Paper Bert De Munck

How did guilds define human capital? 'Social capital in the creation of human capital' in Antwerp guilds, 15th and 16th century

Bert De Munck
University of Antwerp – Centre for Urban History

WORK IN PROGRESS Please do not quote without permission

The last few decades our knowledge on early modern craft guilds has increased dramatically. Especially the insights about the way they functioned economically have changed. In stead of monopolistic and rent-seeking cartels, craft guilds are now seen as institutions with contract-enforcing and transaction-cost-reducing effects. Guilds solved asymmetric information problems and stimulated economic growth thanks to a higher product quality and a more efficient production of human capital.[1] Social and cultural aspects – that tended to be seen as causes for their inertia in earlier days – help to explain now how guilds stimulated economic growth. Trust and reputation, for example, were (and are) incentives to live up to contracts, and social networks were (and are) important for information to be available and reliable. At first sight, this is entirely consistent with recent economic theories, but different debates complement, cross and even thwart each other. For some, for example, guilds especially have to be understood as institutions stimulating and facilitating the creation of human capital (skills and technical knowledge).[2] For others, guilds have to be seen as guaranteeing product quality and thus creating trust of customers in the products and in the

[1] See among others Avner Greif, Paul Milgrom and Barry R. Weingast, 'Coordination, Commitment and Enforcement: The Case of the Merchant Guild', in Jack Knight and Itai Sened (eds.), *Explaining Social Institutions,* Ann Arbor, 1995, pp. 27-56; Ulrich Pfister, 'Craft Guilds and Proto-Industrialization in Europe 16th to18th centuries', in E.C. Nunez (eds.), *Guilds, Economy and Society*, (Proceedings B1, Twelfth International Economic History Congress, Madrid), Sevilla, 1998, pp. 11-25; Gary Richardson, 'A tale of Two Theories: Monopolies and Guilds in Medieval England and Modern Imagination', in *Journal of History of Economic Thoughts*, 23, 2001, 2, pp. 217–242; Philippe Minard, 'Les corporations en France aux XVIIIe siècle: métiers et institutions', in Steven L. Kaplan and Philippe Minard (eds.), *La France, malade du corporatisme? XVIIIe-XXe siècles*, Paris, 2004, pp. 39-51.
[2] Stephan R. Epstein, 'Craft guilds, apprenticeship, and technological change in pre-industrial Europe', in *The Journal of Economic History*, 58, 1998, 3, pp. 684-713.

skills involved in making them.[3] Up to now, it is not clear what these two perspectives have to do with each other. Are they part of a same logic or not?

In order to explore the economic and socio-cultural rationale of craft guilds further, this paper will link two debates – the debate on the so-called Putnam-these on the one hand and the debate on the creation of human capital on the other. Robert Putnam tried to show (or implied) that economic efficiency and efficacy was correlated to the foundation of guilds. Without providing for a clear definition, social capital – perhaps best defined as 'mutual trust' in Putnam's case – had a sort of contract-enforcing and stimulating effect.[4] The debate on the creation of human capital is concerned with the effect the foundation of guilds had on the growth of the technological advantage of Europe and certain regions in Europe in the Late Middle Ages and the Early Modern period. Jan Luiten van Zanden, for instance, has recently claimed that the so-called skill-premium (relatively low wages for skilled artisans) can be linked to the existence and certain functions of guilds.[5] Confronting these two debates, my question is: did social capital (of guilds) help to create human capital? Referring to the 20th century school system, this question was already asked by James Coleman, in his seminal article 'Social capital in the creation of human capital'.[6] In this paper we explore this question looking at the foundation of two important craft guilds in Antwerp, the gold-and silversmiths in 1454 and the diamond cutters in 1582. Other evidence, from the same or from other guilds, will be provided where useful or necessary.

For James Coleman, social capital is a resource that facilitates action. Without defining the concept accurately, he referred to trustworthiness, information flows and norms accompanied by sanctions.[7] Consequently, the question to be answered below is how trustworthiness, information flows and norms led to the creation of human capital in the early modern context and thanks to the guilds. Did social capital, as Coleman defined it, stimulate and optimise learning processes? Did it somehow attract youngsters and bind them to

[3] Bo Gustafsson, 'The Rise and Economic Behaviour of Medieval Craft Guilds', in Bo Gustafsson (ed.), *Power and Economic Institutions. Reinterpretations in Economic History*, Aldershot, 1991, pp. 69-106.
[4] R. Putnam, *Making democracy work. Civic traditions in modern Italy*, Princeton, 1993.
[5] Jan Luiten van Zanden, 'De timmerman, de boekdrukker en het ontstaan van de Europese kenniseconomie. Over de prijs en het aanbod van kennis vóór de Industriële Revolutie', in *Tijdschrift voor sociale en economische geschiedenis*, 2, 2005, 1, pp. 105-120; Idem, 'The skill premium and the 'Great Divergence', http://www.iisg.nl/hpw/papers/vanzanden.pdf ; Idem, 'Common workmen, philosophers and the birth of the European knowledge economy. About the price and the production of useful knowledge in Europe 1350-1800', paper for the GEHN conference on Useful Knowledge, Leiden, September 2004; revised 12 October 2004, http://web.iisg.nl/research/jvz-knowledge_economy.pdf
[6] J. Coleman, 'Social capital in the creation of human capital', *American Journal of Sociology*, 94, 1988 (Supplement), pp. 95-120.
[7] Coleman, 'Social capital', p. 100 en [...]

their masters? Did it stimulate the contracting out of youngsters with a skilled artisan and did it enforce the serving out of contracts? In this paper I will argue that these questions can not be answered before we know exactly what skills were involved in the trade, and how the guilds themselves defined them.

Observations

Some observations inspiring this kind of questions have already been made. First, the number of guilds founded seems to correlate with economic growth. In the Low countries for example, both in the North and in the South, the number of new guilds increased in the so-called golden ages, suggesting that guilds were stimulating growth, or at least, were not hampering it.[8] Secondly, scholars have already presented some possible reasons for this correlation. Gary Richardson, for instance, has convincingly shown that guilds – English guilds in the Late Middle Ages – were not monopolistic in the modern sense of that term. Guilds that manufactured merchandise were rather local labour-market monopsonists (with limited regulatory powers) on the one hand and monopolistic competitors in wider markets on the other.[9] The implication that they consequently were – or at least could be – economically beneficial, is a good starting point for our analysis.

On the labour market, guilds were mostly sole buyers of skilled labour in a certain locality (i.e. a city). This monopsony can have encouraged masters to invest in training. In theory, monopsonists can recover the cost of training by paying wages below the marginal product of labour.[10] Following Stephan R. Epstein this is true for so-called transferable skills – skills that can be applied in a limited number of firms in a context of monopolistic competition – but Gary Richardson even argues that the inducement exists for specific as well as for general skills.[11] For both authors, guilds can have stimulated the creation of human capital, simply because the producting of skills is encouraged by limiting the group of employers that can use them afterwards. At first sight, this is self-evident, but the idea that simply being a sole buyer of labour already stimulates investment in training still presupposes some conditions which in a guild context and when applied to the institutionalisation of apprenticeship (a fixed term) are

---

[8] B. De Munck, P. Lourens and J. Lucassen, 'The guilds in the Northern and the Southern Netherlands: a comparative perspective', in: C. Lis, J. Lucassen, M. Prak and H. Soly (eds.), *Guilds in the early modern low countries. Work, power and representation*, London, 2006, p. 32-73.
[9] Richardson, 'A tale of two theories'; Idem, 'Guilds, laws, and markets for manufactured merchandise in late medieval England', *Explorations in Economic History*, 41, 2004, pp. 1-25.
[10] Richardson, 'A tale of two theories'.
[11] Epstein, 'Craft guilds, apprenticeship, and technological change'; Richardson, 'A tale of two theories', p. 35.

not self-evident. It presupposes for example that it was possible to match the prescribed term more or less precisely to the time it took to learn the trade. Considering geographical mobility on the labour market (journeymen wandering to the city with skills already acquired elsewhere) and specialisation within the craft (causing unstable boundaries between general, transferable and specific skills) this wasn't as easy as it looks. Within the same craft, the terms agreed upon in indentures could range between one and eight or nine years, not only depending on the premium paid but also on the degree of specialisation and the skills the apprentice already possessed when entering the agreement.[12] Secondly, it presupposes that apprenticeship was essentially an entry to the status of journeymen, whereas at least in part it was an entry to mastership. Apprentices very often had already worked as an unfree journeymen when officially registered as an apprentice.[13] In the guilds of the gold- and silversmiths, this was even perfectly legal, at least for journeymen who came from elsewhere (cf. infra). From this perspective apprenticeship must have had another logic, not resulting in relatively low wages for skilled artisans but in higher product prices, thanks to a better product quality.

On the product market, guilds were not sole sellers of products, nor were they hampering competition. According to Richardson, they competed with product differentiation. By selling imperfect substitutes and by investing in standardisation or brand loyalty, guilds could raise prices above marginal cost without losing their customers. As it provided artisans with incentives for innovation, this monopolistic competition possibly stimulated economic effectiveness.[14] In reality, and certainly in the Antwerp guilds examined in this paper, this mostly meant that guilds produced high quality products. Guild-based artisans distinguished their products from products made by non-guild-based artisans by their superior quality. According to Bo Gustafsson guilds guaranteed a minimum quality level, not only to protect consumers but also to guarantee a stable and relatively high income for producers.[15] This is again an incentive to train apprentices, but as we will see below strategies to guard and create product

---

12

13

[14] Richardson, 'A tale of two theories'. See also J. Munro, 'Industrial protectionism in medieval Flanders: urban or national?', in. Harry A. Miskimin, David Herlihy and A.L. Udovitch (eds.), *The medieval city*, New haven: Yale University Press, 1977, pp. 229-267; J. Munro, 'Urban regulation and monopolistic competition in the textile industries of the late-medieval Low Countries', in Erik Aerts and John Munro (eds), *Textiles of the Low Countries in European economic history*, Leuven: Leuven History Press, 1990, pp. 41-50.

[15] Gustafsson, 'The Rise and Economic Behaviour'. See also Maarten Prak, 'Ambachtsgilden vroeger en nu', in *NEHA-Jaarboek voor economische, bedrijfs- en techniekgeschiedenis*, 57, 1994, p. 21; and Charles R. Hickson and Earl A. Thompson, 'A new Theory of Guilds and European Economic development', in *Explorations in Economic History*, 28, 1991, 2, p. 128.

quality focused more on masters than on journeymen. The obligation to make a masterpiece, the visitations by guild officials, the application of trade marks, it is all associated with mastership, not with the position of journeymen. The question is, therefore, whether the guilds examined here were in fact regulating the labour market or the product market. Secondly, relating apprenticeship either to the training of journeymen or to mastership, what were the consequences for the concept of human capital?

Human capital is a remarkable concept. Whereas it is acquired or produced in a cultural sense and embodied in persons, human capital is eventually conceived of as economically productive. It is a kind of stock of knowledge or at set of skills acquired in schools or on the job through training and experience, but essentially it increases the employee's value in the marketplace and/or the productivity of the firm (s)he works in. The most influential thinker referred to in this sense is Gary Becker, associated with the so-called Chicago school. Becker understood human capital as similar to 'physical means of production' (machines and instruments and so on).[16] People can invest in human capital via education and training, but the return comes in the measurable form of wages, salary, or profit – as a kind of interest earned. One of the most simple and at the same time most important critiques than is that the concept can not explain why education or training does not contribute uniformly to earnings or to profits across individuals and firms.[17] In a strange way, human capital can be calculated (post factum), but every definition outside of this calculation (investment vs. return) is bound to fail. In the early modern context, the best entry to 'objectify' human capital (apart form wages and so on) would be 'skills', but there is not only a difference between 'general' and 'specific' skills (made by Becker), skills can be synonymous with dexterity, creativity, virtuosity, intelligence, experience and so on. What sort of skills led to 'human capital' or to a 'skill premium' in the sixteenth century Antwerp context and in the luxury sector examined in this paper? Did human capital for example lead to lower prices for skills or to innovation or invention? Extensive debates about the concept have shown that human capital can include unmeasurable aspects such as personal character, discipline, connections with insiders or networks, and even reputation.[18] As a result, human capital even resembles social capital, so that arguing that social capital creates human capital would – up to a certain degree at least – be

[16] G.S. Becker, *Human Capital*, Chicago, University of Chicago Press, 1964.
[17] Perhaps the most cited critique: S. Bowles and H. Gintis, 'The problem with human capital theory: a Marxian critique', *American Economic Review*, 165, 1975, 2, pp.74-82.
[18]

tautological. Social networks, for instance, can be a form of social capital, but as it can increase the productivity of a person it can be seen as a form of human capital as well. So in stead of asking whether social capital (in the form of guilds) helped to create human capital, we should first ask what human capital was, and how guilds helped defining it. In order to do, we will begin by examining whether guilds were able to (and/or intended to) produce human capital in the form of skilled journeymen. The answer will not be definite, but it will become clear that some scepticism is justified. Therefore, we will further examine whether guilds didn't prefer (and were able) to attract human capital and skilled labour from elsewhere. Geographical mobility is at least a disturbing element when thinking about the production of human capital (considering also the skill level of the immigrating artisans), and there are reason to believe that it was more easy to attract than to produce skills. If this was indeed the case, then guilds didn't increase the available skills, but concentrated them. As a result, in order to explain the correlation between economic success and human capital we should turn to the product market, which will be done in the last part.

Producing human capital?

From the perspective of the labour market, there were two ways of increasing the available human capital: training youngsters or attracting skilled artisans. Let us first look at training capacities. In order for young men to be trained, a guild wasn't necessary. If they weren't master sons, young men could be trained by a master thanks to indentures. Indentures were contracts in which a master and an apprentice (or his parents) agreed upon a certain time of training in exchange for a certain amount of money or a certain time of free labour. In order to examine the correlation between economic efficiency and the existence of guilds, the question to be answered here is the following: what did the guilds add to the 'free market' of indentures? Did they optimise training by prescribing a master piece? Did they stimulate masters to invest in training (thus lowering the premiums) by solving the free rider problem and via contract-enforcing guarantees (by prescribing a minimum term)? Or did they perhaps optimise training by limiting the number of apprentices per master and/or optimising the distribution of apprentices among masters?

Let us begin with the first question. Master pieces at best had a limited impact on the training content. At first they weren't even prescribed, and when they were – from the late fifteenth century onwards[19] – they were only to be made by masters, that is about half the work force. Moreover, master pieces didn't actually improve training on the shop floor. The gold- and silversmiths didn't even prescribe a master piece in 1454, while the founding ordinance almost entirely revolved around the quality of the products made within the guild.[20] This should not be surprising though. At best masters pieces could accommodate the skills produced to a standardised set of products, namely the products the craft was specialised in. In the trades examined here, the master piece wasn't even intended to function as a selective device, distinguishing well trained artisans from others. In the ordinance of the diamond cutters in 1582, the description at first sight is very elaborated and detailed, but at the same time the guild officials had kept it rather vague and, more importantly, were in the end free to choose what exactly a would-be master had to make.[21] My argument would be that the freedom to choose was a result of the specialisation in the trade, just as it was with the goldsmiths in Paris, suggesting that the deacons wanted to include all specialisations.[22] Rather than to improve the training content, the master piece was intended to exclude people that didn't train at all, for instance large entrepreneurs who wanted to work as a master by employing journeymen and apprentices (or even masters) themselves. Or it was important on a symbolical level, to represent the skills of the masters in the craft and thereby adding to the reputation of their products.[23] In short, a master piece could sanction the absence of learning, but as it only functioned post factum it couldn't create nor attract human capital.

Second question. Did the official apprenticeship system stimulate masters to accept trainees by guaranteeing a certain return on investment? It is true that in indentures apprentices were often obliged to pay high premiums and to pay them up-front, since they had a inclination to run away once they had learned what could be learned on the shop floor. As apprentices often paid with free

[19] A trial piece was first mentioned in 1497 for the Antwerp cabinetmakers, in 1523 for the tinsmiths, in 1524 for the gold- and silversmiths, in 1543 (probably) for the carpenters, and in 1583 for the shoemakers and tanners.

[20] Founding ordinance of the gold- and silversmiths, February 24th, 1454 (1455), published in P. Génard, 'Notice sur la corporation des orfèvres d'Anvers', *Annales de l'Académie d'Archéologie de Belgique*, XLV, 4e série, Tome V, p. 312-317 (further: Ordinance February 24th, 1454).

[21] Founding ordinance of the diamond and ruby cutters, October 25th, 1582, published in D. Schlugleit, *Geschiedenis van het Antwerpsche diamantslijpersambacht*, Antwerp, 1935, p. 12-18 (further: Ordinance October 25th, 1582) art. art. 20, p. 16.

[22] M. Bimbenet-Privat, 'Goldsmiths' apprenticeship during the first half of the seventeenth century: the situation in Paris', in: D. Mitchell (ed.), *Goldsmiths, silversmiths and bankers: innovation and the transfer of skill, 1500-1800*, Stroud, 1995, (Centre for Metropolitan History, Working Paper Series, nr. 2), 1995, p. 29.

[23] B. De Munck, 'La qualité du corporatisme. Stratégies économiques et symboliques des corporations anversoises du XV^{e} siècle à leur abolition', *Revue d'histoire moderne et contemporaine*, 2007, 1 (in press).

labour, masters still expected some skilled labour in return for their investment at that time.[24] Economic historians have rightly stated that these so-called 'incomplete contracts' tend to result in underinvestment in human capital.[25] However, some also imply that guilds 1) acted as the necessary 'third party' that saw to the fair execution of the contract or 2) provided the necessary trust inducing parties to conclude and execute contracts.[26] For the guilds in Antwerp, this is not corroborated empirically. The juridical litigations I know of in Antwerp, were ruled by the city magistrates, not by the guilds.[27] Secondly, and most importantly, the simple fact that as a rule the average terms served in indentures were longer than the terms prescribed by guilds, shows that guilds apparently were not contract-enforcing or -completing.[28] Admittedly, the guilds examined in this paper are somewhat exceptional in prescribing a relatively long term (four years for the gold- and silversmiths, five years for the diamond cutters)[29], so that the official terms tended to correspond more or less to the real term when first installed.[30] But then again the price for contract-enforcing would still be a loss of flexibility. One could argue that in some cases not longer and steady contracts but shorter contracts and an increased mobility were needed, depending on the transferable and specific skills available elsewhere. Moreover, considering the importance of acquiring a range of skills, it was perhaps better that every apprentice did run away when he had learned what could be learned under that master's roof. Of course, both gold- and silversmiths and diamond cutters were very specialised industries, which would imply that masters were particularly interested in specific skills, but masters also needed broadly trained journeymen who could answer shifting demands rapidly or they could want to hire artisans with other specialised skills in order to answer shifting demands. After all, product innovation most often was the result of combining different specialisations to a

[24] Helga Schultz, *Das Ehrbare Handwerk. Zunftleben in alten Berlin zur Zeit des Absolutismus*, Weimar, 1993, p. 62; A. Grießinger and R. Reith, 'Lehrlinghe im Deutschen Handwerk des ausgehenden 18. Jahrhundert. Arbeitsorganisation, Sozialbeziehungen und alltägliche Konflikte', *Zeitschrift für Historische Forschung*, 13, 1986, p. 153; Bert De Munck, 'Kiezen of delen? Sociale mobiliteit in ambachtsgilden (17de-18de eeuw)', in De Munck and Dendooven, *Al doende leert men. Leertijd en ambacht in het Ancien Régime,* Brugge, 2003, pp. 26-30.
[25] See among others J. Humphries, 'English Apprenticeship. A Neglected Factor in the First Industrial Revolution', in P.A. David and M. Thomas (eds.), *The Economic Future in Historical Perspective* (Oxford, 2003), pp. 73-102.
[26] See for example van Zanden, 'Common workmen'.
[27] B. De Munck, 'In loco parentis? De disciplinering van leerlingen onder het dak van Antwerpse ambachtsmeesters (1579-1680)', *Tijdschrift voor Sociale en economische geschiedenis*, 1, 2004, 3, p. 3-30.
[28] B. De Munck, *Leerpraktijken. Economische en sociaal-culturele aspecten van beroepsopleidingen in Antwerpse ambachtsgilden, 16^de^-18^de^ eeuw*, Brussels, 2002, (Unpublished doctoral these), pp. 87-94.
[29] Ordinance October 25th, 1582, art. 15, p. 15.
[30] The average term agreed upon in gold- and silversmiths' indentures was 4,3 years, the official term 4 years. [...]

new one.[31] So one could as easily claim that shopping from master to master in order to acquire a maximum of skills was more efficient – for masters and for journeymen – in the long run.

Third question. Did guilds increase the quality of the training by limiting the number of apprentices per master or by spreading them more evenly among masters? The new guilds examined here did indeed limit the number of apprentices per master, but it is hard to tell what the reason was for this ruling or what the effects were. In my view it was not intended to guarantee some minimal quality of the training, nor – for that matter – to limit the number of masters and journeymen. In 1454, the gold- en silversmiths specified that a master could train two apprentices at the time, but the second could not be hired before the first had finished two year of the four he was due.[32] In 1524 this changed to two apprentices without further specifications, but when an apprentice ran away his master could not hire a new one. A new apprentice could not be hired before both parties agreed that the term was over or acquitted.[33] This secondary stipulation seems to suggest that not the number of apprentices on the shop floor but the total number of new master entering the trade was at stake. But perhaps, considering that not every apprentice aspired mastership, it was rather a certain equality among masters that stimulated the guild's officials to include these regulations. In 1582, the diamond cutters ruled that a master could hire three apprentices at the time, suggesting that masters hired more apprentices than they could or wanted to train.[34] Possibly, some large masters deprived other masters of apprentices and the guilds wanted to protect the latter. After all, with the gold- and silversmiths as well, the number of apprentices a master could train gradually increased (however limited), just as happened (in other trades) with the number of journeymen in the same time-span.[35] At least, rules referring to a maximum number of apprentices should not be understood from a human capital point of view. They enabled masters to be rent-seeking by excluding new masters or prevented large masters from attracting all available apprentices at the expense of small masters. Perhaps the latter strategy had human capital

[31] John Styles, 'Manufacturing, Consumption and Design in 18th-century England', in John Brewer and Roy porter (eds.), *Consumption and the World of Goods* (London, 1993); and 'Product Innovation in Early Modern London', *Past and Present*, 168 (2000), pp. 124-170; Maxine Berg, 'From Imitation to Invention: Creating Commodities in eighteenth-century Britain', *Economic History Review*, 55 (2002), pp. 1-30.
[32] Ordinance February 24th, 1454, art 1, p. 313.
[33] City Archives Antwerp (CAA), Guilds and Trades (GC) 4488, fol. 115r, Ordinance 24 November 1524, art. 8.
[34] Ordinance October 25th, 1582n, art. 16, p. 15.
[35] Examples in Voorbeelden in A.K.L. Thijs, *Van 'werkwinkel' tot 'fabriek'. De textielnijverheid te Antwerpen (einde 15de-begin 19de eeuw)*, Brussels, 1987, pp. 219-222

enhancing externalities, since spreading the apprentices more evenly over a broader range of masters prevented masters from using apprentices as cheap labourers and for repetitive and preparing jobs. But on the other hand, limiting the number of apprentices per masters can have limited the total number of apprentices, resulting in a human capital sub-optimum.

Summing up, and for the moment limiting ourselves to the guilds' regulations, it is far from clear that the guilds examined here actually created or produced human capital. As they prescribed relatively long apprenticeship terms, the official obligation to serve the term maybe had – in certain cases – contract enforcing effects, but in others it must have reduced flexibility. Whether or not the long (uniform) terms resulted in a sort of optimum depends on the degree of specialisation in the craft and on the possibility to attract (specialised) skills from elsewhere. In order to be able to assess the impact of the official apprenticeship system, we first need to know more on how long it took to learn the basics of the craft and when an apprentice could start learning more specific skills. Secondly, we should examine the offer as well as the demand of general, transferable and specific skills in a certain time frame and geographic circumscription. Until we know more about this, my hypothesis would be that it was almost impossible for guilds to improve the training as it was provided via indentures or to organise training more efficiently than the 'invisible hand' did (which is of course not to say that it was the best option socially speaking). In indentures the length of the time served was linked to the premium paid, so the interests of masters and apprentices (or their parents) could be perfectly matched. Poor apprentices simply served longer that those who could pay a higher fee. Of course, this is 'socially sub-optimal', but on the other hand apprentices who were not able to pay high premiums could still enter their preferred workshop (by working longer for free). Moreover, those who could pay higher fees, could shop from workshop to workshop and hence acquire a broad range of skills in a short time span – shorter than the guilds prescribed. In fact, there is evidence that guild-based masters even preferred journeymen who were trained elsewhere to those trained within the guild.[36]

Attracting human capital?

[36] B. De Munck, 'Meritocraten aan het werk. Deregulering van de arbeidsmarkt bij de Antwerpse timmerlieden in de 18de eeuw', in: B. Blondé, B. De Munck & F. Vermeylen (eds.), *Doodgewoon. Mensen en hun dagelijks leven in de geschiedenis. Liber Amicorum Alfons K.L. Thijs*, (Bijdragen tot de geschiedenis, 2004, 3-4), Antwerpen, 2004, p. 87-106.

Perhaps, in stead of theorizing about what a guild or an apprenticeship system did, we should look at what guilds wanted it to do. We should return to the normative sources and try to understand the motives of guild boards. Did they really want to produce or create human capital themselves? Wasn't it more rational to be a free rider as a craft guild, and to attract human capital produced elsewhere? According to Richardson craft guilds were inclusive rather than exclusive – which is consistent with the information I have for Antwerp.[37] Guilds raised registration and income fees, but as it became more expensive to enter the guild, they tried to compensate for higher fees by prescribing a simpler master piece (consuming less raw material or being more easy to sell) or by discarding meals and other compulsory treats.[38] This trend is easier to discern in the 17th and 18th century, but in the 16th century most increases of entrance fees were compensated by high inflation right from the start.[39] Possibly, in the era of the price revolution higher entrance fees were nothing more than an answer to rising prices or devaluating mints, but first of all we should ask what the financial means of the guilds were meant for. The fragmentary information we have at the moment, suggests that in the 15th and 16th century guild houses, chapels, altars and the like were their major expenditures. Additionally, there are reasons to believe that these expenses had more to do with symbolical capital and representation strategies than with sociability or religious aspects.[40] So we should ask whether these investments in symbolical capital served the inclusive strategy of the guilds. Did the guilds' prestige and reputation had contract-enforcing effects and/or did it attract newcomers (either with skills or not)?

Looking at the normative sources, it is at least clear that apprenticeship didn't prevent the inclusion of craftsmen trained elsewhere. In the ordinances we see guilds creating opportunities for immigrating artisans to work within the city. Gold- and silversmiths, in their founding ordinance in 1454, prescribed an apprenticeship term, but at the same time did not exclude skilled artisans trained elsewhere. In article 2, they explicitly stated 'that all good alien journeymen, wherever they come from, who want to earn their living in Antwerp, with a master for a daily wage, by contract or by piece, should be allowed to do so

---

[37] Richardson, 'Guilds, laws, and markets', p. 15; Bert De Munck, 'Construction and reproduction. The training and skills of Antwerp cabinetmakers in the 16th and 17th centuries', in: B. De Munck, S.L. Kaplan and H. Soly (eds.), *Learning on the Shop Floor. Historical Essays on Apprenticeship*, (in press).
[38] De Munck, Leerpraktijken, [...]
[39]
[40] J. Dambruyne, 'Rijkdom, materiële cultuur en sociaal aanzien. De bezitspatronen en investeringsstrategieën van de Gentse ambachten omstreeks 1540', in: Lis C. en Soly H. (eds.), *Werelden van verschil. Ambachtsgilden in de lage landen*, Brussel, 1997, p. 151-211; F. Verleysen, *Het hemelse festijn. Religieuze cultuur, sociabiliteit en sociale relaties in de corporatieve wereld van Antwerpen, Brussel en Gent (ca. 1585 - ca. 1795),* Unpublished Doctoral thesis, 2006, pp. [...]

without further due…" This guild at least didn't want to replace the inclusion of already trained artisans by training young men themselves nor did they want to test their skills. One could even ask whether they didn't prefer the inclusion of artisans trained elsewhere to start training locals from zero. In 1605, when a certain Hans Bernardus 'the German' was allowed to introduce ebony work in the city, the condition was not that he train local youngsters. On the contrary, the authorities preferred that he would bring trained journeymen with him, or at least, they wanted to prevent him from attracting locals already at work elsewhere in the city.[41]

Very often, it was the city government who helped to attract skilled entrepreneurs and workers to the city.[42] The question is whether guilds made a difference at this level, and, in case of a positive answer, how? At first fight, considering the master fees, meals and the like, it is hard to imagine that a craft with a guild was more inclusive than a craft without a guild (in the same city). Yet thanks to their reputation it is of course possible that guilds were able to attract skills form the surrounding countryside and/or from other cities. *Zunftzwang* did not increase the pool of available skills as such, but thanks to the symbolical capital of the guilds involved it can have realised a concentration of the available skills in a city (or certain cities). Evidence is clear in fact. The luxury trades Antwerp was renowned for in the 16th century are not imaginable without large amounts of skilled artisans immigrating to the city *with* human and other capital. Thanks to an account book of the gold- an silversmiths, we can get an idea (to some extent) of what the input of immigrants was between 1562 and 1591 (with regard to quantity and quality). At first sight, it was minimal. Not more than 12,4 % (67/539) of the apprentices came from 'outside'. Among the new masters however, 22,9 % came from outside (67/293).[43] The vast majority of them did not learn in Antwerp, so they came to Antwerp with human (and other) capital. Moreover, 'from outside' probably has to be understood here as 'from outside Brabant' ("van buiten des lands'), so that gold- and silversmiths immigrating from other cities, and perhaps even from the countryside, were not even counted.

In my opinion, the guilds' primary concern was to attract newcomers with skills. In most brabantine cities, an apprenticeship fulfilled in one city was

[41] CAA, GC 4334, f° 60, GA 4335, 26 september 1605, (kopie).
[42] Hugo Soly and Alfons K.L. Thijs, 'Nijverheid in de Zuidelijke Nederlanden', in *Algemene geschiedenis der Nederlanden*, vol. 6, Haarlem, 1980, p. 37. Voorbeelden in Alfons K.L. Thijs, *De zijdenijverheid te Antwerpen in de zeventiende eeuw*, Brussels,1969, (Pro Civitate, Historische Uitgaven, Reeks in-8°, nr. 23), p. 39 en 57. Voor Brussel: Roger De Peuter, *Brussel in de achttiende eeuw. Sociaal-economische structuren en ontwikkelingen in een regionale hoofdstad*, Brussels,1999, pp. 64-68.
[43] Of the 24 immigrant masters that were registered between November 1574 and October 1591, only 3 were first registered as an apprentice.

officially recognized in another.[44] And even whether immigrating artisans had finished an apprenticeship term or not, doesn't seem to have preoccupied the guild officials. As we have seen, with the gold- en silversmiths those who only wanted to work as a journeyman, didn't have to bother doing the apprenticeship term – nor to make a master piece, which journeymen only had to do very exceptionally.[45] Those who wanted to become a master did have to make a master piece, but for them, this trial could be prescribed ad hoc, depending on the specialisation the artisan in question had learned. The ordinance of the diamond cutters is not exceptional in that regard.[46] The trials of the gold- and silversmiths in 1524[47] and of the cabinet makers in 1544 could also be adapted ad hoc to the specialisation the would-be master had learned.[48]

In short, as it was almost impossible for guilds to impose their *Zunfzwang* beyond the city walls and to produce human capital effectively within the city walls, it was imperative to motivate people to move to Antwerp freely. Perhaps, in this process social capital had an impact. Among experts on migration patterns, the phenomenon of chain migration is well known. Whilst most migration flows are caused by economic push and pull-factors, chain migration means that immigrants once settled in a certain town attract more immigrants from the same region, more or less independent of economic opportunities.[49] However, this process fails to explain why there was an immigration flow to a certain city or region in the first place, nor can it explain a sustained stream of a large number of immigrants over a prolonged period. Moreover, if we want to examine the relationship between guilds and economic success via the availability of human capital, we cannot limit ourselves to saying that economic success attracted human capital either – since that would obviously result in a circular reasoning. Perhaps symbolical capital – in the form of guild houses, chapels, processions and the like – indeed played a decisive role here. Yet then again, we have to ask what role this symbolical capital precisely played. Investing in symbolical capital – in say reputation – is a complex matter as well. Artisans did not move to a certain

[44] Marc Jacobs, 'De ambachten in Brabant en Mechelen (12de eeuw-1795)', in Raymond Van Uytven, e.d. (eds.), *De gewestelijke en lokale overheidsinstellingen in Brabant en Mechelen tot 1795*, Deel 2, Brussels, 2000, p. 591.
[45] In Antwerp, to my knowledge, only with the carpenters and the 'lakenbereiders'.
[46] Ordinance 25 October 1582, art. 20, p. 16.
[47] CAA, GC 4488, Ordinance 24 Novembre 1524, art. 9, fol. 115 v-116.
[48] CAA, GC 4335, March 31st, 1543 (1544).
[49] S. Sassen, 'Immigration and local labor markets', in: A. Portes (red.), *The economic sociology of immigration. Essays on networks, ethnicity and entrepreneurship* (New York 1995) 87-127; S.A. Wegge, 'Chain migration and information networks: Evidence from nineteenth-century Hesse-Cassel', *Journal of economic history,* 58:4 (1998) 957-987.

city because of a guild house or a certain place in a procession, they did so because of the prospect of economic success.

The point is that, in order to probe deeper into the question of social capital, we should confront economic with symbolic aspects. The crucial theme then is not human capital but product quality. We should examine what a guild did apart from training apprentices and attracting skilled artisans. In the next section, we will see that the guilds of the diamond cutters and (especially) the gold- and silversmiths were not so much preoccupied with producing skills or human capital, as with defining skills and human capital. The crucial point is that product quality – and thus human capital – can not be measured objectively. It is of course reflected in prices, but as such it did not result from the mathematical confrontation of offer and demand. This confrontation is embedded in conventions enabling the parties involved to reach an agreement on what quality is.[50] At least in part, that is what these guilds did in their founding ordinances: establishing some criteria to objectify product quality.

Defining human capital

Guilds are known to have organised elaborated control systems and visitations, to have prescribed years of training and to have organised trials for masters who, in turn, were allowed to apply trade marks, and so on. The problem guilds tried to tackle doing so was uncertainty about product quality. Although very differently, both guilds examined here were confronting problems with product quality when drawing up the ordinance. While the diamond cutters were very much trying to guarantee that every apprentice had properly finished his five years of training, the gold- and silversmith extensively defined criteria to measure product quality and to sanction fraud.[51] This was not to produce human capital as we have understood it up to now (producing skilled employees), but to attain and guarantee a certain product quality. Up to a certain degree, however, this is producing human capital as well. It is the human capital of masters, which is not only to be deduced from their profit margins but also from the way product

---

[50] See, in particular, François Eymard-Duvernay, 'Conventions de qualité et formes de coordination', in *Revue Économique*, 40 (1989), pp. 329-359; François Eymard-Duvernay, 'Coordination des échanges par l'entreprise et qualité des biens', in André Orléan (ed.), *Analyse économique des conventions*, Paris, 1994, pp. 331-358; Lucien Karpik, 'L'économie de la qualité', in *Revue française de sociologie*, 30, 1989, pp. 187-210; and the dossier on 'La qualité', in *Sociologie du Travail*, 44 (2002). See also the pioneering work of George A. Akerlof, 'The Market for Lemons: Qualitative Uncertainty and the Market Mechanism', in *Quarterly Journal of Economics*, 84 (1970), pp. 488-500; and Joseph E. Stiglitz, 'The Causes and Consequences of the Dependence of Quality on Price', in *Journal of Economic Literature*, 25 (1987), pp. 1-48.

[51]

quality is represented. In spite of the attention paid to information and information flows, the uncertainty and possible lack of consensus on product quality in the Ancien Régime is still largely neglected in historical work on artisans and guilds. All to easily product quality is accepted as something given, whereas it is the result of very specific investments in measuring equipment and evaluation devices. As a result, before examining product quality, one has to examine the practices, apparatuses and institutions objectifying it.

There were multiple ways to objectify product quality, and guilds indeed followed different strategies. Some guilds standardised the products made by the masters involved, so that a good product was a product that met the features of a certain model. This was for example the case with the Antwerp cabinet makers, carpenters or plumbers (in the 17th and 18th century).[52] In the case of the guilds considered here, other strategies prevailed. The guilds of the Antwerp gold- and silversmiths and (especially) the diamond cutters were erected at a time when standardisation tended to make way for luxury products and more complex product forms.[53] This shift created uncertainty about the quality of the products involved, yet whereas one would expect product quality from then on to be guaranteed by the virtuosity of the artisans involved, these craft guilds were not necessarily more preoccupied with skilfulness as a result.

The ordinance of the diamond cutters begins with explaining the reasons for the founding of 'de natie' (the guild). The problem was, according to the 'diamond- and ruby cutters residing in Antwerp', that 'it happened daily that some were cutting stones that were not capable to do so nor had learned it, contracting work from merchants (who did not know them) and employing apprentices who had just begun to learn'. Doing so these unqualified entrepreneurs deprived other masters of their apprentices before they had finished learning. In other words, not only product quality was at stake here, but the availability of skills as well. Following the 'qualified' artisans, the merchants as well wanted the stones to be cut and polished properly. Those who were not 'in the trade from childhood' had disadvantaged these merchants, and this had stimulated the supplicants 'who had exercised in the art since their early days, and out of love for the noble stones and for the honour of the city', to agree upon an apprenticeship term, a master

[52] CAA, GC 4337, 9 April 1686, fol. 34-34v; GC 4264, Ordinance 25 June 1705; GC 4345, Ordinance 6 July 1756, f° 9ff, art. 3-4.
[53] A.K.L. Thijs, 'Antwerp's luxury industries: the Pursuit of profit and artistic sensitivity', in: J. Van Der Stock (ed.), *Antwerp: story of a metropolis, 16th-17th century*, Antwerpen, 1993, p. 105-113.

piece, the right for deacons to visit workshops and so on, all aimed at a better and more secure product quality and the training of highly skilled artisans.[54]

All this is very rational at first sight and it corresponds with the idea of training apprentices with an eye on reliable and superior journeymen to cut the stones. Apparently however, there were merchants, and thus costumers, who were not worried about the so-called lack of product quality at all (since they were active daily). So it remains to be seen whether the products of the supplicants were indeed of a better quality. When exactly a diamond is well cut or perfectly polished? Why is product quality synonymous with durability in one case and with virtuosity in an other? Why is it that a certain content of silver or gold is decisive in the appreciation (and price) of a silver button or golden ring? Who decides on what criteria should be applied? Recent social theories have made it abundantly clear that before one can assess the quality of certain products, one has to agree about what quality is. 'The characteristics of a good are not properties which already exist and on which information simply has to be produced so that everyone can be aware of them. Their definition or, in other words, their objectification, implies specific metrological work and heavy investment in measuring equipment. The consequence is that agreement on characteristics is sometimes, in fact often, difficult to achieve.'[55] In other words, one has to agree first about a certain definition of product quality and about what criteria should be applied to what kind of product. One should know how to objectify product quality.

What happens in the case of the diamond cutters is that a group of artisans – probably some families that passed the trade from father to son – decided to compete with product quality in stead of with the product price. In doing so, they not only have to know what product quality is, they have to be able to communicate this convincingly to others (to their clients and to the authorities). Analysing their founding ordinance from this angle, it is clear that a well cut and polished diamond for these families was a diamond cut and polished according to a certain tradition. In the text, there are no criteria summed up, not even where the master piece is defined. So those involved in the trade knew what was meant with phrases like 'well and carefully cut' and they knew what kind of skills were involved. Considering the long apprenticeship term, we can assume that the difference with not 'well and carefully cut' was to be found in the accuracy wit h which the work was done. A diamond properly cut and polished was

---

[54] Ordinance October 25th, 1582, p. 13.
[55] M. Callon, C. Méadel, V. Rabeharisoa, 'The economy of qualities', *Economy and Society* 31, 2002, pp. 198-199 (194-217).

a diamond meticulously cut and polished. This explains the long apprenticeship term and the absence of other criteria. Not coincidentally, unlike most other guilds to my knowledge, the diamond cutters tried to prolong the apprenticeship term (in 1690).[56] One could argue this was indeed to produce human capital, but even this can at the same time be seen as 'defining' product quality.

The interesting thing is that the gold- and silversmiths objectified product quality differently. Whereas the diamond cutters seem to have had an implicit consensus about what high quality was, the gold- en silversmiths devoted almost their entire ordinance on defining what a good product was. All attention went to the content of the alloy. The ordinance defined what silver should be used, what the alloy should be, how it should be assessed, what trade marks should be applied for what kind of work (and alloy), where these pieces should be marked, and so. Additionally, the ordinance elaborately sums up all sorts of fraud, for instance the gilding of copper, or using inferieur silver.[57] In fact, unlike the diamond cutters, the gold- en silversmiths objectified product quality by concentrating on one element – the alloy – and fixing that by investing in measuring equipment, tests and 'brand loyalty'. Learning, understood as dexterity, ingenuity and experience, had nothing to do with it. The guild didn't sanction the accuracy the products were made with, nor the virtuosity, or the creativity they were conceived with. In fact this guild only sanctioned the honesty of the master under whose supervision the products were made. Perhaps this is creating human capital as well, but it was very different from the human capital of the diamond cutters, which must have been, in turn, very different from, say, the masons' human capital. Presumably, all these guilds were important from a human capital point of view, but the point is that we should first try to understand how the guild itself defined and objectified human capital.

The problem with the human capital definition used in most historical and sociological work (to my knowledge), is that it is solely defined economically (while being based on instruction and education). For the guild masters involved, these regulations did not only serve economic goals. Behind the processes described here lurks a power struggle between guild masters on the one hand and large entrepreneurs wanting to by-pass mastership on the other. Whereas the former protected or constructed their superior status as highly skilled craftsmen via the guild, the latter tried to integrate the production process by employing apprentices, journeymen and masters directly. Whilst masters claimed

[56]
[57] Ordinance February 24th, 1454, p. 313-314 (passim).

that they were the only ones able to make the product (or to supervise the production process), some entrepreneurs apparently didn't need the guilds' careful construction of quality and skills.[58] Or they competed more with product prices than with product quality, or the skills of the artisans in the guild were not superior to those outside the guilds at all. What was at stake, in both cases, was not simply wages, profits or returns on investment. On a more fundamental level, it was all about the appreciation of human abilities and competencies. So in stead of objectifying these with prices and wages, I would prefer to approach them from the perspective of the (appreciation of the) products these artisans made.

Via the guilds, guild masters realised a sort of *sur-prix* in their products. In order to do so they needed an apprenticeship term, a master piece, and even all the investments in reputation the guilds are renowned for. The condition for this construction or representation was a clear distinction between free and unfree labour, and that was what the two founding ordinances were all about. They defined who could be a master or not, and in the case of the gold- and silversmiths, who could apply the trade marks or not. Both ordinances did so very literally. They both begin by stating that masters should be Burghers first, and then meticulously stipulate who exactly was an apprentice and when exactly an apprenticeship was finished. According to the ordinance of the diamond cutters a trainee had to be registered in the guild books at least fourteen days after he began working with his masters.[59] Then, within six weeks the master must again make his way to the guild's chamber in order to make a statement about what 'he intends to do with the boy'.[60] Obviously, this stipulation had to prevent masters from using so-called apprentices as cheap workers, as master who didn't want the pupil to begin after all, had two more weeks to disengage him.[61] Yet with the gold- and silversmiths this was again somewhat more complex. The stipulation, in 1524, that a master could not replace a runaway apprentice before both parties agreed that the term was finished or acquitted, did not only prevent masters from using apprentices as cheap labourers, it prevented unfree journeymen from working for their own account.[62] In later ordinances, in the 16th and 17th centuries, the gold- and silversmiths even obliged apprentices and journeymen to live under the roof of the master solely to prevent them from being registered as an apprentice and at the same time to work for their own or for entrepreneurs,

58

59 Ordinance October 25th, 1582, art. 7, p. 14.
60 Ordinance Octobre 25th, 1582, art. 8, p. 14.
61 Ordinance October 25th, 1582, art. 9, p. 14-15.
62 CAA, GC 4488, fol. 115r, Ordinance 24 November 1524, art. 8.

circumventing mastership.[63] Apart form any concerns about skills it had to be clear, at whatever time, who was qualified to be a master or.

Conclusion

It has become clear that the question of human capital and the way it was produced in a guild context, is very complex. When examining the apprenticeship system, we should first make a distinction between its function as an entry to the position of journeymen on the one hand and as an entry to mastership on the other.

Being labour market monopsonists, guilds could perhaps stimulate investments in training, but as it was done with a minimum (and fixed) term to serve, the price was a lack of flexibility. Considering migration patterns and the shifting need for more general or more specific skills, it must have been almost impossible to adjust the prescribed terms to the exact needs of every (or the average) master. Indentures, even when on the whole more expensive, learn that the flexibility they allowed for, was an important asset. Perhaps considering social capital, one could still argue that the reputation of the guilds attracted more apprentices and had a contract-enforcing effect, but this would not explain any economic advantage since the effect inevitably would be to deprive other sectors, cities or region of apprentices. Moreover, it would fail to answer the question were the prestige of the guild came from in the first place.

Secondly, there are reasons to believe that we should not see apprenticeship as regulating the labour market. Apprenticeship was a step up to mastership and should be related to the product market. It is possible that the diamond cutters' new guild was supposed to act as a sort of third party, guaranteeing that apprentices indeed finished their five years of training. The gold- en silversmiths, however, devoted their whole ordinance to product quality, providing criteria to assess it and legal instruments to sanction fraud. Without any doubt, trustworthiness, information flows and norms accompanied by sanctions were involved, but this was not simply related to training and instruction. In order to understand fully why these guilds were erected, we should examine the way they construed product quality. Even the guild of the diamond cutters, without explicitly referring to it and while providing instruments to sanction a lack of training, defined how product quality should be appreciated. Whereas in the guild of the gold- and silversmiths product quality was based on the honesty of the

[63] AMA, GM 4002, le 22 novembre 1574, f° 65r°; voir également GM 4485, n° 3, f° 14v°.

craftsmen (making the right alloy and applying the right trade mark), in the diamond cutters trade it was experience and accuracy that distinguished a good from a bad artisan. Both of these guilds were erected not only to produce skills and to guarantee product quality, but also to objectify product quality and thus to objectify skills and human capital.

As a result of problems with product recognition, it was necessary to install certain conventions on product quality. And since product quality dependent on the skills of the artisans who actually made the products, these conventions decided on who was competent or not. Whether this is social capital producing human capital depends on the definition of both human and social capital. As the guild of the diamond cutters was the result of a dense network of diamond cutters, rather than the cause, it is hard see the guild as producing a network. Information flows were important as well as reputation, but confronting it with product quality I would call it symbolical capital – or symbolical violence for that matter – rather than social capital. It not only distinguished who could produce the products or not, it also set the standards the producers had to reach, by representing a certain product quality as *the* product quality. These conventions thus defined what skills were, or what human capital was. So in the end, it would be tautological to say that social capital produced human capital, since up to a certain degree they were synonymous. The bottom line of this paper, therefore, is that scholars should examine these conventions before analysing the so-called production of human capital. We should not only try understand what human and social capital is, we should try to understand how guilds defined it.