281/zenodo.2652855>.

Table 5: OLS regressions on the determinants of the payments given to apprentices.

| | <i>Dependent variable:</i> | |
|--|----------------------------|----------------------|
| | Average annual wage | |
| | (1) | (2) |
| Venetian (yes = 1) | -0.004 (0.017) | 0.015 (0.014) |
| Year | 0.004*** (0.0002) | 0.003*** (0.0002) |
| Length of contract | -0.193*** (0.005) | -0.118*** (0.005) |
| Age of apprentice | 0.027*** (0.003) | 0.023*** (0.003) |
| Orphan by father (yes = 1) | 0.003 (0.016) | 0.011 (0.014) |
| Apprentice fled (yes = 1) | 0.003 (0.019) | 0.012 (0.016) |
| Accommodation (paid by master = 1) | -0.203*** (0.047) | -0.269*** (0.040) |
| Personal care (paid by master = 1) | -0.043 (0.029) | 0.023 (0.024) |
| Clothes (paid by master = 1) | -0.014 (0.017) | -0.014 (0.014) |
| Generic expenses (paid by master = 1) | -0.122*** (0.042) | -0.141*** (0.036) |
| Female guarantor (present = 1) | -0.023 (0.030) | 0.006 (0.024) |
| Gender of apprentice (male = 1) | 0.060 (0.126) | -0.019 (0.104) |
| Gender of master (male = 1) | 0.013 (0.067) | 0.029 (0.059) |
| Periodization of salary (one final instalment = 1) | -0.335*** (0.026) | -0.147*** (0.024) |
| Incremental salary (yes = 1) | -0.087* (0.048) | -0.019 (0.042) |
| Venetian orphan by father (yes = 1) | 0.018 (0.026) | 0.006 (0.022) |

| | | |
|-------------------------|-------------------------------------|-------|
| Observations | 4,533 | 4,010 |
| R ² | 0.527 | 0.511 |
| Adjusted R ² | 0.521 | 0.504 |
| Residual Std. Error | 0.406 (df = 4475) 0.319 (df = 3952) | |

Note: *p<0.1; **p<0.05; ***p<0.01

Note: The dependent variable is the total payment to the apprentice divided by contract duration. The model includes a control for guilds as fixed-effects, see the text for details. Robust standard errors are given in parentheses; * = Significant at the 1 percent level; ** = Significant at the 5 percent level; *** = Significant at the 1 percent level. Model 1 includes all data; Model 2 has outliers trimmed. Outliers were detected using Cook's distance. This excluded all contracts with an annual salary above 10 ducats p.a.; apprentices below 5 or over 20 years old; contracts below 1 and above 10 years long. Model 2 passed all standard diagnostics for OLS. In model 1 both the dependent average annual salary and the length of contracts are skewed. We maintained the original values for comparison with model 2, where transformations are not warranted (by Box-Tidwell tests).

Table 6: The characteristics of apprentice carpenters (C), goldsmiths (G) and printing press workers (P).

| Period | 1582-1598 | | | 1621-1633 | | | 1640-1665 | | | All | | |
|------------------------------------|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|-------|--------|--------|
| Sector | C | G | P | C | G | P | C | G | P | C | G | P |
| Age (years) | 14.6 | 13.6 | 15 | 15 | 13.2 | 12.6 | 14.2 | 13.6 | 13 | 14.5 | 13.5 | 14.5 |
| Term (years) | 6 | 5 | 5 | 6 | 5 | 6 | 6 | 5 | 5 | 6 | 5 | 5 |
| (range) | (1- 8) | (1- 9) | (1-10) | (2- 8) | (1- 8) | (3- 8) | (1- 8) | (1-10) | (2- 7) | (1-8) | (1-10) | (1-10) |
| Male (%) | 100 | 100 | 99.1 | 100 | 100 | 100 | 100 | 100 | 97 | 100 | 100 | 98.9 |
| Female guarantor (%) | 3.5 | 8 | 2.3 | 5 | 7 | 15 | 1 | 5 | 6 | 2.7 | 7 | 3.4 |
| Father deceased (%) | 43 | 24 | 44 | 53 | 25 | 0 | 30 | 27 | 41 | 39 | 25 | 41 |
| Venetians (%) | 20 | 58 | 22 | 24 | 81 | 46 | 32 | 81 | 68 | 26 | 73 | 29 |
| <i>Contract Terms</i> | | | | | | | | | | | | |
| Payment from master | 96 | 66 | 98 | 88 | 77 | 77 | 91 | 66 | 3191 | 93 | 69 | 96 |
| Amount paid (A/M) | 3.4/3 | 6/2.6 | 4.8/4 | 3.2/3 | 4/3 | 3.7/3 | 4/3.3 | 7.4/4 | 5.7/5 | 3.6/3 | 6/3 | 4.9/4 |
| Venetians, payment from master (%) | 94 | 69 | 100 | 90 | 81 | 83 | 92 | 69 | 87 | 92 | 73 | 95 |
| Payment to master (%) | 0.3 | 8.5 | 0 | 0.8 | 6.3 | 15 | 0.6 | 7 | 0 | 0.5 | 7.4 | 0.8 |
| No payment (%) | 3.2 | 25 | 2 | 11 | 16 | 8 | 8.1 | 27 | 9 | 6.5 | 24 | 3 |
| <i>Outcome</i> | | | | | | | | | | | | |
| Ran away (%) | 19 | 7 | 18 | 17 | 5 | 15 | 9 | 2 | 15 | 15 | 4 | 17 |
| N | 311 | 224 | 214 | 119 | 159 | 13 | 307 | 255 | 34 | 736 | 634 | 261 |

Note: Payments are mean ducats per year of contract. Legend: A/M = mean/median.

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