How to Beat (Very) Imperfect Markets?

Re-thinking the Comparative Study of Commercial Institutions in Pre-modern Europe

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Abstract:

The importance of mercantile organisations, guilds, nations or regulated companies, for the commercial development of Europe (and beyond) is beyond doubt. However, there is still little agreement as to why they emerged, persisted and ultimately declined between the 12th and 18th centuries. Historical studies have focused on individual cases and idiosyncratic circumstances that restrict severely comparability, while economic approaches based on game or contract theory often impose narrow assumptions on their models which find it hard to deal with two key features of these institutions: in very imperfect markets merchants used more than one institution to solve a given problem while a given institution often addressed more than one problem. In this paper we suggest a new methodological approach that allows us to pursue a comparative analysis without loosing rigour. We assess a new dataset of 185 observations of merchant organisations from four towns 1300-1800 at 50 year intervals. Our model is based on only one assumption: merchants will only delegate control over their dealings if they can expect a positive return from the loss of control. On this basis, we classify our dataset into six ordinal categories of degrees of control delegation. Using maximum likelihood estimation we can then investigate the probability of merchants organising with a particular degree of control delegation given a set of market and political circumstances they faced.

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Introduction

The history of European commerce since the Middle Ages is intimately related to the rise, persistence and decline of what is perhaps the most famous of mercantile institutions: the merchant guild. However, we still understand surprisingly little as to when merchant guilds first arrived, why they were formed and what they actually did. It seems certain that before the 8th century merchants traded largely as independent actors without the assistance and organisation afforded by a collective body such as a guild, *natie, consulado, hansa* or similar organisation. At some point, however, merchants began travelling together with their ruler's representatives, early 'diplomats' who started to perform as commercial representatives as well.[1] From the 10th or 11th century onwards formal associations emerged that helped merchants solve any combination of three *fundamental problems of exchange*: (1) the protection of traders' person and goods against crime, warfare, and arbitrary confiscation; (2) the enforcement of contracts whenever money or goods changed hands; and (3) the management of commercial risks that follow from their incomplete information on market conditions.[2]

But merchant guilds were never the only institutional response to these problems. Re-invigorated towns and consolidated states could and at times did provide similar support for commerce by building infrastructure, organising fairs and offering legal services as well as protection from predation. Some guilds in fact mutated into urban

[1] The classic statement in: H. Pirenne, *Medieval Cities. Their Origins and the Revival of Trade*, 3e druk ed. (Princeton: 1974). 118-122; For the apparent lack of such organizations before the tenth century: Michael McCormick, *Michael Mccormick, Origins of the European Economy: Communications and Commerce, Ad 300-900* (New York: Cambridge University Press, 2002).

[2] Pace Avner Greif, "The Fundamental Problem of Exchange: A Research Agenda in Historical Institutional Analysis," *European Review of Economic History* 4 (2000)., who defines but one fundamental problem of exchange that implies both the protection and transfer of property rights. The distinction between the protection of property rights per se and the transfer of these property rights follows Douglas North, *Structure and Change in Economic History* (New York: Norton, 1981), 20-27.. A recent analysis by Daron Acemoglu and Simon Johnson, "Unbundling Institutions," *http://econ-www.mit.edu/faculty/download_pdf.php?id=66* (2004). shows the very different effects institutions for the mitigation of the two sets of problems have. To be sure, the third fundamental problem of exchange, the management of commercial risks, has long been recognized by historians, especially with regard to craft guilds. For a review of the older literature, see Charles R. Hickson and Earl. A Thompson, "A New Theory of Guilds and European Economic Development", *Explorations in Economic History* 28 (1991), 127-168. The more recent literature on craft monopolies is summarized in Gary Richardson, "Guilds, laws, and markets for manufactured merchandise in late-medieval England, Explorations in Economic History 41 (2004), 1-25.

institutions.[3] Still, none of these seem to have replaced merchant guilds right away. Complementarity between different providers of services to merchants – e.g. rulers and guilds – seems to have been the norm rather than the exception. In part this would have been the obvious consequence of merchants' 'trans-territorial' activities; by nature they crossed political boundaries and therefore were unlikely to rely simply on the protective services and infrastructure provided by one particular overlord. But even in single locations merchants often relied on a combination of institutions to solve the fundamental problems of exchange.[4]

Only in the late 18th century merchant guilds disappeared in most parts of Europe, sometimes as a result of forced dissolution. Protection of traders' life and goods, contract enforcement and mitigation of risks now became largely functions of state activity on the one hand or vertically integrated businesses on the other. In the intervening period, i.e. between the 10th and 18th centuries, merchants used multiple combinations of institutions to cope with the perils of imperfect markets, which presumably reflected merchants' intention to maximise their profits *given* a certain environment at a particular time and location. Understanding these multiple combinations would seem crucial to explain the rise, persistence, and ultimate demise of merchant guilds in pre-industrial Europe.

The purpose of this paper is to develop a comparative methodology that exploits these distinct trajectories in order to understand what made merchants invest (or cease to invest) in merchant guilds. The methodological challenge – as we see it – is to combine two research traditions that so far have remained worlds apart. Many historians have detailed the organization of trade in towns and regions across Europe.[5] However, very

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[3] Pirenne, *Medieval Cities. Their Origins and the Revival of Trade*., 134-141. Cf. also Bas van Bavel, *A Social and Economic History of the Low Countries in the Middle Ages, 5th - 16th Centuries* (Oxford: Oxford University Press, 2008).

[4] To be sure, mercantile institutions in medieval and early modern Europe also had social, cultural, and sometimes political functions. See for example the social and cultural functions of medieval *funduqs* and *fondacos* in the Mediterranean basin, documented in Constable, *Housing the Stranger in the Mediterranean World. Lodging, Trade, and Travel in Late Antiquity and the Middle Ages*.; or the non-economic functions of foreign merchant communities in early modern Europe, documented in: Calabi and Turk Christensen, *Cities*..

[5] Richard Ehrenberg, *Das Zeitalter Der Fugger, Geldkapital Und Creditverkehr Im 16. Jahrhundert, Ii, Die Weltbörsen Und Finanzkrisen Des 16. Jahrhunderts* (Jena: Fischer, 1896)., Fernand Braudel, ed., *Venice and History. The Collected Papers of Frederic C. Lane* (Baltimore: 1966)., Robert S. Lopez, *The Commercial Revolution of the Middle Ages, 950-1350.* (Englewood Cliffs: Prentice-Hall, 1971)., Robert S. Lopez and Irving W. Raymond, *Medieval Trade in the Mediterranean World* (New York: Columbia University Press, 1955). and Fernand Braudel, *Civilisation Matérielle, Économie Et Capitalisme, Xve-*

few of them have teased out generalizations about the ability of merchant guilds, or any other institution, to mitigate the fundamental problems of exchange.[6] More recently, economists have begun to apply micro-economic theory to the organization of long-distance trade in pre-industrial Europe modelling the contribution that merchant guilds, informal coalitions of traders, periodical fairs, or specific financial contracts made to a more efficient organization of trade.[7] The great merit of this approach is that it forces us to abstract from specific historical examples and make explicit the economic functions of the manifold mercantile institutions that existed across Europe.

The recent work of economists is not without problems, however. The modelling strategy employed by most, namely game or contract theory, requires relatively restrictive assumptions. To meet these, most models narrow the analysis down to one or two mutually exclusive solutions for just one of the three problems of exchange. This is problematic because of the assumption that a mercantile organization serves only one purpose, be it protection, contract enforcement, or the maximation of profit. As Frederic Lane observed long ago, the institutional history of pre-industrial Europe shows that single institutions typically solved more than one problem, while a single problem might have required a combination of institutions for it to be solved.[8] The methodological

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Xviiie Siècles, 3 vols. (Paris: Colin, 1979).; And more recently: Peter Spufford, *Power and Profit : The Merchant in Medieval Europe* (London: Thames & Hudson, 2002)..

[6] More analytic historical accounts on merchant guilds and fairs include John H. Munro, "The 'New Institutional Economics' and the Changing Fortunes of Fairs in Medieval and Early Modern Europe: The Textile Trades, Warfare, and Transaction Costs," *Vierteljahrschrift fuer Sozial- und Wirtschaftsgeschichte* 88, no. 1 (2001)., Stephan.R. Epstein, "Regional Fairs, Institutional Innovation and Economic Growth in Late Medieval Europe," *Economic History Review, 2nd ser.* 47 (1994). and S. Selzer and U.C. Ewert, "Verhandeln Und Verkaufen, Vernetzen Und Vertrauen. Über Die Netzwerkstruktur Des Hansischen Handels," *Hansische Geschichtsblätter* 119 (2001)..

[7] On merchant guilds: Avner Greif, P Milgrom, and Barry R Weingast, "Coordination, Commitment, and Enforcement: The Case of Merchant Guilds," *Journal of Political Economy* 102 (1994).; Roberta Dessi and Sheilagh Ogilvie, "Social Capital and Collusion: The Case of Merchant Guilds," *Cambridge Working Papers in Economics No. 417* (2004).. On informal coalitions of merchants: Avner Greif, "Reputation and Coalitions in Medieval Trade: Evidence on the Maghribi Traders," *The Journal of Economic History* 49, no. 4 (1989)., 1993, Avner Greif, "On the Political Foundations of the Late Medieval Commercial Revolution: Genoa During the Twelfth and Thirteenth Centuries," *Journal of Economic History* 54, no. 2 (1994).; On periodical fairs: Paul R. Milgrom, Douglas C. North, and Barry R. Weingast, "The Role of Institutions in the Revival of Trade: The Law Merchant, Private Judges and the Champagne Fairs," *Economics and Politics* 2, no. 1 (1990).. On debt and equity contracts Yadira Gonzalez de Lara, "Institutions for Contract Enforcement and Risk-Sharing: From Debt to Equity in Late Medieval Venice," *mimeo, Ente Enaudi* (2002)..

[8] The point was first made by Frederic Lane, over fifty years ago: Frederic C. Lane, "Economic Consequences of Organized Violence," *Journal of Economic History* 18, no. 4 (1958). reprinted in and cited from Braudel, ed., *Venice and History. The Collected Papers of Frederic C. Lane*, p.421..

challenge is to deal with this multi-functionality of institutions, and their combined use by merchants, without loosing the theoretical rigor of microeconomic analysis.

We believe a comparative analysis of the organization of long-distance trade across time and space is the best way to do this. Comparing the problems merchants faced in different economic, socio-political and cultural environments with the institutions they used to solve these problems, can help us to explain the rise, persistence, and decline of specific institutions. Avner Greif – amongst others – has argued that the idiosyncrasies of (mercantile) institutions make it practically impossible to use standard comparative statistical techniques.[9] We disagree with this view. Instead we suggest that – while acknowledging their idiosyncratic nature – all mercantile institutions shared one fundamental characteristic that can help us in the comparative analysis: through mercantile organisations merchants delegated control to fellow merchants in return for support with their contracting and enforcement problems.

Thus, we propose a comparative study of late medieval and early modern mercantile organisations in which we employ as the dependent variable the amount of control delegated to fellow traders. This allows us to capture the full historical variety of mercantile associations while specifying a relatively simple (and it turns out quite robust) model. We use this model to test the likelihood of different levels of control delegated to fellow merchants being associated with a variety of political, economic, and legal conditions. This new approach can help to overcome the methodological problem of dealing with multi-purpose, combined institutions without having to introduce a large number of more or less acceptable, but necessarily very restrictive prior assumptions into the analysis.

This paper is thus a first attempt to develop a comparative framework for the analysis of the rise, persistence and decline of commercial institutions in pre-modern Europe. The approach is data intensive. To date we have collected data on the organization of foreign merchant communities in only four towns – Amsterdam, Antwerp, Bilbao and Bruges – for benchmark years between the thirteenth and eighteenth

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[9] Greif, "Fundamental Problem," p.259.; Avner Greif, *Institutions and the Path to the Modern Economy: Lessons from Medieval Trade* (New York: Cambridge University Press, 2006). 20-21, 386.

centuries.[10] One strength of the approach is that it can (and will) be expanded to include a much wider geographical area. However, at this stage our emphasis is on discussing the theoretical underpinnings, methodological implications and empirical feasibility of what we believe to be a new approach to the study of mercantile organisation in pre-modern Europe. Our empirical analysis employs standard maximum likelihood models to estimate the probability of observing a particular way of merchant organisation that implied more or less delegation of control depending on a number of variables that capture the role of home rulers, host rulers, and the scale and scope of the markets these traders operated in.[11] We introduce both market conditions and property rights regimes as independent variables. We demonstrate the empirical usefulness of the approach with our new dataset.

The paper proceeds as follows. Section I discusses the historical and theoretical problems our comparative approach seeks to resolve. Section II defines our dependent variable as the amount of social, political, legal, and financial control merchants are willing to delegate to fellow traders in order to solve the fundamental problems of exchange. Section III specifies our model with market conditions and property rights regimes as the principal determinants of the delegation of control. The first results of our comparative analyses are presented in Section IV. Conclusions follow.

I. Confronting history and theory

Merchant guilds were a formative element of the mercantile history of medieval and early modern Europe.[12] There is a rich historical literature documenting a variety of more or

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[10] The full data set and coding is available in Appendix A at www.northwestern.edu\ .

[11] We will use the terms 'home ruler' and 'host ruler' as neutral labels for the local and central authorities whose composition varied greatly, from autocrats on one end of the spectrum to democratic governments on the other.

[12] To date, the best overview of the organization of foreign merchants: F. Mauro, "Merchant Communities, 1350-1750," in *The Rise of Merchant Empires: Long-Distance Trade in the Early Modern World, 1350-1750*, ed. James D. Tracy (Cambridge: 1990).; Dessì and Ogilvie give an exhaustive overview of local merchant guilds. Dessi and Ogilvie, "Social Capital.". Older, but insightful and rich in historical detail are Braudel, *Civilisation Matérielle, Économie Et Capitalisme, Xve-Xviiie Siècles.*, Volume 2; Frederic C. Lane, "The Trade of Medieval Europe: The South," in *The Cambridge Economic History of Europe. Volume Ii. Trade and Industry in the Middle Ages*, ed. M.M. Postan and Edward Miller (Cambridge etc.:

less formal associations of merchants. These include numerous local organizations of traders, but also German and Flemish *hanses*, the *nations* of Portuguese and Italian merchants, and Spanish *consulados*.[13] Merchant guilds trading abroad received their formal status from their home government, or from local or central authorities in the host country. Yet, sometimes groups of alien traders were united by common cultural and/or religious roots rather than political allegiance. Well known examples include the Jewish and Armenian diasporas.[14] For the purpose of this paper we will refer to all of these mercantile groups as 'merchant guilds'.

The oldest documented merchant guilds date back to the tenth and eleventh centuries, when societies of local or travelling traders, sometimes with a separate jurisdiction and a small pool of common resources, sprang up in various parts of Europe.[15] There must have been numerous merchant guilds in Europe before 1100, but the remaining sources only reveal the widespread existence of more or less formal associations of traders from the twelfth century onwards. In many areas these guilds persisted until the eighteenth century but there were also places, like for example the Italian city states and the Dutch Republic, where a movement away from formal associations towards informal social networks, or even more individualistic organizational forms, started much earlier.[16]

Cambridge University Press 1987 (1952)), Michael Postan, "The Trade of Medieval Europe: The North," in *The Cambridge Economic History of Europe. Volume Ii. Trade and Industry in the Middle Ages*, ed. M.M. Postan and Edward Miller (Cambridge etc.: Cambridge University Press 1987 (1952)).; Ehrenberg

[13] For a general overview of the various merchant communities in preindustrial Europe, see Mauro, "Merchant Communities, 1350-1750."The classic account of the history of the Hanseatic League is Philippe Dollinger, *La Hanse (Xiie-Xviie Siècles)* (Paris: Aubier, 1964).; Bracker et al. *Die Hanse Jörgen Bracker, Volker Henn, and Rainer Postel, Die Hanse. Lebenswirklichkeit Und Mythos (Lübeck:: Schmidt Römild, 1999).*, provides a more up-to-date overview of the multifaceted history of the Hansa. The organization of the two Flemish *hanse*'s trading in England and Champagne, respectively, is described in *Rudolf Häpke, Brügges Entwicklung Zum Mittlelalterlichen Weltmarkt (Berlin: Karl Curtius, 1908).*, 50-58, 129; On *nations* of foreign merchants, see for example *J.A. Goris, Étude Sur Les Colonies Marchandes Mériodinales (Portugais, Espagnols, Italiens) À Anvers De 1488- À 1567. Contribution À L'histoire Des Débuts Du Capitalisme Moderne (Louvain: 1925).*. The consulados***; A concise history of local and foreign merchant guilds in medieval Europe, with references to the relevant literature, is provided by Roberta Dessi and Ogilvie, "Social Capital."(Long Version), http://www.econ.cam.ac.uk/dae/repec/cam/pdf/cwpe0417.pdf, consulted June 27, 2005

[14] On the Jewish diaspora: Jonathan I. Israel, *Diasporas within a Diaspora. Jews, Crypto-Jews and the World Maritime Empires (1540-1740)* (Leiden: Brill, 2002).; on the Armenian diaspora: Philip Curtin, *Cross-Cultural Trade in World History* (Cambridge: Cambridge University Press, 1984).

[15] (CEHE p328 for Ravenna) p.481 Scandinavia and ref for Tiel. To be sure, formal associations of merchants are a much older phenomenon. They have been documented for the Ancient world as well.

[16] See for example the various contributions in: Calabi and Turk Christensen, *Cities*.; For the Italian city

Historians have produced a very large number of case-studies of merchant communities in virtually every part of Europe that illustrate the multitude of functions these institutions performed. Economic functions figure prominently. Guilds provided protection against theft, civil unrest and violence by offering housing and warehousing. They obtained safe-conducts, tax rebates, toll exemptions and monopolies from foreign and local rulers, and organised litigation against infractions. Some merchant guilds took to boycotts and blockades when rulers or other traders had damaged or seized their property. Internal disciplining and a credible threat of exclusion could keep fellow traders from cheating and reduce the risks of default. Members might also be subject to rules regarding everything from the quantity and quality of traded goods to the means of shipping them or the training of apprentices.

Mercantile organizations were an equally formidable force in the political, social and cultural life of pre-modern European towns. Guilds catered for many of the religious needs of their members; they often had their own chapel or strong relations with a particular parish or monastery. Occasionally they owned burial grounds and founded fraternities.[17] They defined sociability for local burghers, but more importantly guild houses, *fondaci,* or the Prussian *Artushöfe* offered social contacts between and amongst locals and foreigners.[18] Especially groups of alien merchants often co-opted shipmasters, clerks and various other non-traders in their provisioning of education and charity.[19] [20]

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states, also: Greif, *Institutions and the Path to the Modern Economy: Lessons from Medieval Trade*. 102-103.

[17] .Renée. Rössner, *Hansische Memoria in Flandern. Alltagsleben Und Totengedenken Der Osterlinge in Brügge Und Antwerpen (13. Bis 16. Jahrhundert)* (Frankfurt am Main: Peter Lang, 2001).

[18] Consider for example the funduqs and fondaco's in the medieval mediterranean world Constable, *Housing the Stranger in the Mediterranean World. Lodging, Trade, and Travel in Late Antiquity and the Middle Ages*.. The *Artushöfer* in Danzig and other Prussian cities stimulated socialization between local and foreign merchants from the fourteenth century onwards: N.W. Posthumus, *De Oosterse Handel Te Amsterdam: Het Oudst Bewaarde Koopmansboek Van Een Amsterdamsche Vennootschap Betreffende De Handel Op De Oostzee, 1485-1490* (Leiden: 1953)., 177; Check: Stephan Selzer, *Artushöfe Im Ostseeraum. Ritterlich-Höfische Kultur in Den Städten Des Preußenlandes Im 14. Und 15. Jahrhundert* vol. 8, *Kieler Werkstücke, Reihe D: Beiträge Zur Europäischen Geschichte Des Späten Mittelalters* (Frankfurt/Main (u.a.): 1996).

[19] Van Durtsteler Genoese

[20] Cf. for example for the Portuguese nation of Amsterdam: Miriam Bodian, *Hebrews of the Portuguese Nation. Conversos and Community in Early Modern Amsterdam*, ed. Paula Hyman and Deborah Dash Moore, *The Modern Jewish Experience* (Bloomington/Indianapolis: Indiana University Press, 1997).; Odette Vlessing, "The Portuguese-Jewish Mercantile Community in Seventeenth-Century Amsterdam," in *Entrepreneurs and Entrepreneurship in the Rbit of the Dutch Staple Market* ed. Clé Lesger and Leo Noordegraaf (The Hague: Stichting Hollandse Historische Reeks, 1995).; For Portuguese nation in

Finally, guilds of foreign merchants could help to preserve family estates by negotiating exceptions to the *droit d'aubaine*, the right of a local ruler to the property of deceased aliens.[21]

This is not to say that merchants single-handedly shaped the institutional environment within which they operated. The history of mercantile associations in pre-industrial Europe reveals a strong impact of local political and economic circumstances on the organization of trade. The associations of Portuguese Jews, Merchant Adventurers, Hanseatic traders, or any other group of merchants, could differ strongly between places.[22] Granting privileges to traders allowed princes and urban magistrates to include them in their corporatist world at home and abroad. Therefore the sometimes very strict regulation of alien merchants should not be confounded with hostility. It was a means to keep them as an identifiable and controllable "other".[23] This is not to deny the economic benefits to the incorporation of merchant guilds: it made it easier for rulers to monitor and tax their trade.[24]

If anything, the historical research on merchant guilds in pre-industrial Europe bears out the complex reality of mercantile associations. It shows how the organization of traders differed according to the economic and non-economic problems they tried to

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Livorno: Francesca Trivellato, *The Familiarity of Strangers: The Sephardic Diaspora, Livorno, and Cross-Cultural Trade in the Early Modern Period* (forthcoming 2008).; For Greek merchants in Venice: Jonathan Harris and Heleni Porfyriou, "The Greek Diaspora: Italian Port Cities and London, C. 1400-1700," in *Cultural Excange in Early Modern Europe. Volume Ii. Cities and Cultural Exchange in Europe 1400-1700*, ed. Donatella Calabi and Stephen Turk Christensen (Cambridge: Cambridge University Press, 2007)., 74.

[21] Simona Cerutti, "Médicaments Et Société - Étrangers Et Citoyens - À Qui Appartiennent Les Biens Qui N'appartiennent À Personne ? Citoyenneté Et Droit D'aubaine À L'époque Moderne " *Annales* 62, no. 2 (2007).

[22] On the differential reception of foreigners in Lübeck, Hamburg, and Danzig:Marie-Louise Pelus-Kaplan, "Merchants and Immigrants in Hanseatic Cities, C.1500-1700," in *Cultural Excange in Early Modern Europe. Volume Ii. Cities and Cultural Exchange in Europe 1400-1700*, ed. Donatella Calabi and Stephen Turk Christensen (Cambridge: Cambridge University Press, 2007).; On the organization of the Hanseatic settlements in Bergen, Novgorod, Bruges, and London: Bracker, Henn, and Postel, *Die Hanse. Lebenswirklichkeit Und Mythos*.

[23] Cf. for example the loss of privileges of foreign merchants in England in the second half of the sixteenth century: F. J. Fisher, "Commercial Trends and Policy in Sixteenth-Century England," *The Economic History Review* 10, no. 2 (1940). 101-109. Consider also the issue of *capitulations* by the Ottoman sultan allowing various groups of foreigners to trade in his realm yet restricting their freedom to move: Edhem Eldem, "Foreigners at the Threshold of Felicity: The Reception of Foreigners in Ottoman Istanbul," in *Cultural Excange in Early Modern Europe. Volume Ii. Cities and Cultural Exchange in Europe 1400-1700*, ed. Donatella Calabi and Stephen Turk Christensen (Cambridge: Cambridge University Press, 2007).; For a more general analysis of the position of strangers in various parts of Europe Tamar Herzog, *Defining Nations: Immigrants and Citizens in Early Modern Spain and Spanish America* (Yale University Press, 2003).

[24] Cf. the Russian Czar selling monopolies to English and Dutch merchants.

solve, as well as the impact of local environments on the choices they made. Yet the very richness of this history has prevented historians from developing a satisfactory explanation of the long-term trends in the rise, persistence and decline of merchant guilds, let alone an evaluation of their impact on the efficiency of long-distance trade. This, however, is the puzzle that interests economists. They want to know what led merchants and rulers to create and support guilds and how collective action of merchants contributed to the growth of trade in pre-industrial Europe.

Adam Smith condemned craft guilds and regulated companies as rent-seeking corporations that enabled members to benefit from the exclusion of others.[25] But how could these institutions have survived eight centuries without any economic benefit at all?[26] Avner Greif and others have argued that merchants and rulers might have had incentives to support incorporation not simply to seek rents but because these institutions were needed to organise trade where protection of merchants and compliance with rules was week. Greif et al. analyze the ability of mercantile associations to keep medieval rulers from preying on the liquid wealth of visiting merchants. They construct a game-theoretical model in which guild leaders are responsible for organising a defence against these predatory hosts by rallying the merchants around a common response. The history of the German and Flemish Hansa's between the 13th and 15th centuries yields the rules that the members of these guilds were expected to follow under normal circumstances, and the sanctions they faced in case of non-compliance. The solution of this model shows a ruler who respects commercial property, guild leaders who carry out their duties, and members who submit to their sanctions rather than flee. The resulting equilibrium maximises the benefits from trade for both merchants and rulers.[27]

Not all economists share this positive assessment of merchant guilds. Drawing on a different body of historical literature dealing with local merchant guilds Dessi and Ogilvie posit the hypothesis that merchants initially received economic privileges in

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[25] Smith, Adam. *An Inquiry into the Nature and Causes of the Wealth of Nations.* Library of Economics and Liberty. Retrieved December 14, 2007 from the World Wide Web: http://www.econlib.org/library/Smith/smWN20.html, Book 5, Chapter 1, paragraph 6.

[26] This is a variation of Deidre McCloskeys famous restatement of the debate about English enclosure, namely that it is highly unlikely that long-existing institutions, such as the open fields, were simply 'irrational'. Instead McCloskey suggested they might have had benefits, such as the reduction of risk, that compensated for the lower productivity in production.

[27] Greif, Milgrom, and Weingast, "Coordination."; Greif, *Institutions and the Path to the Modern Economy: Lessons from Medieval Trade*.

exchange for their financial support to the ruler.[28] The equilibrium situation here allowed rulers to benefit from regular tax revenues while merchants enjoyed formal privileges that enabled them to extract rents from the rest of society who had to pay the price for the guild's rights to restrict access to the trade and impose monopolies. Thus, Dessi and Ogilvie not only depart from a different formulation of the ultimate purpose of guilds but also argue that for early modern (urban) society as a whole they were a rather costly way of organising trade.

The great merit of the game and contract theoretical approach is that it can model the incentives merchants or rulers had to support guilds by formalising the potential pay-offs of various strategies. However, the implicit assumption usually has to be that merchant guild served one purpose only, be it protection against predatory rulers or greater ease of tax collection, and that they could achieve their goal without auxiliary institutions. This brings us back to what Frederic Lane recognized long ago as the fundamental characteristic of mercantile organization: merchants typically use a *combination* of institutions to solve one particular problem, while each of these institutions helps to solve *multiple* problems. These two fundamental characteristics of merchant guilds (or any other institution, for that matter) are important because they might explain why they emerged in the first place.

Consider the example of the German settlements in Novgorod, Bergen, London, Bruges, and Antwerp between the thirteenth and sixteenth centuries.[29] Hanseatic merchants in these ports relied on a combination of personal relations, the prospect of repeat transactions, supervision by the aldermen of their Kontor, and the threat with lawsuits, to keep their trading partners from cheating. Yet, contract enforcement was only one of the concerns of the German principals in these towns. The German aldermen also managed housing facilities, they facilited religious worship, they negotiated privileges and tax reductions with the local government, and if needed, they could induce their members to collective action to enforce their demands. It may have been the combination

[28] Dessi and Ogilvie, "Social Capital.".
[29] The following is based on various contributions in: Bracker, Henn, and Postel, *Die Hanse. Lebenswirklichkeit Und Mythos.*; Dollinger, *La Hanse (Xiie-Xviie Siècles).*; Selzer and Ewert, "Verhandeln Und Verkaufen, Vernetzen Und Vertrauen. Über Die Netzwerkstruktur Des Hansischen Handels."; Rössner, *Hansische Memoria in Flandern. Alltagsleben Und Totengedenken Der Osterlinge in Brügge Und Antwerpen (13. Bis 16. Jahrhundert).*.

with these additional benefits that made guild membership the preferred solution for contracting problems.

Institutional economists have hinted at the superior efficiency of multi-purpose institutions. Avner Greif, et al stress that guild membership could mitigate the risk of default and – through the creation of monopolies – helped to manage the risk of price fluctuations.[30] However, in their view these problems played a subordinate role in the creation of the guilds. Yet, their model does not prove this contention.[31] Instead, the authors quote a small number of historical cases in which merchants lacked the strength to monopolize the market, and rulers still remained committed to the protection of the property of merchants. The methodological problem is that the solution of game theoretical formulations of co-existing multi-purpose institutions is extremely complex and has yet to be attempted.[32]

In response to this economic theorists have shifted towards a more diffuse definition of the outcome that merchant guilds produce. Rather than discussing solely the private costs and benefits that members realised the creation of 'social capital' has moved centre stage.[33] Greif et al. allege that 'guilds' created a degree of social cohesion that reduced monitoring costs and transaction costs beyond the actual realm of guild activity; in other words they created social benefits that outweighed private gains.[34] Dessí and Ogilvie challenge this by showing that the externalities usually labelled as 'social capital' in fact imposed substantial costs on non-members because they enabled members to

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[30] Greif, Milgrom, and Weingast, "Coordination." 748-749, 772-773; Greif, *Institutions and the Path to the Modern Economy: Lessons from Medieval Trade*. 101n.
[31] Greif, Milgrom, and Weingast, "Coordination," pp.755-757.; Compare Greif, *Institutions and the Path to the Modern Economy: Lessons from Medieval Trade*. 115-116, 120-121.
[32] Compare Greif, *Institutions and the Path to the Modern Economy: Lessons from Medieval Trade*., 205-209, 386-387; Avinash K. Dixit, *Lawlessness and Economics:Alternative Modes of Governance* (Princeton: Princeton University Press, 2004).
[33] Robert D. Putnam, *Making Democracy Work: Civic Traditions in Modern Italy* (Princeton N.J: 1993)., Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge: Cambridge Univesity Press, 1990)., Kenneth J. Koford and Jeffrey B. Miller, eds., *Social Norms and Economic Institutions* (Ann Arbor: The University of Michigan Press, 1991)., Michael Hechter, Karl-Dieter Opp, and Reinhard Wippler, eds., *Social Institutions: Their Emergnce, Maintenance and Effects* (New York: Aldine de Gruyter, 1990)., Michael Hechter, *Principles of Group Solidarity* (Berkeley: University of California Press, 1987)., James S. Coleman, "Social Capital in the Creation of Human Capital," *American Journal of Sociology* 94 (1989)., Kaushik Basu and E.L. Jones, "The Growth and Decay of Custom: The Role of the New Institutional Economics in Economic History," *Explorations in Economic History* 24, no. 1 (1987), Mark Granovetter, "Economic Action and Social Structure. The Problem of Embeddedness," *American Journal of Sociology* 91, no. 3 (1985). etc
[34] Greif, Milgrom, and Weingast, "Coordination."772-773

inflate their profits. ‘Social capital’, far from producing social gains, resulted in private gains at the expense of social costs.[35] Implicitly this shift of focus towards social benefit reflects the realisation that mercantile institutions were multifunctional. Yet, it could be argued that it replaces an approach that simply ignored multi-functionality with one that converts it into a black box called ‘social capital’.

Modelling multi-functionality in a game theoretical world has so far remained an elusive goal but modelling in addition the combined use of different institutions is upping the challenge even further. Yet again, historical observation would suggest that abstracting from the fact that merchants used different institutional solutions to address the same problem would limit the empirical value of any results considerably. The heyday of European merchant guilds coincided with the development of other widely used institutions, such as fairs, bourses, limited liability partnerships, and specialized mercantile courts. Greif’s important contributions have shown that we can best understand institutional development if we break it down to the most fundamental issues of transacting. This invites us to shift the perspective from how particular institutions solve a transacting problem to a more open-minded how can a transacting problem get solved. The historical empirical evidence suggests that merchants often used a variety of institutions concurrently to deal with potentially crippling transaction costs, such as family networks, a guild and recourse to a state provided commercial court. Hence we cannot postulate ex-ante that these institutions were substitutes. Instead, it seems likely that they might have reinforced one another. The logical conclusion is that we have to be able to model in such a way that possible positive externalities associated with a particular institution can be captured as well as substitution effects between institutions.

II. A new dependent variable

[35] Dessi and Ogilvie, "Social Capital." This debate mirrors the more recent sociological debate about the impact of social capital. It has been suggested that rather than being universally positive, ‘social capital’ exists in two forms. ‘Bonding’ social capital is largely exclusive and thus associated with high costs for outsiders while ‘bridging’ social capital is supposed to be socially more beneficial. See Robert D. Putnam and Lewis M. Feldstein, *Better Together: Restoring the American Community* (New York: 2003)..

Merchant guilds are not the same thing for historians and economists. Historians typically highlight the different forms and functions mercantile associations could take on between 1000 and 1800. Economists, on the other hand, define merchant guilds on the basis of one unique purpose, be it the protection of property, the enforcement of contracts, or the creation of rents. Our methodology has to bridge this gap in order to combine the strenghths of both approaches. Thus we have to capture a variety of attributes of mercantile associations in one dependent variable. To do that, we will define guilds not by any specific purpose, but by their employment of collective action as a means to minimize transaction costs.

It seems appropriate to think about commercial institutions as a continuum along the lines suggested by Oliver Williamson.[36] At one end, there is a perfectly atomised market in which anonymous buyers and sellers meet in fleeting encounters of voluntary exchange. At the other end, all risks and decisions are incorporated into one large hierarchically organised and vertically integrated firm. Human ingenuity has produced endless permutations along the continuum between those two points, characterised by more or less anonymity, hierarchy, market control, political involvement and so forth.[37] Following Williamson's distinction between markets and hierarchies, we view social networks, nations, consulates, guilds, and regulated companies as institutions that perform the same basic economic function – the governance of transactions – and differ merely in the degree of control delegated to fellow merchants. This basic assumption allow us to include merchant communities operating in different parts of Europe over a very long time period (1000-1800) in one data panel.

Consider once again the fundamental problems of exchange. Besides the prevention of violent assaults or confiscations by foreign rulers, merchants had to enforce contracts with fellow traders, and they sought to maximize profits through negotiations for toll exemptions, tax rebates, and monopoly rights. In theory, merchants could solve these three problems in as many ways. Firstly, they could buy solutions or bear the risk all by themselves. The second way, which concerns us in this paper, was to organize collective action with fellow merchants, and share the costs and benefits of these 'club

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[36] Oliver Williamson, *The Economic Institutions of Capitalism* (New York: 1985).
[37] Robert B. Ekelund and Robert.D Tollison, *Mercantilism as a Rent-Seeking Society. Economic Regulation in Historical Perpective* (College Station: Texas A & M University Press, 1981)..

goods'. Lastly merchants could rely on a third party, a ruler, to provide solutions in the form of public goods.

The first solution, going it alone, was unrealistic in many circumstances. Individual merchants or shipmasters may have armed themselves but by themselves they stood little chance repelling organized attacks on their person and goods. More systematic protection is subject to indivisibilities. Even a modest improvement of security required start up costs that were beyond the means of most individual merchants, who could hardly contemplate the purchase a private army or police force.[38] From the point of view of benefits individual solutions were equally unattractive; collective action promised larger market power and thus greater benefits. Hence, some form of collective action potentially promised lower costs and higher benefits, a winning combination.[39]

Merchants could organise amongst themselves and 'produce' a collective good that all members of their association could use but that was unavailable to non members, a 'club good'. In this way merchants in medieval and early modern Europe shared the high start up costs of protection and transaction governance as well as the benefits of larger market power. In addition, addressing one of the three problems often helped them with the other two. E.g. organising protection collectively could create positive externalities in the sense that the group could govern transactions more effectively and wield more market power than any individual could hope for. Yet, collective action always came at a cost. Merchants generally had to pay some fee for the membership benefits. More importantly, delegating control to the association (to the club) created a cost in the form of submitting individual decision making to choices made by the association. While those choices would be expected to be the optimal solution for the group as a whole, they did not necessarily reflect the optimal solution for each and every member.[40] Thus delegating control created both benefits and costs for merchants.

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[38] Volckart (2004) has argued that contracting parties in late medieval Germany were able to threaten defaulters with a feud to enforce their contracts. However, such threats were mostly made by noblemen with muscle of their own. Oliver Volckart, "The Economics of Feuding in Late Medieval Germany " *Explorations in Economic History* 41, no. 3 (2004).

[39] In a competitive environment without publicly provided solutions it was in practice unthinkable that one individual merchant would gain the biggest net benefit by trading entirely by himself. Who should we cite to substantiate this intuition?

[40] Optimal in the sense that they are reflected imperfect information and bounded rationality We should explain this.

The relative costs and benefits that merchants derived from club goods depended, amongst other things, on the third potential solution, the provision of public goods, accessible to everyone, through the ruler. Rulers by definition provided some amount of 'services', such as protection, for their subjects. In addition to this, they could step up their efforts and offer additional goods; they could escort merchants, enforce contracts and regulate markets e.g. But their ability to rule effectively and enforce rules in the pre-modern world was subject to important limitations. From the point of view of merchants, the cost of this solution came in the form of taxation and only limited influence on the exact nature of the actual public goods provided. Furthermore, by definition nobody could be excluded, creating problems of free-riding. Hence, merchants would choose the amount of club goods as a complement to the available public goods. In choosing these they would optimise their private cost benefit function.

How can we use these theoretical insights in explaining the rise, persistence and decline of merchant guilds? We cannot calculate costs and benefits of club goods provided by mercantile associations. However, history provides us with a large number of empirical observations on the outcome of that implicit cost-benefit calculus, namely the amount of control merchants chose to delegate to fellow traders. These represent the constraints they were willing to put on themselves to protect their property, enforce contracts, and manage commercial risks. We also have a lot of historical data on what merchants' alternatives were. In order to use this information in a comparative setting we can group our observations of how much control a particular group of merchants chose to delegate at a given point in time into a few discrete categories. We can then analyse if there were any systematic relationships between the observed degree of control delegated to a collective body and the alternative solution to the fundamental problems of exchange available in the political and market environment merchants worked in.

Underlying our approach is thus only one crucial – and we think convincing – assumption: merchants will only give up the freedom to choose how to conduct their business to some formal or informal institution if they feel they are compensated for the loss of control, i.e. that turning over part of the control to a mercantile institution will maximise their profits.[41] The more control they are asked to give up, the higher the

[41] It should be noted that we do not necessarily assume that merchants simply maximise monetary return,

compensation they will want in return. We believe that this trade-off between control over a merchant's own dealings and the potential benefits of delegation of control to an informal or formal institution that can exercise collective action, is an essential characteristic of all mercantile organizations.

Table 1. The delegation of control by merchants as a means to differentiate between mercantile organizations.

Category		**Description**	**Control delegated**
1	Individual agents	Merchants organize transactions without any interference of fellow traders.	individuals do not delegate any control
2	Informal constraints	merchants are organized loosely along social or religious lines but have no formal economic organization	Control is not formally delegated but social and/or cultural norms constrain decisions
3	Political representation	Merchants rely on spokesmen to represent them in negotiations with other groups or political authorities	Control to represent is delegated
4	Internal discipline	Merchants elect officials to enforce general rules of conduct within the community	Members delegate control to establish general rules and enforce them through sanction, but not exclusion
5	Power of exclusion	Group is endowed with a privilege granted by political body that gives it internally and externally right to exclude members/others	Members delegate control to be sanctioned through total exclusion from market entry

In the history of European long-distance trade we observe a whole array of mercantile associations that can be distinguished according to the amount of control delegated by individual merchants (table 1). A few examples from our own dataset can illustrate the lines of distinction between the five categories.[42] On the one end of the *control-delegation-distribution* are individual merchants whose business transactions are in no way constrained by formal or informal control of fellow traders. A case in point are the dozens of German merchants that sojourned in Amsterdam in the second half of the sixteenth century to buy and sell grain shipped from Poland and other Baltic states.[43] The merchants stayed in hostels, rented warehouses to store their merchandise, wrote

but that esteem and social status may well have formed part of their strategy. Cf. for example: Volckart, "Economics of Feuding." 290-291.

[42] The measurement of our dependent variable is detailed in the appendix.

[43] Milja van Tielhof, *De Hollandse Graanhandel, 1470-1570. Koren Op De Amsterdamse Molen* (The Hague: 1995)., Milja van Tielhof, "Handel En Politiek in De 16e Eeuw: Een Amsterdamse Oostzeehandelaar Tijdens De Eerste Jaren Van De Opstand",," *Tijdschrift Holland* XXIX, no. 1 (1997). and Milja van Tielhof, *The 'Mother of All Trades'. The Baltic Grain Trade in Amsterdam from the Late 16th to the Early 19th Centuy* (Leiden: Brill, 2002)..

contracts with the help of local brokers and notaries, settled disputes with fellow traders or shipmasters before the local court, and otherwise submitted to the prevailing property rights regime. They did not rely on any kind of 'club' goods provided only to members of a defined community – in fact they were no community.

Our second category involves merchants that belong to a community with shared cultural beliefs and social norms but without any formal ties between them. In the last quarter of the sixteenth century, a small group of English cloth dealers settled in Amsterdam.[44] These interlopers were intent on avoiding the forced staple of the state sponsored Merchant Adventurers, who had had their Court in Antwerp until 1568, and then set up in nearby Middelburg in 1582.[45] Unlike the Merchant Adventurers, the English merchants in Amsterdam were subjected to the same contracting rules as local businessmen and they used the city's commercial infrastructure. Yet the English traders formed a close-knit Calvinist community that obtained its own church in the early seventeenth century.[46] This situation, in which behaviour is directed by shared social or cultural beliefs – and related peer pressure – we would characterize as one of informal constraints (category 2).[47]

A first step towards the formal association of alien merchants is the delegation of political control to a consul or ambassador, or simply to the ruler of one's hometown or -country. By 1500 most of the foreign merchant communities in the Low Countries were already past this stage, having negotiated more extensive privileges in the fourteenth and fifteenth century. However, Florentine merchants were merely represented by a consul in

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[44] Jessica Dijkman, "Giles Sylvester, an English Merchant in Amsterdam," *mimeo University Utrecht* (2002)..

[45] Oscar Gelderblom, "The Decline of Fairs and Merchant Guilds in the Low Countries, 1250-1650," *Jaarboek voor Middeleeuwse Geschiedenis* (2004)..

[46] Alice Clare Carter, *The English Reformed Church in Amsterdam in the Seventeenth Century* (Amsterdam: Scheltema & Holkema NV, 1964)..

[47] Other religious communities in Amsterdam, notably Lutherans, and Dutch- and French-speaking Calvinists, were also submitted to clerical discipline (Herman Roodenburg, *Onder Censuur. De Kerkelijke Tucht in De Gereformeerde Gemeente Van Amsterdam, 1578-1700* (Hilversum: Verloren, 1990).. But although quite a few German, Flemish, and Walloon merchants were members of these churches, the religious community never encompassed all traders from these regions (Oscar Gelderblom, *Zuid-Nederlandse Kooplieden En De Opkomst Van De Amsterdamse Stapelmarkt (1578-1630)* (Hilversum: Verloren, 2000).*)* – which effectively set them apart from the Portuguese merchants who were all members of the same church, and the English who belonged to the same church until a schism in 1628 (Carter, *The English Reformed Church in Amsterdam in the Seventeenth Century*.); (Daniel M. Swetschinski, *Reluctant Cosmopolitans : The Portuguese Jews of Seventeenth-Century Amsterdam* (London: The Littman Library of Jewish Civilisation, 2000).).

Antwerp and representatives of the Scottish staple in Veere negotiated with the town magistrate on several occasions (category 3).[48]

Whenever talks with rulers in a foreign territory resulted in the creation of a separate jurisdiction, the delegation of control went a step further to imply the establishment of general rules of conduct and their enforcement by one or more leaders of the merchant community (category 4).[49] The Portuguese nation in Antwerp is a case in point. Every subject of the Portuguese king was expected to register with the consuls upon arrival in the city. The nation held weekly meetings attended by all members, and Antwerp's customs stipulated that the group had the right to settle disputes between its members.[50]

The English Company of Merchant Adventurers in Antwerp resembled the Portuguese nation in more than one way. English cloth dealers and their apprentices were registered with the Court master, they paid contribution, and were subjected to the company's jurisdiction.[51] The one major difference between the two *nations* was the ability of the English association to exclude merchants from participation in the cloth trade, first in Antwerp, and then after 1582 in Middelburg.[52] The ability of a mercantile organization to prevent free-riding, and reserve the economic benefits of its operations to the membership, should be considered a distinctive next step (category 5) in the delegation of control.

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[48] Gelderblom, "Decline.". In the early 1540s the aldermen of the Hanseatic Kontor in Bruges started talks with the local authorities about the removal of their organization to the Scheldt port However, it seems unlikely they represented the majority of German traders in Antwerp. These merchants, most notably from Cologne – Antwerp's major German trading partner, and a reluctant member of the Hansa – had been active in Antwerp since the fifteenth century, and felt no inclination to submit to the control of the Hansa again. In 1553 the Kontor was nevertheless removed to Antwerp, but without any obligation of merchants to submit to its legal or political control (Dollinger, *La Hanse (Xiie-Xviie Siècles)*., J Denucé, *De Hanze En De Antwerpsche Handelscompagnieën Op De Oostzeelanden* (Antwerpen: De Sikkel, 1938).). On the Scots: Matthijs P. Rooseboom, *The Scottish Staple in the Netherlands. An Account of the Trade Relations between Scotland and the Low Countries from 1292 Till 1676 with a Calendar of Illustrative Documents* (The Hague: Martinus Nijhoff, 1910)..

[49] Oscar Gelderblom, "The Resolution of Commercial Conflicts in Bruges, Antwerp, and Amsterdam, 1250-1650," *http://www.lowcountries.nl/2005-2_gelderblom.pdf* (2005)..

[50] Goris, *Étude Sur Les Colonies Marchandes Mériodinales (Portugais, Espagnols, Italiens) À Anvers De 1488- À 1567. Contribution À L'histoire Des Débuts Du Capitalisme Moderne*., Raymond De Roover, *Money, Banking and Credit in Mediaeval Bruges : Italian Merchant-Bankers Lombards and Money-Changers : A Study in the Origins of Banking* (Cambridge/MA: The Mediaeval academy of America, 1948)., H Pohl, *Die Portugiesen in Antwerpen (1567-1648). Zur Geschichte Einer Minderheit* (Wiesbaden: 1977)..

[51] O. de Smedt, *De Engelse Natie Te Antwerpen in De 16e Eeuw (1496-1582)*, 2 vols. (Antwerpen: 1950-1954)..

[52] W.R. Scott, *The Constitution and Finance of English, Scottish and Irish Joint-Stock Companies to 1720*, 3 vols. (Cambridge: 1910-12). and Smedt, *De Engelse Natie Te Antwerpen in De 16e Eeuw (1496-1582)*..

The above classification of mercantile organizations by the amount of control over business dealings that merchants are willing to delegate can serve as a general tool to standardize the rich historical reality of mercantile associations. It provides us with a standardized (ordered) dependent variable that can describe the basic nature of each mercantile association during the period under consideration.[53] This is important for drawing comparisons between merchants in different places because it highlights group preferences **and** local influences and for delegated control. This becomes very clear when we compare the organization of one particular group of traders, German merchants in Bruges, Antwerp, and Amsterdam (Figure 1). Despite their shared affiliation to the Hanse these merchants were organized very differently in the three cities. We can then use this classification to analyze why merchants delegated more or less delegation of control, or, in other words, operationalize our independent variables for a multinomial model.

Figure 1. A graphic representation of the control delegated by German merchants in Bruges, Antwerp, and Amsterdam, between 1250 and 1750.

[53] Note that this set-up leaves room for an empirical test of what seems to be an oversimplification of historical reality: namely that the level of delegated control is a function of time, i.e. from guilds to companies etc.

Source: our dataset

Before we discuss what those local influences might be in more detail let us return for a moment to our basic classification into five categories. From a merely statistical point of view it matters if we should consider these merely discrete choices or if this are ordered categories, in other words can we argue that they are lined up in the form of

$$1 < 2 < 3 < 4 < 5.$$

Let us consider category 5 for illustration. We argued that this highest form of control delegation was essentially defined by its ability to exclude non-members (and members who infringed on their own rules) from a particular market. Such exclusion would require clear rules and fairly sophisticated enforcement mechanisms in the hands of the guilds (category 4). It would necessarily mean that members at some stage delegated representation of the group since total market exclusion was impossible without recourse to help or at least recognition from local authorities, with which guilds negotiated through their representatives (category 3). Our category 5 groups were essentially cartels operating in geographically diverse markets (that is a home and a host city). It is well known that monitoring costs for such arrangements are extremely high, even if these groups were granted additional enforcement from a third-party enforcer, such as a local ruler. Hence, without the help from cultural and social cohesion monitoring costs would have been prohibitively high and not surprisingly all of these organised around some common feature such as geographic origin or religion (category 2).

III Our model: the independent variables.

The level of control merchants are willing to delegate to fellow traders depends on the existence of alternative solutions for the problems of exchange, and the comparative costs and benefits of these solutions. The historical record bears out at least three possible alternatives, with different market conditions and property rights regimes that are likely to have influenced organizational choices. A first alternative for the merchant guilds is that the home ruler of merchants operating in foreign territory concerns himself with the protection of the subjects' property and the enforcement of contracts between them. Venice and the Dutch Republic are clear examples.[54] They arranged for diplomatic representation of their subjects abroad, organized convoys, gave merchants the choice to settle commercial conflicts in their home country, and sanctioned the entry to foreign markets. Where home rulers provided protective services as a public good we would expect that traders had little incentive to spend their private money on similar activities. Thus merchants abroad might only have delegated control to their home ruler, and not to fellow traders.

A second alternative is a benevolent ruler in the host country who acts in the interest of both his own subjects and foreign visitors. If rulers supply sufficient policing to deter criminals, and otherwise refrain from incursions on the person and goods of foreign visitors, merchants could safely trade in his territory and return time and again. Instead of preying on the property of these alien traders, benevolent rulers would only tax them mildly or even shift the financial burden of protection to local economic actors who benefited from the presence of merchant strangers. However, central rulers in pre-industrial Europe typically lacked the political leverage or desire (the riches of foreign merchants were an enticing price in rulers' quest for funds) to provide such protection. Therefore, the commitment of the host cities often seems to have been of crucial importance to obviate the merchant guild as a means to secure the property of alien traders. [55]

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[54] On Venice: Braudel, ed., *Venice and History. The Collected Papers of Frederic C. Lane*.; On the Dutch Republic: Jonathan I. Israel, *Empires and Entrepots: The Dutch, the Spanish Monarchy and the Jews, 1585-1713* (London: Hambledon Press, 1990).. See also various contributions to C.M. Lesger and Leo Noordegraaf, eds., *Entrepreneurs and Entrepreneurship in Early Modern Times. Merchants and Industrialists within the Orbit of the Duch Staple Market* (The Hague: 1995)..

[55] Late medieval and early modern examples include the cities of Bruges (Peter Stabel, "De Gewenste Vreemdeling. Italiaanse Kooplieden En Stedlijke Maatschappij in Het Laat-Middeleeuws Brugge," *Jaarboek voor Middeleeuwse Geschiedenis* 4 (2001).); Venice (Braudel, ed., *Venice and History. The Collected Papers of Frederic C. Lane*.), Antwerp (Herman Van der Wee, *The Growth of the Antwerp Market and the European Economy (14th - 16th Centuries)*, 3 vols. (Leuven: 1963).), Bilbao (Regina Grafe, *Entre El Mundo Ibérico Y El Atlántico. Comercio Y Especialización Regional, 1550-1650* (Bilbao:

Third, merchants may use the market to protect and transfer property rights, or manage commercial risks. The regional and international fairs of the late Middle Ages, the permanent exchanges built in cities like Antwerp, London, and Amsterdam, or any other spot market, for that matter, allowed strangers to transact with one another.[56] The relationship created by repeat transactions between buyers and sellers can become a valuable asset that secures the commitment of both parties.[57] Merchants will simply refrain from cheating if the discounted value of future transactions with a particular agent exceeds the value of a single default.[58] Besides, merchants can use markets to diversify their trade or transfer risks using insurance and derivatives.[59] The spreading of risks allows merchant to compensate for damages due to insufficient protection.

If merchant associations, home rulers, host rulers, and markets were perfect substitutes, our comparative effort would be superfluous for one would always observe one of these four solutions. However, in practice merchants always relied on a combination of institutions. The German Hanse, for example, negotiated for safeconducts with the counts of Flanders and the town of Bruges but it also organized its own convoys in the late fourteenth and fifteenth century. Several foreign nations in Antwerp retained their separate, consular jurisdiction but they also used local and central courts in the

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Bizkaiko Foru Aldundia, forthcoming).) and Hamburg (Hermann Kellenbenz, *Unternehmerkräfte Im Hamburger Portugal- Und Spanienhandel 1590-1620* (Hamburg: 1954).), and Amsterdam (Gelderblom, "Decline." and Gelderblom, "Resolution."; also for Bruges and Antwerp). Pace Greif, Milgrom, and Weingast, "Coordination," pp747-748., who state that the medieval historical record shows very few examples of benevolent rulers.

[56] On fairs: Epstein, "Regional Fairs, Institutional Innovation and Economic Growth in Late Medieval Europe.", and Munro, “International fairs”; On exchanges: Braudel, *Civilisation Matérielle, Économie Et Capitalisme, Xve-Xviiie Siècles*.; Van der Wee, *Growth*.; Gelderblom, "Decline.".

[57] Milgrom, North, and Weingast, "Law Merchant," p.1-2.; Greif 1993.

[58] Examples abound in studies on the business dealings of merchants in Antwerp (W. Brulez, *De Firma Della Faille En De Internationale Handel Van Vlaamse Firma's in De 16e Eeuw*, 35 vols., *Verhandelingen Van De Koninklijke Vlaamse Academie Voor Wetenschappen, Letteren En Schone Kunsten Van België* (Brussels: Paleis der Academiën, 1959).), London (F.J. Fisher, ed., *Calendar of the Manuscripts of the Right Honourable Lord Sackville of Knole Sevenoaks, Kent, Vol. Ii. Letters Relating to Lionel Cranfield's Business Overseas, 1597-1612* (London: 1966).), Amsterdam (Gelderblom, "Governance."), Augsburg (Mark Häberlein, *Brüder, Freunde Und Betrüger. Soziale Beziehungen, Normen Und Konflikte in Der Augsburger Kaufmannschaft Um Die Mitte Des 16. Jahrhunderts* (Berlin: Akademie Verlag, 1998).), the Baltic area (Wilhelm Stieda, *Hildebrand Veckinchusen. Briefwechsel Eines Deutschen Kaufmanns Im 15. Jahrhundert* (Leipzig: S.Hirzel, 1921).), the Italian city-states (M.C. Engels, *Merchants, Interlopers, Seamen and Corsairs. The 'Flemish' Community in Livorno and Genoa (1616-1635)* (Hilversum: 1997).; Lane, Barbero), or any other major market place.

[59] On insurance: J.P. van Niekerk, *The Development of the Principles of Insurance Law in the Netherlands from 1500 to 1800*, 2 vols. (Johannesberg [etc.]: Juta, 1998).; On derivatives: Oscar Gelderblom and Joost Jonker, "Completing the Financial Revolution: The Finance of the Dutch East India Trade and the Rise of the Amsterdam Capital Market, 1595-1612," *Journal of Economic History* 64, no. 3 (2004)..

Netherlands to resolve commercial conflicts.[60] While in politic matters English merchants in Burgos relied on their own consul in the sixteenth century, in business affairs they delegated control to local hostellers.

Our comparative analysis can explain such combined solutions because it teases out the extent to which rulers and markets could contribute to the protection and transfer of property rights, or the management of commercial risk (see table 2 below). One possibility is that the amount of control delegated allowed merchants to solve one or two, but not all three problems of exchange. To test this hypothesis, our approach traces correlations between the likelihood of adopting a particular level of control delegated to fellow merchants and the availability of alternative solutions provided by home rulers, local rulers, or market institutions. Alternatively, institutions that may seem to perform similar economic functions may in fact reinforce one another. For example, the existence of markets, although primarily a function of the scale and scope of trade, often goes with a local or central government setting the rules of the game. Our comparative analysis will reveal the regular co-existence of different institutions that would point to such a mutual reinforcement of solutions.

Comparisons may also explain the persistence of a particular form of associations in the presence of alternative solutions. The traditional explanation, inspired by Adam Smith, would be that guilds allowed the pursuit of rents by traders. Our model allows for two tests of this assumption. One is to find out whether merchant guilds with the power of exclusion (control level 5) existed in an environment with a full set of alternative solutions for protection, contract enforcement, and risk management. A second test can explore whether rent-seeking guilds of alien merchants existed in the presence of local competitors. A certain level of delegated control may also persist because the cost of changing it is too high, or because it does not keep merchants from using alternative institutions. Again our analytical model is designed to explore such changes, simply by comparing the organization of a group of merchants in one city with its organization in another city (while controlling for other factors).

The above discussion helps to identify a number of independent variables that we would like to test. Table 2 groups these variables (the measurement of which is detailed

[60] Gelderblom, "Resolution.".

in the appendix) in four sets. The first one tries to capture political representation and services aimed at protecting of property rights that are offered by the rulers in the merchants' place of origin. The second one looks at the same factors in the guest town. The third set aims to test for crucial market conditions, including private market solutions to property rights issues, such as insurance, and the existence of face-to-face exchanges in spot markets. The last set looks at the impact of the size and scope of the market on the probability that merchants would choose to delegate more or less control. This overall research design allows us to employ the basic model in order to test a whole variety of complementary and competing hypotheses regarding the development of commercial institutions in early modern Europe.

Table 2. Independent variables capturing property rights regimes and market conditions

Nr	Variable	Dummy	Description
	Home Ruler		
H1	Political representation	Yes	Do merchants participate in the ruling elite of the home town or region?
H2	Protection	Yes	Does the home ruler coordinate protective measures (convoys, caravans)?
	Local Ruler		
L6	Political representation	Yes	Do merchants participate in the ruling elite of the host town or region?
L4	Protection	Yes	Does the local ruler coordinate protective measures (convoys, caravans)?
L5	Protection	Yes	Were merchants victims of violence over the last 25 years?
L8	Protection	Yes	Does local ruler provide merchants with housing and/or warehousing?
L1	Contract enforcement	Yes	Do merchants have access to, and use a general court of law?
L3	Contract enforcement	Yes	Do merchants have access to, and use a specialized mercantile court?
	Market conditions		
M1	Protection	Yes	Do merchants have access to, and use insurance markets?
M8	Contract enforcement	Yes	Do merchants have access to, and use periodic fairs?
M9	Contract enforcement	Yes	Do merchants have access to, and use a bourse?
M10	Contract enforcement	Yes	Do merchants have access to, and use public vending locations for specific products?
M11	Contract enforcement	Yes	Do merchants have access to, and use private vending locations?
M12	Competition	Yes	Do merchants from the host town trade in the home market?
	Size effects		
M7	Town population (^2)	No	How many inhabitants does the host town have?
M13	Size of the market	No	How big are the markets merchants have access to, including the local market? (population x wage)
M16b	Size of the market	No	How big are the markets merchants have access to, including the local market? (population x silver wage)
M17	Size of the urban market	No	How big are the urban markets merchants have access to, including the local market (population x silver wage x urbanisation rate)
M14	Scope of the market	No	How many different product groups (eight in all) are traded?

IV Some results

Since we are dealing with a discrete, ordered dependent variable our analysis essentially tests likelihoods of outcomes and we adopt a standard maximum likelihood regression (probit) to investigate the relationship between control delegated on the one hand and property rights regime and market conditions on the other.[61]

A first look at the descriptive statistics of our new classification of pre-modern European merchant associations in table 3 already reveals some interesting facts. It should be noted that our sample thins out towards the beginning and end of the observed period. The lack of category 1 and 2 type communities for the early benchmark years is probably an artefact of data survival: we simply know too little about groups that left no

[61] G.S. Maddala, *Limited dependent and qualitative variables in econometrics* (Cambridge: Cambridge UP 1983).

institutional records behind. The distribution along the categories of delegated control seems to work reasonably well. Especially class 1 to 4, from no control delegated to substantial amounts of control delegated including internal discipline, are well represented. Out of a total of 185 observations for Bilbao, Bruges, Amsterdam, and Antwerp between 1250 and 1800, 60 show no discernible degree of internal cohesion. A further 40 had no formal agreements amongst themselves even if they acted as a group. The remaining 85 had in one way or another a formal institutional bond that kept them together.

Table 3 Distribution of dependent variable observations in four town sample by benchmark year and 'delegated-control-classification'

	1250	*1300*	*1350*	*1400*	*1450*	*1500*	*1550*	*1600*	*1650*	*1700*	*1750*	*1800*	***total***
1	0	2	2	2	5	5	7	9	10	6	6	6	**60**
2	0	1	4	2	4	6	5	6	7	2	2	1	**40**
3	2	5	4	7	6	5	3	0	1	1	1	1	**36**
4	0	1	3	6	9	9	5	3	1	0	0	0	**37**
5	0	0	1	1	1	3	3	1	1	1	0	0	**12**
total	**2**	**9**	**14**	**18**	**25**	**28**	**23**	**19**	**20**	**10**	**9**	**8**	**185**

The raw data would suggest certain patterns over time in the delegation of control to mercantile organizations. The early benchmark years up to 1300 fit a process of learning and diffusion with regard to different kinds of mercantile organisation. Strikingly, however, at least between ca. 1350 and 1600 there is no obvious trend to either higher or lower degrees of control delegation. By 1650 there are more 'low-delegation-level' institutions then 'high-delegation-level' ones, but the small numbers should caution us against over-interpreting individual benchmark years.

The overall impression is quite clearly that at least until 1650 there is little evidence for some kind of 'evolutionary' trend either to more or less delegation of control. This is an important point given that much of the literature implicitly assumes that institutions such as informal coalitions, *nations*, and formally constituted guilds became obsolete in an almost 'natural' progression as the emerging European nation states took over crucial functions. If our new classification is accepted, then for at least three centuries the co-existence of competitive forms of organization characterized Europe's commercial world rather than an evolutionary path towards ever more 'modern' institutions.[62]

The diverging trajectories of the control delegated by German merchants in the Netherlands (figure 1) seem to be fairly representative of the overall sample. Throughout the years typically associated with the formation of a stronger state under Burgundian and Habsburg rule, very different degrees of control delegation existed in Bruges, Antwerp, and Amsterdam, suggesting a rather more complex relationship between rulers and mercantile organisation. Though this is beyond the reach of this paper one might speculate that the existence of a pool of forms of organisation to suit different political and market circumstances lay at the heart of Europe's commercial success in the longer run.

In the tables 4 and 5 below we report the results of the probit model employed to test for the relationship between various variables and the probability that merchants delegate more or less control. The specifications 1 and 2 in table 4 provide a more formal test for the question of the presence or absence of a time trend of the evolutionary type. The results confirm largely the impression gained from table 3. A simple run of the entire dataset on a number of dummies for each benchmark year (1500 is the omitted year) would suggest clearly a break after 1600, i.e. all dummies after that date are strongly statistically significant and negative, indicating lower degrees of control delegation over time. However, once we introduce a number of variables that capture the political and institutional framework as well as market size in specification 2, all time dummies become statistically insignificant at the 10% level. This would suggest that the time trend seen in specification 1 is essentially a reflection of a variety of political factors, institutional developments and the expansion of market scope and scale that deserve more detailed analysis.

[62] The discussion whether certain institutions were obsolete and replaced or complemented one another has been particularly intense with regard to the role of fairs, see Regina Grafe, "Fairs," in *The History of World Trade since 1450*, ed. Stanley Engerman, et al. (forthcoming)..

Table 4 Probit regression results: dependent variable degree of control delegated

	(1)	(2)
	control delegation	control delegation
D1250	-0.02	#
	(0.03)	
D1300	-0.37	0.076
	(0.91)	(0.14)
D1350	-0.14	0.15
	(0.41)	(0.33)
D1400	0.09	0.41
	(0.28)	(0.92)
D1450	-0.09	0.36
	(0.33)	(0.88)
D1550	-0.25	0.06
	(0.84)	(0.10)
D1600	-0.84	-0.32
	(2.58)***	(0.50)
D1650	-1.02	-0.12
	(3.14)***	(0.18)
d1700	-1.06	1.14
	(2.54)**	(1.20)
d1750	-1.48	0.59
	(3.23)***	(0.61)
d1800	-1.64	0.33
	(3.26)***	(0.36)
specialised courts		0.52
		(1.36)
mercantile courts		-0.88
		(1.26)
local convoys		-0.10
		(0.38)
local pol representation		0.05
		(0.14)
(ware)housing		0.92
		(2.70)***
public vending location		0.57
		(2.04)**
private vending location		0.53
		(1.52)
town pop in 1,000		-0.01
		(3.40)***
Observations	185	174
Pseudo R-squared	0.07	0.13
McKelvey and Zavoina's R2	0.21	0.32

y-standardised coefficients: change of variable 0 to 1 (dummy) or plus one unit (continuous variables) is associated with coefficient*Std change in dependent variable
Absolute value of z statistics in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
# dropped due to collinearity

Table 5 Probit regression results: dependent variable degree of control delegated

	(3) Foreign and local	(4) Foreign and local	(5) Foreign only	(6) Foreign only
specialised courts	0.46	0.57	0.51	0.75
	(1.26)	(1.53)	(1.34)	(1.90)*
mercantile courts	-1.85	-1.72	-2.58	-2.23
	(2.77)***	(2.41)**	(3.34)***	(2.66)***
local convoys	-0.23	-0.31	-0.22	0.34
	(0.73)	(0.93)	(0.59)	(0.81)
violence	-0.34	-0.32	-0.28	-0.29
	(1.44)	(1.31)	(1.06)	(1.08)
local pol representation	0.07	0.02	-0.72	-1.06
	(0.15)	(0.05)	(1.21)	(1.72)*
(ware)housing	0.72	0.70	0.78	1.07
	(1.71)*	(1.63)	(1.74)*	(2.31)**
insurance	0.09	0.21	0.11	0.23
	(0.26)	(0.56)	(0.30)	(0.58)
bourses	0.51	0.55	0.49	0.58
	(1.54)	(1.51)	(1.40)	(1.47)
Public vending location	0.61	0.76	0.68	1.05
	(2.07)**	(2.23)**	(2.13)**	(2.89)***
private vending location	0.54	0.58	0.52	0.41
	(1.75)*	(1.64)	(1.61)	(1.07)
town pop in 1,000	-0.036	-0.03541	-0.039	-0.02779
	(3.53)***	(2.60)***	(3.58)***	(1.86)*
town pop^2	0.00010	0.00010	0.00012	0.00007
	(2.61)***	(1.95)*	(2.71)***	(1.37)
Fairs		0.27		0.07
		(0.89)		(0.20)
Market scope		-0.04		-0.08
		(0.39)		(0.63)
diaspora		0.905		0.417
		(1.77)*		(0.78)
home pol representation			0.21	-0.05
			(0.48)	(0.12)
home convoys			-0.22	0.10
			(0.50)	(0.23)
competition				-1.34
				(4.29)***
Observations	139	139	120	120
Pseudo R-squared	0.14	0.15	0.15	0.21
McKelvey and Zavoina's R2		0.42		0.53

y-standardised coefficients: change of variable 0 to 1 (dummy) or plus one unit (continuous variables) is associated with coefficient*SD change in dependent variable; observed SD 1.299, Latent SD 1.317
Absolute value of z statistics in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

In table 5 above we introduce a larger number of variables to explore what environmental factor impacted on the probability that we observe merchants delegating more (less) control to fellow traders. In the interest of parsimonious specification we are omitting the time dummies based on our previous results, which showed no signs of a time trend. Specifications 3 and 4 use our full dataset. Note however, that due to missing observations for some of our independent variables our sample size falls to around 140 observations. Specifications 5 and 6 test some additional variables only relevant for foreign merchant guilds, i.e. groups operating in a host town and thus the dataset is reduced further to 120 observations. The results from these four specifications speak to three major themes in the literature on mercantile associations.

Predation, conflict resolution and violence. Protection against violence suffered at the hands of common criminals, fellow traders and predatory rulers is one of the most often cited hypotheses for the existence of merchant guilds. Avner Greif has argued that "a state with sufficient coercive power to [enforce contracts and property rights] also has the power to withhold protection and confiscate private wealth."[63] With Paul Milgrom and Barry Weingast he claimed that a ruler can only be kept from expropriating foreign merchants through guilds with strong internal cohesion, i.e. rules that allow them to exclude members, and which in turn are helped by home governments, in which merchants have a strong voice.[64] Our model attempts to test for this in various ways.

Firstly, we include two variables for merchants' ability to keep predatory rulers in check, namely their participation in the political structure of the locality they are trading in (for all mercantile groups) and their locality of origin (for the foreign traders only). The results offer very little support for the hypothesis that predatory rulers were the main problem associated with different forms of merchant organisation. The coefficient for merchants' political representation in the home town (specification 5 and 6) is not statistically significant at all. That for local political participation (specifications 3 through 6) only returns a coefficient that is statistically significant at the ten percent level in one specification (6) albeit with the expected negative sign. These results suggests that

[63] Greif, *Institutions and the Path to the Modern Economy: Lessons from Medieval Trade*., 91
[64] Greif, Milgrom, and Weingast, "Coordination."

the (formal) participation of merchants in government, stressed by generations of political economists, was in fact only weakly related to the form of mercantile organisation.

Our model also tests the possible relationship between the formation of merchant guilds and the organization of conflict resolution. The history of merchant guilds shows that traders who delegated high levels of control (4 or 5) could rely on their consuls' adjudication of business disputes. In the four towns we investigated such consular courts existed in Bruges and Antwerp from 1300 onwards and in Bilbao since 1500. In theory, local governments who provided similar legal services might lead merchants to delegate less control to their fellow traders. This hypothesis would seem to be supported by the results for the mercantile court variable. High levels of delegated control were less likely in towns that set up a separate mercantile court, like Bilbao in the mid-sixteenth century, and Bruges after 1700. However, the opposite might be true for towns like Amsterdam and Antwerp that extended their local courts with specialized, subsidiary courts for various kinds of business conflicts, though this result is only statistically significant in specification (6). The reason for this apparent contradiction lies most probably in the underlying data set. Our specialized courts variably currently measures the occurrence of any one subsidiary court, be it maritime courts, insurance chambers, or bankruptcy courts.

Finally we investigate the impact of violent assaults on merchants. Surprisingly, we cannot detect any clear association between acts of violence suffered by merchants and the degree of organisation. Our measure of violence (Are merchants from this community known to have suffered acts of violence in the past 25 years?) is far from perfect but it does reveal differences in incidence of violence between groups and periods. In all our specifications this variable remains statistically insignificant, however. If nothing else this calls for caution against the relatively simplistic assumption about the relationship between predation and merchants' organisation, which form the basis of much of the game theoretical literature. The choice to delegate control to fellow traders may have originated in different considerations altogether.

The provision of public goods. Instead of preying on visiting merchants, cities and states may also choose to provided services to stimulate trade. The second hypothesis we test is that such publicly provided goods reduced transaction costs and substituted for the provision of club goods provided by merchants themselves. We have already considered the creation of commercial courts. A further concerns the provision of protective convoys through either the local or the home ruler. This protection is not statistically significant in any specification. In other words, the delegation of control to fellow traders did not hinge on the protection offered by third parties. However, we must be cautious here because the organization of local convoys is the only independent variable that has come out significantly in some of a large number of alternative specifications which are not reported in this paper.[65] Meanwhile, the positive statistically significant coefficients on other public goods, such as warehousing, bourses and other public vending locations (e.g. cloth-halls) do suggest that substitution is not the name of the game. Instead, the most convincing explanation for this would be that highly organised merchant communities actually pressured towns for these services, i.e. that we have a case of reverse causality. The Merchant Adventurers in Antwerp are a case in point: their textile trade was so important for other foreigners and local cloth finishers that the town magistrate in the late fifteenth century supplied extensive premises to organize the inspection and sales of cloth. If we accept this result, it throws new light on the potential place of merchant guilds in general institutional development. Far from being the backward-looking institutions of Adam Smith's imagination that were opposed to all novelty they might have played a positive role in the establishment of a whole variety of mercantile institutions in Europe.

Market size and scope. Traditional historians argued that market size and scope were essential in explaining first the rise and eventually the decline of merchant guilds. According to our results they were right about market size. Both our measures for the size of markets come out statistically significant. Though there could be an endogeneity problem (an 'optimal' choice of control delegation might have a positive impact on

[65] **Check this:** A possible effect of protection by home rulers on the organization of merchants abroad may also be inferred from the results for the diaspora variable, which measures the 'absence' or 'presence' of a home country. When estimated for a sample that excludes measures for the role of home governments (specification 4), the coefficient is positive and significant at the 10% level, which would suggest that merchants without a home country substituted for a lack of home support with a stronger internal organization. Then, when the sample is reduced (specification 6) to include all cases for which sufficient information about the home ruler is known (including its absence in the case of the diaspora communities), the coefficient becomes insignificant. Interpretation remains difficult, however, because in this second specification the home government variables themselves are not significant either.

market development), it seems more likely that market development was driven largely by (exogenous) population growth. As we would expect, trading in larger size towns is associated with merchants delegating less control to a mercantile organisation. Seventeenth century Amsterdam is the most obvious example, but the lack of formal association between traders from Venice, Lucca, Aragon, and France in Antwerp in the mid-sixteenth century speaks to the same rationale. The quadratic term of town population, and its positive sign in the specification, suggest this relation does not hold for very small towns. Here higher degrees of mercantile organization were unlikely, presumably because the start-up costs of merchant guilds were too high in such an environment. If size of the reacheable market is substituted for population (results not reported here) the result still hold.[66] Size matters.

At the same time, indicators of market diversification are faring less well. The diversity of goods traded in these markets (the market scope variable) does not seem to be strongly associated with the delegation of control. Equally, the availability of private market insurance is not statistically significant in our specification. This does not imply that being able to insure against risk did not matter. Instead it seems that the ubiquitously available risk sharing contracts (bottomry, participations, limited liability companies) were fairly close substitutes for formal insurance contracts. This would also suggest that local or central rulers (rather than merchant guilds) provided yet another public good to traders. In addition to the creation of courts to settle commercial disputes, these courts may also have contributed to the legal force of a wide range of debt and equity contracts, which in turn gave merchants better means to manage risk.

Merchant guilds as rent-seekers. The association of guilds with rent-seeking is presumably as old as the institution itself. Association increased market power and the potential for abuse of market power, especially for those groups that could exclude competitors legally. Our evidence in this respect is indirect. We observe that groups of merchants that competed directly with local merchants in the same line of trade this was associated with a lower degree of control delegation (specification 6). It stands to reason that the potential to actually monopolize a trade and presumably reap rents from this

[66] We have run alternative specifications of the same model substituting more sophisticated measures of market size for town population. Introducing a measure that estimates purchasing power in the markets a town had regular trade with by multiplying population with silver wages yields very similar results.

situation was one incentive for an increased degree of organization. Thus in the fourteenth and fifteenth century the German Hanse in Bruges used its control over Baltic imports and exports of Flemish textiles to exact extensive privileges from the city magistrate. After 1500 Castilian merchants in the same towns benefited from their role as sole suppliers of wool to the local cloth industry. Both groups had by-laws and/or privileges that allowed them to exclude competitors (cf. appendix).

V. Some robustness checks

Additional information about the factors that influence the delegation of control between merchants in our dataset can be glanced from looking at the individual predicted probabilities for the statistically significant variables in particular specifications. Table 6 reports these for equation 3 above. In each case the maximum for the independent variable is set (or the dummy = 1 for discrete variables) and all other independent variables are set at their mean value. Probabilities are then calculated for the degree of control delegation.

Table 6: Individual predicted probabilities equations 4 and 6

variable	Z-stat	1	2	3	4	5
Spec 4: all groups						
specialised courts	1.53	0.186	0.244	0.266	0.268	0.035
mercantile courts	2.41**	0.809	0.135	0.044	0.011	0.000
local pol participation	0.05	0.263	0.270	0.247	0.201	0.019
warehousing	1.63	0.112	0.200	0.267	0.356	0.069
public vending location	2.23**	0.126	0.208	0.269	0.337	0.059
diaspora	1.77*	0.069	0.152	0.248	0.420	0.111
town pop	2.60***	1.000	0.000	0.000	0.000	0.000
town pop^2	1.95*	0.000	0.000	0.000	0.008	0.992
Spec 6: foreign only						
specialised courts	1.90*	0.094	0.252	0.330	0.295	0.030
mercantile courts	2.66***	0.856	0.120	0.021	0.002	0.000
local pol participation	1.72*	0.172	0.318	0.306	0.192	0.012
warehousing	2.31**	0.026	0.127	0.279	0.463	0.105
public vending location	2.89***	0.045	0.173	0.311	0.404	0.067
diaspora	0.78	0.082	0.237	0.330	0.316	0.035
competition	4.29***	0.414	0.345	0.181	0.059	0.001
town pop	1.86*	1.000	0.000	0.000	0.000	0.000
town pop^2	1.37	0.000	0.000	0.004	0.101	0.895

The profiles illustrate further the overall results. The existence of mercantile courts and larger town size is associated with a decreased probability of higher degrees of control delegation across all categories. Direct competition with the local merchant community (specification 6) also reduces the likelihood of much control being delegated to fellow traders. In the case of the supply of (ware-)housing and public vending locations we observe the highest probability for category 4. Sample size again means we should be cautious but these results illustrate the additional potential that our modelling strategy offers. They also demonstrate that the individual probability profiles are broadly consistent with our argument that this is indeed an ordered variable.

Finally, the question remains if our results would remain broadly consistent if we relax the assumption that our control delegation categories are ordered. The obvious test is to run a set of multinomial logit regressions rather than probits. Since multinomial logits are essentially just a set of binary pairs, i.e. each category is run as a binary set against a predetermined comparison group, they are notoriously difficult to interpret because depending on the comparison group the parameterization and therefore the results change. We have nevertheless re-run all specifications as multinomial logits across all possible base categories. Results not reported here have then been used to check especially the patterns of individual probability distribution derived from the probits and reported above and have been found to be consistent.

VI. Conclusions

In this paper we have argued for a re-integration of the rich empirical evidence on pre-modern mercantile organisation in Europe provided by many generations of historians with comparative quantitative techniques of analysis to understand better the rise, persistence and decline of merchant associations. The comparative empirical analysis has helped us to deal with some of the limitations of the existing literature. Firstly, it takes full advantage of the rich historical literature on individual merchant associations, town institutions and the socio-cultural environment in which they developed and enables us to make the case studies speak to one another in a quantitative framework. Secondly, it allows us to account for some of the crucial characteristics of early modern mercantile organisation that eluded most of the historical economics literature but are stressed strongly by merchant guild historians, namely that (1) merchants used more than one institution to solve one problem and (2) one institution often addressed more than one problem. In this sense we think that our results can actually help to set a new agenda for related research in historical economics, because it allows us to identify the key variables based on an in-depth empirical analysis rather than ad-hoc assumptions about what kind of problem merchants were trying to solve.

The most important step towards making different forms of mercantile organisation comparable while accounting for their idiosyncrasies was to establish a useful classification of merchant associations. Obviously, we simplify the variety of institutional forms significantly when we group them into five categories. Nevertheless, the five categories seem to perform well as basic types of merchant association. While we could think about these groups simply as discrete types of guilds, they actually reflect an inherent ordering. Political representation of a merchant group (category 3) realistically required at least at an early stage mutual knowledge and trust, most often based on common origin, ethnicity or religion (category 2). Sanctioning by consuls (category 4) needed to be legitimised by a formal organisation that established verifiably who belonged and who did not (category 3). The exclusion of fellow merchants from a trade (category 5) required an internally cohesive group that could punish members who continued collaborating with outsiders.

From the traders' point of view collective action in the form of a merchant association was meant to create benefits, but it did so at the expense of delegating certain functions to the group. Or to put it another way, merchants expected a pay-off from giving up more and more control over their own dealings. This logic underlies our control delegation index. It is important to remember that these pay-offs were not necessarily immediate economic gain. Political influence, social status, the upholding of cultural norms or religious benefits in the afterlife certainly played a role here. And while social, religious and cultural factors are beyond the scope of our present analysis, our methodology would lend itself for such an investigation.

We have tested the empirical feasibility of this approach with a sample of 185 observations of foreign and local merchant communities trading in four European towns between 1250 and 1800. We wanted to know what impact certain political and market conditions had on the probability that we observe a particular degree of control delegated by a particular group in a specific town at a given date. Therefore, we chose as statistical technique standard maximum likelihood models looking at the outcomes as either ordered or unordered categorical variable. The probably most important result is that the methodology delivers fairly robust results and that it will be able to enlighten many more detailed questions regarding the role of various independent variables than we could include in this paper. Hopefully, it will also allow historians of merchant guilds to extend and challenge our results in comparison with different groups and towns.

The results from the basic specifications included here speak to at least four large themes in the literature on pre-modern merchant associations. Firstly, the sample indicates strongly that the key to understanding mercantile organisation in this period is not an evolutionary succession of first-best institutions emerging over time but the co-existence of competitive forms of organisation that suited different political and market circumstances. We observe an early 'learning phase' when more differentiated forms of associations emerge. Yet, as early as 1350 a full set of institutional alternatives seems to be known. For the next three centuries these provided a pool of alternative solutions that could be and were adapted to local circumstance. Only after 1650 there seems to be a trend for merchant groups to delegate less control to fellow traders.

Secondly, the results open up important questions with regard to the role of the state in institutional development. Political economists regularly depart from the idea that rulers shaped institutional development largely by predating on their subjects thus giving rise to solutions that would allow subjects to keep their ruler in check. In the context of merchant guilds this could take two forms. Merchants organised in strong merchant guilds in order to protect themselves through collective action against extortionist taxes and expropriations. Or they tried to control local and/or home government, i.e. become the ruler. Our results do not support either of these hypotheses. Violence suffered by merchant groups was not associated with higher degrees of control delegation, i.e. stronger collective action. Nor was political participation strongly associated with lower control delegation. More research is required but the results raise doubts about the overwhelming importance often given to predatory rulers in accounts of institutional development.

Thirdly, the analysis hints at a more positive role played both by guilds and rulers. Guilds apparently helped the development of other institutions. Warehousing and protective convoys are cases in point. Strong guilds could press rulers for the provision of public goods. Obviously the guilds profited, but these public goods created positive externalities for others in the market place who did not necessarily belong to the guild.

Fourthly, the scale of markets was crucial, with larger markets presumably lowering the potential benefits of organisation and raising its costs. This result vindicates generations of historians from Ehrenberg to Braudel and Lopez and many more recent ones who stressed the importance of market integration and its link with institutional development. However, the methodological approach here can help us to refine this by combining it with an analysis of the political and institutional environment and to systematically investigate the interrelationship between them. Overall this paper has argued that the comparative analysis of pre-modern institutional forms is possible.

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