

How to Beat (Very) Imperfect Markets?

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

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Version 2,

December, 2005

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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 impose extremely 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 they 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 losing rigour. We assess a new dataset of 132 observations of merchant organisations from four towns 1300-1650 at 50 year intervals. Our model is based on only one assumption: merchants will only delegate authority 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 authority delegation. Using simple maximum likelihood estimation we can then investigate the probability of merchants choosing a particular degree of authority delegation given a set of market and political circumstances they faced.

The authors would like to thank Ann Carlos and participants of the EHES conference Istanbul 2005 and of the Antwerp workshop on mercantile institutions 2005 for extensive comments and criticism. All the usual disclaimers apply

Introduction

Two periods of rapid commercial expansion stand out in Europe before the Industrial Revolution. The Commercial Revolution of the 11th and 12th century witnessed an unprecedented growth of trade within Europe, while in the late 15th and 16th centuries European merchants began exploring new markets in Asia, Africa, and America. There are many explanations for this commercial expansion, including differences in resource endowments and product specializations, access to land- and waterways, domestic demand for foreign goods, and political power exerted over peripheral markets. Besides, economic historians have long recognized that the organization of transactions influences the scale and scope of trade. Older generations of economic historians, including Ehrenberg, Lane, Lopez, and Braudel, identified a movement away from corporate and periodical institutions like merchant guilds and fairs to permanent exchange between merchants enjoying legal personality. However, their explanations for this process remain ad-hoc and very general, just like their assessment of possible efficiency gains.¹

In recent years a new generation of economic historians, trained as economists, has begun to apply economic theory to the organization of long-distance trade in pre-industrial Europe. Using microeconomic theory they have modelled the contribution that more or less formal coalitions of merchants, periodical fairs, or specific financial contracts made to a more efficient organization of trade.² The great

¹ R. Ehrenberg, *Das Zeitalter der Fugger, Geldkapital und Creditverkehr im 16. Jahrhundert, II, Die Weltbörsen und Finanzkrisen des 16. Jahrhunderts* (Jena, 1896), F. Braudel, ed., *Venice and History. The collected papers of Frederic C. Lane* (Baltimore, 1966), R.S. Lopez, *The commercial revolution of the Middle Ages, 950-1350*. (Englewood Cliffs, 1971), R.S. Lopez and I.W. Raymond, *Medieval trade in the Mediterranean world. New York* (New York, 1955) and F. Braudel, *Civilisation Matérielle, économie et capitalisme, XVe-XVIIIe siècles*, 3 vols. (Paris, 1979); And more recently: P. Spufford, *Power and profit. The merchant in medieval Europe* (London, 2002)

² On informal coalitions of merchants: A. Greif, "Reputation and Coalitions in Medieval Trade: Evidence on the Maghribi Traders," *Journal of Economic History* 49 (1989), 1993, A. Greif, "On the Political Foundations of the Late Medieval Commercial Revolution: Genoa During the Twelfth and

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.³ As a result we can identify three *fundamental problems of exchange* that merchants had to solve for trade to develop: (1) the protection of their person and goods against crime, warfare, and arbitrary confiscations; (2) the enforcement of contracts whenever money or goods change hands; and (3) the management of commercial risks that follow from their incomplete information on market conditions.⁴

So far these two research traditions have remained worlds apart. Many historians have detailed the organization of trade in towns and regions across Europe, but few have teased out generalizations about the role merchant guilds, fairs, and other institutions played in solving the fundamental problems of exchange.⁵

Thirteenth Centuries," *Journal of Economic History* 54 (1994); On merchant guilds: A. Greif, P. Milgrom, and B.R. Weingast, "Coordination, commitment, and enforcement: the case of merchant guilds," *Journal of Political Economy* 102 (1994); R. Dessi and S. Ogilvie, "Social Capital and Collusion: The Case of Merchant Guilds," *Cambridge Working Papers in Economics No. 417* (2004). On periodical fairs: P.R. Milgrom, D.C. North, and B.R. Weingast, "The role of institutions in the revival of trade: the law merchant, private judges and the champagne fairs," *Economics and Politics* 2 (1990). On debt and equity contracts Y. Gonzalez de Lara, "Institutions for Contract Enforcement and Risk-Sharing: from Debt to Equity in Late Medieval Venice," *mimeo*, *Ente Enaudi* (2002).

³ To be sure, mercantile institutions in medieval and early modern Europe also had social, cultural, and sometimes political functions. See for example the religious activities of the German Hanse and other foreign merchant communities in Bruges, Antwerp, and Amsterdam R. Rössner, *Hansische Memoria in Flandern. Alltagsleben und Totengedenken der Osterlinge in Brügge und Antwerpen (13. bis 16. Jahrhundert)* (Frankfurt am Main, 2001), or the social and cultural functions of medieval *funduqs* and *fondacos* in the Mediterranean basin O.R. Constable, *Housing the Stranger in the Mediterranean World. Lodging, Trade, and Travel in Late Antiquity and the Middle Ages* (Cambridge, 2003).

⁴ 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 D. North, *Structure and Change in Economic History* (New York, 1981), 20-27. A recent analysis by D. Acemoglu and S. 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.

⁵ On merchant guilds: F. Mauro, "Merchant communities, 1350-1750," in *The Rise of Merchant*

Economists on the other hand have focused on these 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. But the institutional history of pre-industrial Europe shows that a single institution typically solved more than one problem, while a single problem might have required a combination of institutions for it to be solved.⁶ Thus, the methodological challenge – as we see it – is to deal with this multi-functionality of institutions and their combined use by merchants, without losing 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. Greif – amongst others – has argued that the idiosyncrasies of (mercantile) institutions make it impossible to use standard comparative statistical techniques.⁷ We disagree with this view. Instead we suggest that – while acknowledging their idiosyncratic nature – all mercantile institutions

Empires: Long-Distance Trade in the Early Modern World, 1350-1750, ed. James D. Tracy (Cambridge, 1990), Constable, *Housing the Stranger in the Mediterranean World. Lodging, Trade, and Travel in Late Antiquity and the Middle Ages*. Cf. also various contributions to: D. Calabi and S.T. Christensen, eds., *The Sites of Exchange. Cities, Foreigners and Cultural Transfer in Europe, 1400-1700* (Cambridge, 2005). On European fairs, see the collection of articles in *La Foire*; For England also: E. Wedemeyer Moore, *The Fairs of Medieval England. An Introductory Study* (Toronto, 1985). More analytic historical accounts on merchant guilds and fairs include J.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 (2001), S.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).

⁶ The point was first made by Frederic Lane, over fifty years ago: F.C. Lane, "Economic Consequences of Organized Violence," *Journal of Economic History* 18 (1958) reprinted in and cited from Braudel, ed., *Venice and History. The collected papers of Frederic C. Lane*, p.421.

⁷ Greif, "Fundamental problem," p.259.

shared one fundamental characteristic that can help us in the comparative analysis: through mercantile organisations merchants delegated authority 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 that approaches it through a new dependent variable – the amount of authority delegated to fellow traders - to capture the full historical variety of mercantile associations. This allows us to specify a relatively simple (and more robust) model to test the likelihoods of a variety of political and market conditions resulting in more or less delegation of authority on the part of the merchants. We argue that this 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 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 and in a first step, 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 seventeenth century.⁸ 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 a standard probit model to estimate the likelihood of merchant groups choosing more or less delegation of authority depending on a number of variables that capture the role

⁸ The full data set (Appendix A) is available on request.

of home rulers, host rulers, and the scale and scope of the markets these traders operated in.⁹ Thus we can introduce both market conditions and property rights regimes as independent variables. We demonstrate the empirical usefulness of the approach with our reduced dataset for four towns.

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 political, legal, and financial authority 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 authority. Preliminary results of our comparative analyses are presented in Section IV. Conclusions follow.

I. Confronting history and theory

Microeconomic analysis, in particular game and contract theory, has added considerably to our understanding of the institutions of late medieval and early modern foreign trade. The formulation of stylised facts and the formal testing of models help us to move one level up from the often very detailed and highly localized descriptive analysis of merchant guilds, networks, fairs, et cetera. Besides, the models suggest a number of variables that can be measured for every institution, regardless of time and place.¹⁰ First, one has to reconstruct the rules merchants were expected to follow under normal circumstances, and the sanctions they faced in case of non-compliance. Second, one has to identify who is authorized to detect violations of the

⁹ 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.

¹⁰ The analytical requirements are spelled out by Greif, Milgrom, and Weingast, "Coordination," p.746 and Milgrom, North, and Weingast, "Law merchant," p.1.

rules, and take action to punish these infringements. Finally, one has to determine why those who are expected to sanction carry out their duties, and why merchants submit to their sanctions rather than flee.

However, the very strength of microeconomic institutional analysis is also a potential weakness, for the sophisticated models of game theorists do not always capture the complexity of economic organization. First, the historic institutions commonly labelled 'guilds' or 'fairs' could be very different from one another. The internal regulations of the German Hansa in the fourteenth and fifteenth century, for example, were very strict in comparison with most other merchant guilds trading in Northwestern Europe. The fairs of England, Brabant, and the German Rhineland never knew a system of judges as in Champagne. But distinctiveness does not imply that they are incomparable. Indeed, it seems appropriate to think about commercial institutions as a continuum along the lines suggested by Oliver Williamson.¹¹ 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.¹²

A second complication in the modelling of merchant organizations is that traders often solved their problems using a combination of institutions. For example, the role played by the law merchant cannot be dissociated from the reputation mechanisms underlying even the simplest forms of exchange.¹³ The efficiency of

¹¹ O. Williamson, *The Economic Institutions of Capitalism* (New York, 1985)

¹² R.B. Ekelund and R.D. Tollison, *Mercantilism as a Rent-Seeking Society. Economic Regulation in Historical Perspective* (College Station, 1981).

¹³ Milgrom, North, and Weingast, "Law merchant," p.19.

colonial joint-stock companies depended on the existence of permanent markets for capital, labour, and colonial goods. Hanseatic merchants relied on a combination of personal relations, the prospect of repeat transactions, and guild control to monitor their agents abroad, while the members abroad used fairs to sell their merchandise. Institutional economists acknowledge this complexity, but so far have shown little inclination to model it.

A third historical complexity micro-economic theorists have trouble dealing with is that commercial institutions often solve more than one problem. Fairs, for example, were not only safe havens for merchants, they also served to gather information, litigate, and benefit from toll exemptions.¹⁴ The medieval law merchant both adjudicated in conflicts and supplied information that helped merchants to prevent future defaults.¹⁵ Joint-stock companies were established to create monopolies, monitor distant agents, and at the same time raise sufficient capital.¹⁶ This multi-functionality might even explain why institutions emerged in the first place. Consider the situation when merchant guilds only serve to reduce the risk of default by agents overseas. In this case, setting up a family firm might be the more cost-efficient solution since already existing social relations can support the enforcement of contracts. However, if guild membership at the same time allowed merchants to secure the protection of their property abroad, negotiate tax reductions, and participate in the businesses of other merchants in order to reduce commercial risks, guilds would probably be the preferred solution for contracting problems as well.

¹⁴ Epstein, "Regional fairs, institutional innovation and economic growth in late medieval Europe," p.469.

¹⁵ Milgrom, North, and Weingast, "Law merchant," 15.

¹⁶ Harris, "Institutional innovations".

It is true institutional economists have hinted at the superior efficiency of multi-purpose institutions, but so far they have not been formally modelled in micro-economic analysis.¹⁷ Take for example the Greif/Milgrom/Weingast (hereafter GMW) model, which suggests that merchant guilds emerged to coerce rulers to protect the property of alien traders. The authors stress that guild membership also mitigated the risk of default and (through the creation of monopolies) helped to manage the risk of price fluctuations.¹⁸ However, in their view these problems played a subordinate role in the creation of the guilds. Unfortunately, the GMW model does not prove this contention.¹⁹ Rather, the authors quote 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. In reply to GMW, and drawing on a different body of historical evidence, Dessí and Ogilvie (hereafter DO) have modelled a game in which foreign merchants initially received economic privileges in exchange for their financial support to the ruler.²⁰ But then the DO model does not allow for the possibility that guilds may have more than one rationale either.

Partially microeconomic studies have tried to overcome this limitation by shifting towards a more diffuse definition of the outcome that these institutions produce. Rather than discussing solely the private costs and benefits that members realised the creation of 'social capital' has moved centre stage.²¹ Again the GMW vs.

¹⁷ Greif, Milgrom, and Weingast, "Coordination," pp.755-757.

¹⁸ Ibid.: p.746.

¹⁹ Ibid.: pp.749, 755-758, 772-773.

²⁰ Dessí and Ogilvie, "Social Capital," .

²¹ R.D. Putnam, *Making Democracy Work: Civic Traditions in Modern Italy* (Princeton N.J, 1993), E. Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge, 1990), K.J. Koford and J.B. Miller, eds., *Social Norms and Economic Institutions* (Ann Arbor, 1991), M. Hechter, K.-D. Opp, and R. Wippler, eds., *Social Institutions: Their Emergence, Maintenance and Effects* (New York, 1990), M. Hechter, *Principles of Group Solidarity* (Berkeley, 1987), J.S. Coleman, "Social Capital in the Creation of Human Capital," *American Journal of Sociology* 94 (1989), K. 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 (1987), M. Granovetter, "The Strength of Weak Ties," *American Journal of Sociology* 78 (1973), M. Granovetter, "The Strength of Weak Ties:

DO discussion illustrates this point. GMW 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.²² DO challenge this by showing that externalities that are usually labelled ‘social capital’ in fact imposed substantial costs on non-members because they enabled members to rent-seek. ‘Social capital’, far from producing social gains, resulted in private gains at the expense of social costs.²³ 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’. Applied to early-modern merchant organisations the concept of ‘social capital’ tends to obscure more than it clarifies.

We believe a comparative analysis of the functions performed by commercial institutions across time and space can help to remedy the shortcomings of both historical and microeconomic-theoretical analysis, while at the same time preserving their respective strengths. To achieve this we begin by modelling the institutional responses of merchants as points on a scale, rather than unrelated organizational forms. Following Williamson’s distinction between markets and hierarchies, we view social networks, consulates, merchant guilds, and regulated companies as institutions that perform the same basic economic function – the governance of transactions – and differ merely in the degree of authority delegated to fellow merchants. These

A Network Theory Revisited," in *Social Structure and Network Analysis*, ed. Peter Marsden and Lin Nan (Beverly Hills, 1982) etc

²² Greif, Milgrom, and Weingast, "Coordination,"

²³ 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 R.D. Putnam and L.M. Feldstein, *Better Together: Restoring the American Community* (New York, 2003).

assumptions allow us to include merchant communities operating in different parts of Europe over a very long time period (1100-1850) in one data panel. (As observed above we use a much more modest set of 4 towns from 1250-1650 in this paper). And that in turn will enable us to analyse the institutional response of a particular group of traders to different (or changing) environments, and the response of different groups of traders to a similar environment.

II. Our model: the dependent variable

One of the oldest documented merchant guilds of medieval Europe dates back to the early eleventh century when traders from Tiel, near Dordrecht, were formally recognized by the Holy Roman Emperor as constituting a society of traders with a separate jurisdiction and a small pool of common resources.²⁴ There must have been many more 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.²⁵ Most of these merchant guilds were firmly based in local communities, and functioned no different than corporations of craftsmen.²⁶ Besides, there were merchant associations, like the *hansa's* of German and Flemish merchants, the *consulados* of Iberian traders, or the *nations* of Portuguese Jews, that were set up to act collectively in foreign markets. The rationale behind both corporative organizations is the same however,

Merchant guilds helped traders in pre-modern Europe to solve three problems.

Besides protection against criminal assaults and confiscations by foreign rulers, they

²⁴ To be sure, formal associations of merchants are a much older phenomenon. They have been documented for the Ancient world as well.

²⁵ 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

²⁶ Ibid. . Cf. also E. Lindberg, "The Revival of Guilds: A Preface to a Study of Institutions and Trade in the Baltic Area, c. 1650-1880," *mimeo*, Uppsala (2004).

allowed the sanctioning of dishonest behaviour by fellow merchants, and the maximization of 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 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 most circumstances. Protection e.g. 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 to purchase a private army or police force. Thus the cost of individual trading was very high. 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.²⁷

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. Organising protection e.g. collectively could create positive externalities in the sense that the group could govern transaction 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

²⁷ 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.

the membership benefits. More importantly, delegating authority 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.²⁸ Thus delegating authority created both benefits and costs for merchants.

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, we do have a large number of empirical observations on the outcome of that cost-benefit calculus, namely the amount of authority merchants chose to delegate to fellow traders. These represent the

²⁸ Optimal in the sense that they are reflected imperfect information and bounded rationality.

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 authority 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 authority delegated to a collective body and the alternatives 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. The more control they are asked to give up, the higher the 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 authority to an informal or formal institution that can exercise collective action, is an essential characteristic of all mercantile organizations. As a result, we observe a whole array of mercantile associations that can be distinguished according to the amount of authority delegated by individual merchants (table 1).²⁹

²⁹ Obviously the characterization of the authority delegated by merchants is not always straightforward for they may differentiate according to the business activities involved. For example, merchants that conduct most of their business within the confines of a family network may very well participate in a joint-stock company – handing over control of some of their resources to the directors of this company (Cf. for example: O. Gelderblom, "The Governance of Early Modern Trade: The Case of Hans Thijs (1556-1611)," *Enterprise & Society* 4 (2003)). As a general rule we define the amount of authority delegated by merchants on the basis of their core activities, not these kinds of additional investments.

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

Category	Description	Authority delegated
1 Individual agents	Merchants organize transactions without any interference of fellow traders.	individuals do not delegate any authority
2 Informal constraints	merchants are organized loosely along social or religious lines but have no formal economic organization	Authority 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	Authority to represent is delegated
4 Internal discipline	Merchant groups have some general rules of conduct that members submit to	Members delegate authority 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 authority to be sanctioned through total exclusion.
6 Power over investment decisions	Group selects some members to commit financial resources on member's behalf	Members delegate financial decision-making

A few examples can illustrate the lines of distinction between our six categories. On the one end of the *authority-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.³⁰ The merchants stayed in hostels, rented warehouses to store their merchandise, wrote 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. Admittedly, since the fifteenth century Hamburg merchants had worshipped in a separate chapel in the

³⁰ M.v. Tielhof, *De Hollandse graanhandel, 1470-1570. Koren op de Amsterdamse molen* (The Hague, 1995), M.v. Tielhof, "Handel en politiek in de 16e eeuw: een Amsterdamse Oostzeehandelaar tijdens de eerste jaren van de Opstand", *Tijdschrift Holland XXIX* (1997) and M.v. Tielhof, *The 'Mother of All Trades'. The Baltic Grain Trade in Amsterdam from the Late 16th to the Early 19th Century* (Leiden, 2002).

city's Old Church. However, the advancement of the Reformation in the 1530s severed whatever religious ties were left within the German 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.³¹ 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 1582.³² 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.³³ Much like the Portuguese Jews in Amsterdam the members of the church were submitted to clerical discipline, and hence liable to moral condemnation in case of dishonest behaviour.³⁴ 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).³⁵

³¹ J. Dijkman, "Giles Sylvester, an English merchant in Amsterdam," *mimeo University Utrecht* (2002).

³² O. Gelderblom, "The Decline of Fairs and Merchant Guilds in the Low Countries, 1250-1650," *Jaarboek voor Middeleeuwse Geschiedenis* (2004).

³³ A.C. Carter, *The English Reformed Church in Amsterdam in the seventeenth century* (Amsterdam, 1964).

³⁴ For the Portuguese nation: O. Vlessing, "The Portuguese-Jewish Mercantile Community in Seventeenth-Century Amsterdam," in *Entrepreneurs and Entrepreneurship in Early Modern Times. Merchants and Industrialists within the Orbit of the Dutch Staple Market*, ed. C.M. Lesger and Leo Noordegraaf (The Hague, 1995), J.I. Israel, *Diasporas within a diaspora. Jews, Crypto-Jews and the World Maritime Empires (1540-1740)* (Leiden, 2002) and D.M. Swetschinski, *Reluctant cosmopolitans : the Portuguese Jews of seventeenth-century Amsterdam* (London, 2000).

³⁵ Other religious communities in Amsterdam, notably Lutherans, and Dutch- and French-speaking Calvinists, were also submitted to clerical discipline (H. Roodenburg, *Onder censuur. De kerkelijke tucht in de gereformeerde gemeente van Amsterdam, 1578-1700* (Hilversum, 1990), O.C. Gelderblom, "De deelname van Zuid-Nederlandse kooplieden aan het openbare leven van Amsterdam (1578-1650)," in *Ondernemers & bestuurders. Economie en politiek in de Noordelijke Nederlanden in de late Middeleeuwen en vroegmoderne tijd*, ed. Clé M. Lesger and Leo Noordegraaf (Amsterdam, 1999)). But although quite a few German, Flemish, and Walloon merchants were members of these churches, the

A first step towards the formal association of alien merchants is the delegation of political authority 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 Antwerp and representatives of the Scottish staple in Veere negotiated with the town magistrate on several occasions.³⁶ In earlier centuries similar political representation (category 3) had allowed alien merchants to secure toll and tax exemptions, safe-conducts, or other privileges through negotiations with local rulers.³⁷

Whenever talks with rulers in a foreign territory resulted in the creation of a separate jurisdiction, the delegation of authority 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).³⁸ 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

religious community never encompassed all traders from these regions (O. Gelderblom, *Zuid-Nederlandse kooplieden en de opkomst van de Amsterdamse stapelmarkt (1578-1630)* (Hilversum, 2000)) – which effectively set them apart from the English and Portuguese merchants who were all members of the same church. That is: for the English until a schism in 1628 (Carter, *The English Reformed Church in Amsterdam in the seventeenth century*); and for the Portuguese until the middle of the seventeenth century (Swetschinski, *Reluctant cosmopolitans : the Portuguese Jews of seventeenth-century Amsterdam*).

³⁶ 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 authority 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 authority (P. Dollinger, *La Hanse (XIIe-XVIIe siècles)* (Paris, 1964), J. Denucé, *De Hanze en de Antwerpsche handelscompagnieën op de Oostzeelanden* (Antwerpen, 1938)). On the Scots: M.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, 1910).

³⁷ Gelderblom, "Decline," .

³⁸ O. Gelderblom, "The Resolution of Commercial Conflicts in Bruges, Antwerp, and Amsterdam, 1250-1650," http://www.lowcountries.nl/2005-2_gelderblom.pdf (2005).

members, and Antwerp's customs stipulated that the group had the right to settle disputes between its members.³⁹

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.⁴⁰ 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.⁴¹ 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 authority. For even if more loosely organized merchant communities in Antwerp could exclude individual members, they could not bar them from the local market like the Merchant Adventurers did.

Finally, there are very few examples in the Low Countries in the 16th century of alien merchants delegating the authority to invest their capital to fellow traders. Only some of the larger South-German merchant families, like the Fuggers, Welsers and Imhoffs, set up multi-branch firms funded by a group of shareholders and controlled by a subset of directors chosen from this group.⁴² Employees in these companies were

³⁹ J.A. Goris, *Étude sur les colonies marchandes méridionales (Portugais, Espagnols, Italiens) à Anvers de 1488- à 1567. Contribution à l'histoire des débuts du capitalisme moderne* (Louvain, 1925), R.d. Roover, *Money, banking and credit in mediaeval Bruges : Italian merchant-bankers lombards and money-changers : a study in the origins of banking* (Cambridge/MA, 1948), H. Pohl, *Die Portugiesen in Antwerpen (1567-1648). Zur Geschichte einer Minderheit* (Wiesbaden, 1977).

⁴⁰ O.d. Smedt, *De Engelse Natie te Antwerpen in de 16e eeuw (1496-1582)*, 2 vols. (Antwerpen, 1950-1954).

⁴¹ 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)*.

⁴² Ehrenberg, *Das Zeitalter der Fugger, Geldkapital und Creditverkehr im 16. Jahrhundert, II, Die Weltbörsen und Finanzkrisen des 16. Jahrhunderts*, M. Häberlein, *Brüder, Freunde und Betrüger. Soziale Beziehungen, Normen und Konflikte in der Augsburger Kaufmannschaft um die Mitte des 16. Jahrhunderts* (Berlin, 1998). On similar multi-branch firms in Italy: E.S. Hunt, *The Medieval Super-companies. A Study of the Peruzzi Company of Florence* (Cambridge, 1994). Cf. also W. Brulez, *De firma Della Faille en de internationale handel van Vlaamse firma's in de 16e eeuw* (Brussels, 1959),

subject to direct supervision, and liable to losing their wage in case they did not follow instructions. However, the majority of south German merchants in Antwerp were small businessmen operating as individual agents, very much like German grain merchants in Amsterdam at the time.⁴³ It was only after the establishment of the big colonial joint-stock companies VOC and WIC in the early 17th century, that Dutch, Flemish, and also some German, Portuguese, and English shareholders invested money in a large mercantile organization, with the authority and resources to protect the company's commercial interests, a strict internal organization and a separate jurisdiction for conflicts arising on the way to, and in the colonies.⁴⁴

We argue that the above distinction of mercantile organizations by the amount of authority 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 observed empirically during the period under consideration.⁴⁵ We can then use this classification to analyze why merchants preferred more or less delegation of authority, or, in other words, operationalize our independent variables for a multinomial model.

for an example of a contemporary Flemish firm.

⁴³ D.J. Harreld, *High Germans in the Low Countries : German Merchants And Commerce In Golden Age Antwerp* (Leiden, 2004).

⁴⁴ O. Gelderblom and J. 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 (2004), H. den Heier, *De geötrooieerde compagnie: de OC en de WIC als xoorlopers van de naamloze vennootschap* (Deventer, 2005). Note however that these chartered companies typically had financial authority over only a fraction of the total assets of their shareholders.

⁴⁵ Note that this set-up leaves room for an empirical test of what, to us, seems to be an oversimplification of historical reality: the idea that change in the level of delegated authority is a function of time, i.e. from guilds to companies etc.

III Our model: the independent variables.

The level of authority 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.⁴⁶ 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 would only have delegated authority to their home ruler, and not to fellow traders.

A second alternative is a benevolent ruler in the host country that 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

⁴⁶ On Venice: Braudel, ed., *Venice and History. The collected papers of Frederic C. Lane* ; On the Dutch Republic: J. Israel, *Dutch Primacy in World Trade, 1585-1740* (New York, 1990). See also various contributions to C.M. Lesger and L. Noordegraaf, eds., *Entrepreneurs and Entrepreneurship in Early Modern Times. Merchants and Industrialists within the Orbit of the Dutch Staple Market* (The Hague, 1995).

(the riches of foreign merchants were an enticing price for rulers quest for funds) to provide such protection. Therefore the commitment of the host cities seems to have been of crucial importance to obviate the merchant guild as a means to secure the property of alien traders.⁴⁷

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 unfamiliar merchants to transact with one another.⁴⁸ The relationship created by repeat transactions between buyers and sellers can become a valuable asset that secures the commitment of both parties.⁴⁹ Merchants will simply refrain from cheating if the discounted value of future transactions with a particular agent exceeds the value of a single default.⁵⁰ Besides, merchants can use markets to diversify their trade or transfer risks using insurance

⁴⁷ Late medieval and early modern examples include the cities of Bruges (P. Stabel, "De gewenste vreemdeling. Italiaanse kooplieden en stedelijke 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 (H.v.d. Wee, *The Growth of the Antwerp Market and the European Economy (14th - 16th centuries)*, 3 vols. (Leuven, 1963)), Bilbao (R. Grafe, *Entre el Mundo Ibérico y el Atlántico. Comercio y especialización regional, 1550-1650* (Bilbao, forthcoming)) and Hamburg (H. Kellenbenz, *Unternehmerkräfte im Hamburger Portugal und Spanienhandel 1590-1625* (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.

⁴⁸ 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* ; Wee, *The Growth* ; Gelderblom, "Decline," .

⁴⁹ Milgrom, North, and Weingast, "Law merchant," p.1-2; Greif 1993.

⁵⁰ Examples abound in studies on the business dealings of merchants in Antwerp (Brulez, *De firma Della Faille en de internationale handel van Vlaamse firma's in de 16e eeuw*), 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 (Häberlein, *Brüder, Freunde und Betrüger. Soziale Beziehungen, Normen und Konflikte in der Augsburger Kaufmannschaft um die Mitte des 16. Jahrhunderts*), the Baltic area (W. Stieda, *Hildebrand Veckinchusen. Briefwechsel eines deutschen Kaufmanns im 15. Jahrhundert* (Leipzig, 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.

and derivatives.⁵¹ The spreading of risks allows merchant to compensate for damages due to insufficient protection.

Now 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. Examples include the guilds of Flemish and Italian traders that visited the fairs of Champagne, or the foreign nations that retained their separate jurisdictions in Bruges and Antwerp despite their access to a local court capable to resolve commercial conflicts.⁵² Our comparative analysis allows us to explore several possible explanations for the coexistence of merchant associations and alternative institutions.

A first possibility is that the amount of authority delegated allowed merchants to solve one or two, but not all three problems of exchange. Thus, in the fifteenth century Italian and Iberian communities in Bruges convinced their home rulers that the creation of a separate jurisdiction in Flanders was necessary in order to settle local conflicts that arose between merchants, shipmasters, and their crew.⁵³ Our comparative analysis can explain such combined solutions because it teases out the different contributions rulers and markets can make to the protection and transfer of property rights, and the management of commercial risk (see table 2 below). Our model allows us to trace correlations between the likelihood of adopting a particular level of authority delegated to fellow merchants and the availability of alternative solutions provided by home rulers, local rulers, or market institutions.

⁵¹ On insurance: Niekerk, *The development of the principles of insurance law in the Netherlands from 1500-1800* ; On derivatives: Gelderblom and Jonker, "Completing the Financial Revolution," .

⁵² Gelderblom, "Resolution," .

⁵³ L. Gilliodts-van Severen, *Cartulaire de l'ancien Consulat d'Espagne à Bruges. Recueil de documents concernant le commerce maritime et interieur, le droit des gens public et privé, el l'histoire économique de la Flandre*, 2 vols. (Brugge, 1901-1902).

Second, institutions that may seem to perform similar economic functions may in fact reinforce one another. For example, the formal association of Italian and Flemish merchants in Champagne strengthened the reputation-based enforcement of exchange by the fair courts.⁵⁴ Likewise, the existence of markets, although primarily a function of the scale and scope of trade, often goes with a government setting the rules of the game. Thus, Antwerp's town magistrate enforced contracts on the Brabant fairs, and wrote the rules for the permanent market that evolved from them in the sixteenth century.⁵⁵ Our comparative analysis will also bring out the regular co-existence of different institutions that would point to such a mutual reinforcement of solutions.

A third explanation for the persistence of a particular form of associations in the presence of alternative solutions is the pursuit of rents by its members. For example the Merchant Adventurers in Antwerp used their special status to exercise monopoly power and bar other traders from the market for unfinished broadcloth. Our model allows for two tests of this assumption. One is to find out whether merchant guilds with the power of exclusion (authority level 5 or 6) exist 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 exist in the presence of local competitors.

Fourth, a certain level of delegated authority may persist because the cost of changing it is too high, or because it does not keep merchants from using alternative institutions. This is very clear from the organization of foreign merchants that moved from Bruges to Antwerp, or from Antwerp to Amsterdam. Several nations with high

⁵⁴ .

⁵⁵ Wee, *The Growth* ; Gelderblom, "Decline," ; Note that this was not always the case. Cf. for example the markets for derivatives that developed in Antwerp and Amsterdam between 1550 and 1650. On various occasions the government refused to enforce forwards and futures. Yet the traders formed a sufficiently closed community for contracts to be enforced through peer pressure (Gelderblom and Jonker, "Completing the Financial Revolution,").

levels of delegated authority in Bruges, settled for much lower levels in Antwerp, despite the availability of quite similar alternative institutions in the two towns.⁵⁶ 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 in the next time period (while controlling for other factors, of course).

The above discussion helps to identify a number of independent variables that we would like to test. Table 2 groups these 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 of 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 of the market on the probability that merchants would choose to delegate more or less authority.

⁵⁶ Van de Walle, "Vreemde naties"; Wee, *The Growth* ; Gelderblom, "Decline," .

Table 2. The measurement of the influence property rights regimes and market conditions can have on the delegation of authority by merchants.

Nr	Variable	Description
<u>Home Ruler</u>		
H2	Political representation	Do merchants participate in the ruling elite of the home town or region?
H1	Protection	Does the home ruler coordinate protective measures (convoys, caravans)?
<u>Local Ruler</u>		
L6	Political representation	Do merchants participate in the ruling elite of the host town or region?
L4	Protection	Does the local ruler coordinate protective measures (convoys, caravans)?
L5	Protection	Were merchants victim of violence over the last 25 years?
L8	Protection	Does local ruler provide merchants with housing and/or warehousing?
L1	Contract enforcement	Do merchants have access to, and use a general court of law?
L2	Contract enforcement	Do merchants have access to, and use specialized courts subsidiary to the general court?
L3	Contract enforcement	Do merchants have access to, and use a specialized mercantile court?
<u>Market conditions</u>		
M1	Protection	Do merchants have access to, and use insurance markets?
M8	Contract enforcement	Do merchants have access to, and use periodic fairs?
M9	Contract enforcement	Do merchants have access to, and use a bourse?
M10	Contract enforcement	Do merchants have access to, and use public vending locations for specific products?
M11	Contract enforcement	Do merchants have access to, and use private vending locations?
M12	Competition	Do merchants from the host town trade in the home market?
<u>Scale and scope effects</u>		
M4	Size merchant community	How big is the entire group of merchants operating in the market?
M6	Size foreign merchant community	What is the total number of resident and visiting merchants?
M7	Town population	How many inhabitants does the host town have?
M13	Size of the market	How big are the markets merchants have access to, including the local market?
M14	Scope of the market	How many different product groups (nine in all) are traded?
M16	Share of merchant community	How important is the group relative to the overall merchant population
M17	Size of the urban market	How big are the urban markets merchants have access to, including the local market?

IV Some preliminary results

Even if the above described scenarios are but a few of the many conceivable causal configurations they do reveal the structure of our comparative analysis. Since we are dealing with a discrete, ordered dependent variable our analysis essentially tests likelihoods of outcomes.⁵⁷ Therefore we adopt a standard maximum likelihood model (probit) to investigate the relationship between authority delegated on the one hand and property rights regime and market conditions on the other. A first look at the

⁵⁷ G.S. Maddala, *Limited dependent and qualitative variables in econometrics* (Cambridge: Cambridge UP 1983).

descriptive statistics of our new classification of pre-modern European merchant associations in table 3 already reveals some interesting issues.

Table 3 Distribution of dependent variable observations in four town sample by benchmark year and ‘delegated-authority-classification’

Category	1250	1300	1350	1400	1450	1500	1550	1600	1650	totals
1		1	1	1	3	4	5	7	5	27
2		1	3	1	4	4	4	4	5	26
3	2	5	4	7	6	5	4		1	34
4		1	3	6	8	10	5	3	2	38
5			1	1	1	1	2	1		7
totals	2	8	12	16	22	24	20	15	13	132

To begin with it should be noted that our reduced sample thins out towards the beginning and end of the observed period. As noted above, we do not have category 6 examples since joint stock companies are not yet included in the sample. The distribution along the other categories of delegated authority seems to work reasonably well. Especially class 1 to 4, from no authority delegated to substantial amounts of authority delegated including internal discipline, are well represented. Out of a total of 132 foreign merchant communities in Bilbao, Bruges, Amsterdam, and Antwerp between 1250 and 1650, only 27 show no discernible degree of internal cohesion. A further 26 had no formal agreements amongst themselves even if they acted as a group. The remaining 79 had in one way or another a formal institutional bond that kept them together.

Strikingly, our sample seems to show no trend towards either more or less delegation of authority to mercantile organizations over time. By 1650 there is an indication that there might be more ‘low-delegation-level’ institutions than ‘high-delegation-level’ ones, but the small numbers should caution us against over-

interpreting individual benchmark years. The overall impression, however, is quite clear even for this limited sample: there is little evidence for some kind of ‘evolutionary’ trend either to more or less delegation of authority. This is an important point given that much of the economics oriented literature still implicitly assumes that institutions such as social networks 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.⁵⁸ 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.

Table 4 below reports the results of the probit model employed to test for the relationship between various variables and the probability that merchants should choose to delegate more or less authority. For a number of variables that we would like to include (cf. table 2) our available sample is still too small at present to test them. These include the potential for diversification that merchants had, and the size of the entire mercantile community in the host town at the time. Our preliminary results seem to suggest that the methodology works and can be extended to include these variables in the future.

The independent variables included so far in tables 4 and 5, except for the town population, market size and size of merchant community, are dummies (1=affirmative; 0=negative). In the absence of joint-stock companies, the values of the dependent variable move from 1 (lowest) to 5 (highest). Since our sample is still small

⁵⁸ 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 R. Grafe, "Fairs," in *The History of World Trade since 1450*, ed. Stanley Engerman, et al. (forthcoming).

we focus primarily on the statistic significance and sign of individual variables at this stage rather than their impact effect. A negative sign on a parameter in Tables 4 and 5 suggests that affirmation (or a higher value) of the independent variable increases the probability of merchants choosing a lower level of authority delegation.

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

	(1)	(2)
	authority delegation	Authority delegation
home pol representation	0.21	0.81
	(0.56)	(2.62)***
home convoys	-1.35	
	(1.78)*	
general courts	-3.05	-1.54
	(4.04)***	(3.18)***
mercantile courts	-0.20	-0.95
	(0.11)	(1.12)
local convoys	-1.63	-0.60
	(3.24)***	(1.76)*
local pol representation	-1.51	-0.69
	(1.68)*	(1.02)
(ware)housing	-0.06	0.20
	(0.07)	(0.35)
insurance	-1.69	-0.69
	(2.41)**	(1.49)
all spot markets	3.45	1.61
	(2.04)**	(1.97)**
town pop	-0.00004	-0.00002
	(3.43)***	(3.10)***
D1300	0.33	-0.32
	(0.25)	(0.30)
D1350	-1.93	-1.16
	(1.47)	(1.07)
D1400	-0.35	-0.28
	(0.30)	(0.28)
D1450	-0.24	-0.35
	(0.21)	(0.36)
D1500	0.60	0.18
	(0.51)	(0.18)
D1550	0.47	0.11
	(0.46)	(0.12)
D1600	-0.70	-0.35
	(0.79)	(0.42)
D1650	1.03	0.57
	(1.12)	(0.67)
McFadden's Adj. R2	0.12	0.04
Observations	70	110

Absolute value of z statistics in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

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

	(3)	(4)	(5)	(6)
	authority delegation	authority delegation	Authority delegation	authority delegation
home pol representation	0.25	-0.30	0.23	
	(0.70)	(0.69)	(0.44)	
home convoys	-0.75	-1.28	-2.14	-0.56
	(1.33)	(2.01)**	(2.22)**	(0.84)
general courts	-1.57	-1.11	-1.31	-2.56
	(3.02)***	(1.86)*	(1.39)	(4.16)***
mercantile courts	-1.89	-1.88	0.09	
	(1.76)*	(2.04)**	(0.04)	
local convoys	-2.03	-2.52	-1.79	-3.20
	(4.13)***	(3.64)***	(2.64)***	(4.16)***
violence	0.89	0.86	0.06	1.19
	(2.47)**	(1.84)*	(0.07)	(2.50)**
local pol representation	-0.94	-2.29	-2.01	-0.66
	(1.13)	(2.31)**	(1.38)	(0.70)
(ware)housing	0.30			
	(0.38)			
insurance	-0.76	-1.39	-2.23	-0.75
	(1.62)	(1.90)*	(2.63)***	(1.26)
town pop	-0.00002	-0.00002	0.00005	-0.00002
	(2.81)***	(2.72)***	(1.41)	(2.18)**
fairs		0.15		
		(0.28)		
bourses		1.10		
		(2.15)**		
private vending location		1.41	2.36	
		(2.44)**	(3.35)***	
competition		0.93		0.77
		(1.26)		(1.18)
% merchant community				0.03
				(2.62)***
size urban markets SW			-0.10	
			(2.37)**	
McFadden's Adj. R2	0.14	0.21	0.24	0.21
Observations	66	64	45	56

Absolute value of z statistics in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

The preliminary results reported in tables 4 and 5 suggest some interesting insights. First of all models 1 and 2 in table 4 show that in no specification any of the dummies for the time periods are significant. This seems to reinforce the argument made above that there is really no observable time trend in this data. The second important conclusion is that market conditions matter greatly. As we would expect the

availability of private insurance and larger size of the markets/towns lower the probability of merchants delegating more authority to an informal or formal mercantile organisation. The coefficient for town size disappears only when we include the proxy for the total size of the market, a measure that estimates purchasing power in the markets a town had regular trade with by multiplying population with silver wages and urbanisation rates (See Appendix 1 for details). Interestingly the availability of spot markets, i.e. places where face-to-face transactions occur without delay, is positively correlated with a higher likelihood for more delegation of authority. This result obtained in models 1 and 2 in table 4 surprised us. Models 6 and 7 in table 5 provide more details singling out different kinds of spot markets such as fairs, bourses and private vending locations (e.g. a guild's cloth hall). While the coefficient for fairs is insignificant, those for bourses and private vending locations remain positive. This might be explained by inverse causality: Mercantile association that have been given more authority by their members might have the resources (political and financial) to establish spot markets.

With regard to the political environment in the host town and the public goods provided it seems that the availability of housing/warehousing provided by the town made little difference. Convoys protecting merchants on their way and organised by the local ruler however reduced the probability of higher degrees of authority delegation. Representation of merchants in local government is weakly significant (and negatively) in specifications 1 and 3 but not in any other. What definitely mattered was the provision of courts of law. The existence of general courts clearly substituted for higher degrees of merchant organisation. Specialised mercantile courts seem largely to have the same effect.

Finally, political participation of merchants in the home town did not matter. The impact of convoys organised by the home ruler is not entirely clear but they are weakly significant in various models and again are associated with less authority delegation. We also find clear evidence for the hypothesis that higher degrees of organisation were more often associated with markets where the particular group constituted a significant share of the total merchant population (model 6).

While – as mentioned above – we do not think that our sample is presently large enough to place much confidence in calculated marginal effects, it is interesting to look at a number of individual predicted probabilities calculated on the basis of models 4, 5 and 6 and presented in table 6 below. In each case, a fixed value for one of the independent variables has been set (e.g L1=1 ; general courts exist in the town) and the predicted probabilities for each category of the dependent variable have been calculated.

Table 6: Individual predicted probabilities: models 4,5, and 6

Model 4	probability				
	1	2	3	4	5
general courts exist	0.09	0.46	0.41	0.04	0.00
mercantile court exists	0.40	0.48	0.11	0.00	0.00
home ruler provides convoys	0.45	0.46	0.09	0.00	0.00
no political participation in home town	0.00	0.00	0.11	0.64	0.25
maximum town size	0.55	0.39	0.06	0.00	0.00
town has bourse	0.00	0.15	0.56	0.27	0.00
town has no bourse	0.09	0.45	0.41	0.05	0.00
merchants have private vending place	0.00	0.10	0.52	0.37	0.01
merchants have no private vending place	0.09	0.46	0.41	0.04	0.00
Model 5					
	1	2	3	4	5
insurance not available	0.00	0.00	0.32	0.65	0.03
maximum urban market size	0.68	0.29	0.03	0.00	0.00
Model 6					
	1	2	3	4	5
general courts exist	0.49	0.40	0.11	0.00	0.00
foreign group is large % of total community	0.00	0.01	0.15	0.54	0.30

The profiles emerge quite clearly. The existence of mercantile courts is associated with much higher probabilities of a category 1 or 2 outcome, i.e. a very low degree of authority delegation. The same is true in different degree for general courts, convoys provided by the home ruler, political participation in the home town, insurance and large towns or markets. The opposing profile is seen for the existence of bourses or private vending locations and the size of the group relative to all merchants in the town.

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. We have argued that such a comparative approach is more promising than the game-and contract theoretical techniques currently chosen by most economic historians because it is more suitable to deal with two characteristics of early modern mercantile organisation: (1) merchants used more than one institution to solve one problem and (2) one institution often addressed more than one problem.

As a step towards making different forms of mercantile organisation comparable while accounting for their idiosyncrasies we have suggested a classification that is based on the assumption that merchants will only give up control over their own dealings if they are compensated for this loss of control. Our classification of the empirically observed mercantile organisations into five (six) categories by degree of authority delegated reflects this characteristic.

Finally, we have tested the empirical feasibility of this approach with an admittedly still modest sample of 132 foreign merchant communities trading in four European towns between 1250 and 1650. The chosen probit model seems to produce relatively robust results that suggest that the methodology is suitable for this data. The preliminary results offer a first glimpse of what this methodology could deliver. The sample suggests 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.

They also single out a number of other variables that seem to have had a great impact on merchants' willingness or otherwise of leaving part of their control over their business in the hands of a collective organisation. The emergence of insurance markets seems clearly correlated with less need for collective action and larger local markets (as proxied by town size) worked in the same direction. The same is true for local rulers providing basic courts of law and protective convoys for merchants to and from the town and for local merchants being able to defend their interests through a representation on the town council. Other public goods, such as provided warehousing and housing, seem to have played no role. The scope and scale of markets was crucial. Overall we argue that this paper has shown that despite of the scepticism of game and contract theorists a comparative analysis of pre-modern institutional forms is possible and a potentially rewarding – if tremendously data-intensive – exercise.

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