On the Inter-relations and Economic Implications of Economic, Social, Political, and Normative Factors:

Reflections From Two Late Medieval Societies

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Abstract

This paper utilizes transaction cost economics, game theory, and insights from sociology and psychology to conduct a comparative historical study of the institutional structure of two late Medieval societies, one from the Muslim world and one from the Latin world. The analysis indicates that understanding institutional path dependence, distinct trajectories of organizational development, and the relations between institutions and economic efficiency requires analyzing institutional structure as a system of inter-related economic, social, political, and normative components. Interestingly, the distinct institutional structures found in the late medieval period resemble those found by social psychologists to differentiate contemporary developing and developed economies. Hence this paper suggests the historical importance of distinct cultures and the related societal organizations in economic development.

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Introduction

Economic History, in contrast to Neo-classical economics, has always emphasized the need to analyze economies as systems in which institutions, namely the non-technologically determined constraints, influence economic performance. To understand economic performance one has to analyze an economic system as one in which social, cultural, and political features inter-relate with technology, endowment, and preferences. Furthermore, understanding the determinants of economic performance over time requires analyzing the factors that make such systems path dependent.[1] That is, the factors implying that a system's ability to change is a function of its history. In various publications, North (e.g., 1973, 1981, 1990) has called attention to the need to pursue such inquiry and has provided many examples from history on the importance of this approach.

The need for analyzing economies as systems has been highlighted recently by the findings of social psychologists who identified high correlations between cultural, political, and economic aspects of contemporary societies. Specifically, societies tend to be either "collectivist" or "individualist."[2] In collectivist societies the social structure is "segregated" in the sense that each individual interacts socially and economically mainly with members of a specific religious, ethnic, or familial group in which contract enforcement is achieved through "informal" economic and social institutions, while non-cooperation characterizes the relations between members of different groups. In terms of their values members of collectivist societies feel involved in the lives of other members of their group and vlaue cooperation and contribution to the group's welfare. Finally, the political system of such societies is characterized by non-democratic governments.

In individualist societies the social structure is "integrated" in the sense that economic transactions are conducted among people from different groups and individuals shift frequently from one group to another. Contract enforcement is achieved mainly through specialized organizations such as the court, and self-reliance, independence, and individualism are highly valued. Finally, the political system of such societies is characterized by democratic governments. Variations among contemporary societies with respect to their levels of individualism or collectivism are highly correlated with per-capita income:

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[1] Regarding the importance of path dependence in economic history, see David (1988). Regarding institutional path dependence, see David (1992); North (1991).

[2] Triandis (1990), Triandis, McCusker, and Hui (1990); Bellah, et. al. (1985) (1985). Clearly, any society has some elements of individualism and some elements of collectivism. Thus, the distinction between collectivist and individualist societies is a matter of the relative importance of these factors. See, for example, Bellah, et. al. (1985); Reynolds and Norman (1988); Triandis (1990).

most of the developing countries are "collectivist," whereas the developed West is "individualist."

Despite the evidence from history and from contemporary developed and LDCs that understanding economic performance requires analyzing a system of inter-related social, cultural, political, and economic factors, rigorous comparative theoretical and historical analysis of such systems and their path dependence has not been conducted. This paper presents such an analysis. Specifically, it provides an overview of the main findings in an ongoing research project that examines, historically and theoretically, the inter-relations between, and the economic implications of, the social, cultural, economic, and political features of two late Medieval societies – the Maghribi traders who operated in the Muslim Mediterranean during the eleventh century and the Genoese traders of the twelfth and thirteenth centuries who were a part of the Latin world.[3]

A comparative analysis of the emerging institutional structures of these two societies is also of interest for is own sake. The late Medieval period greatly influenced the later commercial, industrial, and financial developments in Europe. "[W]estern wealth began with the growth of European trade and commerce which started in the twelfth century in Italy..." (Rosenberg and Birdzell, 1986, p. 35). Much of the institutional framework of the West was crystallized during this period. It is also a period during which the economic decline of the Muslim world began. Hence, comparative analysis of institutional development in the Western and Muslim worlds may shed some light on the factors that gave rise to the emergence of distinct institutional trajectories in these societies and uncover sources of institutional path dependence. Indeed, it is interesting to note that the distinct institutional structures found in the late Medieval period among groups from the Muslim and the Latin worlds resemble those found by social psychologists which differentiate contemporary developing and developed economies. Hence, the findings of this paper also suggests the historical importance of distinct institutional structures in economic development.

The rest of the paper is organized as follows: The first section provides a short introduction to the two pre-modern societies under study, identifies the transaction central to their economies, and describes two economic institutions able to mitigate the related organizational problems. The second section examines the role of cultural and social factors in the selection of possible institutions. The third section discusses some of the social and economic implications of the cultural elements imbedded in these institutions. The fourth section examines the relationship between economic institutions, culture, and political institutions. The fifth section examines the emergence of distinct trajectories of

[3] Relevant historical evidence are further elaborated in Greif (1989, 1991, 1993, 1994a, 1994b, 1996).

organizational development while the sixth section examines the cultural implications of distinct economic institutions and social structures. Concluding remarks follow.

Due to space limitation and since the focus of the paper is to summarize the relevant findings, only brief substantiation of various claims regarding historical evidence and the line of causation is presented. In particular, the paper does not provide a formal model although Greif (1993, 1994) contains a formal model of some of the theoretical arguments made in sections II, III, and V. Similarly, Greif (1989, 1991, 1994, and 1996) further elaborates on the empirical content of the arguments made in this paper.

Section I: **An Organizational Problem and Multiple Economic Institutions**

Among the Italian cities important in the rise of European trade and commerce during the late Medieval period, Genoa holds a prominent place. Furthermore, its historical records are particularly rich and go back as far as the years in which the Commune of Genoa was established, namely, around 1096. A unique historical source, known as the (Cairo) *geniza* reflect the operation of the Maghribi traders, a group of Jewish traders who operated in from the Muslim world during the 11th century. The economies of the Genoese and the Marghribis were based on long-distance overseas trade. The centrality of such trade in the Genoese economy is reflected in the late Medieval maxim *genuensis ergo mercator* (Genoese, therefore merchant). Similarly, trade was central to the Maghribis who were engaged in long-distance trade for centuries, locating in the area surrounding Baghdad but who immigrated to North Africa during the second half of the tenth century due to political upheavals. After their immigration to North Africa the Maghribis became involved in large-scale, long-distance trade all over the Muslim Mediterranean.[4]

The Maghribis and the Genoese faced a similar environment, employed comparable naval technology, and traded in similar goods. The efficiency of their trade depended, to a large extent, on their ability to mitigate an organization problem related to a specific transaction - the provision of the services required for handling a merchant's goods abroad.[5] A merchant could either provide these services himself by traveling between trade centers or hire overseas agents in trade centers abroad to handle his merchandise. Employing agents was efficient, since it saved the time and risk of travelling,

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[4] For a general introduction to Genoa's history, see Vitale (1955). For a general introduction to the Maghribis' history and the *geniza* documents, see Goitein (1967); Gil (1983), vol. 1; Greif (1989, 1993).

[5] Taking a transaction as the basic unit of analysis is a methodology advanced by Williamson (1985).

allowed diversifying sales across trade centers, and so forth.[6] Yet without supporting institutions, agency relations couldn't be established since an agent could embezzle the merchant's goods. Anticipating this behavior, a merchant would not hire an agent to begin with.

A neoclassical market for agents' services fails to provide an institution through which agency relations can be organized. The anonymous, discrete, neoclassical market is one in which "faceless buyers and sellers, households and firms that grind out decision rules from their objective functions (utility, profit) meet ... for an instant to exchange standardized goods at equilibrium prices" (Ben-Porath, 1980, p. 4). In an anonymous market, conduct in a given period has no effect upon the reward in subsequent periods. Yet, as Carlo M. Cipolla has pointed out, the agent who traded using someone else's capital "could easily have disappeared with the capital or cheated in business conducted in far-off markets where none of his associates had any control" (Cipolla, 1980, p. 198). Hence, if agency relations are governed by an anonymous market, the agent has nothing to lose by cheating the merchant. Aware of how an agent will act, however, no merchant would ever hire one to begin with.

For agents to be employed, there must be an institution – other than the market – enabling agents to commit ex ante to be honest ex post, after receiving the merchant's goods. Organization theory predicts that when cooperation leads to efficiency gains which the market fails to capture, "private order" economic institutions will be established.[7] Indeed, such institutions seem to have emerged among the Maghribis and the Genoese, since in both groups trade was based on agency relations among non-family members. Such agency relations are reflected, for example, in the first Genoese historical source reflecting agency relations, the Cartulary of Giovanni Scriba (1155-1164). It indicates that only 5.3 percent of the total trade investment didn't entail agency relations, and only 6.45 percent of the sum sent abroad through agents was entrusted to family members.

When contractual relations are expected to be repeated, reputation may provide the base for an economic institution that enable trust outside the family. Theoretically, two types of reputation mechanisms related to agency relations can be distinguished.[8] The first enables an agent to signal that he is trustworthy because he fears God or has internalized an ideology of honesty. The second reputation mechanism enables an agent whose objective is to maximize his pecuniary income to establish ex ante that his most profitable course ex post is to be honest. The merchant can thus trust the agent -- the agent

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[6] Among many others, De Roover (1965) has noted the superiority of trading systems that employ agents.

[7] Williamson (1985), pp. 5, 9-10; Joskow (1984), p. 13.

[8] For discussion, see, for example, Allen (1984); Rogerson (1983); and Shapiro, (1983).

possesses a reputation as an honest agent. Since an aim of this paper is to demonstrate how different institutional structures can lead to the emergence of distinct values, the analysis will concentrate for the moment on the former mechanism and will assume that an agent's objective is to maximize his pecuniary income.

When agency relations are governed by this latter mechanism, an agent remains honest out of his desire to retain his position as an agent. To make this position attractive, the merchant must create a gap between the expected lifetime utility of an agent employed by him and the agent's best alternative elsewhere. To do so the merchant can provide an honest agent with a per-period income higher than the agent's (time average) per-period income if he is fired.[9] Of equal importance is the merchant's threat to fire the agent and never operate through him again if he discovers that the agent has ever cheated.[10] Given a premium and the threat, a dishonest agent can earn a short-run gain by cheating while an honest agent will earn a long-run gain by being paid a per-period premium over his best alternative. An agent acquires the reputation of an honest agent if it is known that the long-run gain is not less than the short-run gain and hence the agent can not increase his lifetime utility by cheating. To employ an agent, the merchant will offer the agent the optimal premium – the lowest cost premium for which the long-run gain is not less than the short-run gain.[11]

In the reality of Medieval trade, even an honest agent's unemployment could have been terminated due to the volatile nature of long-distance trade. While the probability of such termination increases the optimal premium, the above reputation mechanism functions also in this case. The possibility of termination, however, implies that even if honesty is induced, some agency relations are expected to be terminated and some (out of the pool of unemployed) agents would be hired each period. The optimal premium over an agent's reservation utility will have then to take into account that he may be re-hired by another merchant.

Two distinct economic institutions based on the above reputation mechanism can govern merchant-agent relations and induce honesty: "second party" and "third party" enforcement institutions. (The second party enforcement mechanism requires the support of the state as discussed below.) In the

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[9] For such an "efficiency wage" mechanism, see Shapiro and Stiglitz (1984).

[10] Note that it is assumed that there is some positive probability that the merchant will be able to detect deviation. See below regarding the mechanisms employed by the Maghribis and Genoese to balance the asymmetric information inherent in the relations between a merchant and an agent.

[11] For the appropriate model, see Greif (1993, 1994a).

former, only a cheated merchant is expected to retaliate against the cheating agent by ceasing to operate through him. In the latter, merchants who were not cheated by a particular agent are expected to retaliate by ceasing to operate through him if he cheated any merchant.

It is clear why one would expect a merchant to retaliate against an agent who cheated him. After all, when there is an equilibrium in which second party enforcement institution governs the relations between merchants and their agents, the wage paid to agents and the agents' unemployment rate is such that no hired agent finds it optimal to cheat. If a merchant does not retaliate by firing an agent who cheated him, however, that agent would find it optimal to cheat again (unless he is paid a sufficiently higher wage). But since the cheated merchant can hire another agent from the pool of unemployed agents, he can do better by firing the cheater and hiring a new agent.

But under what conditions would a merchant find it optimal not to hire an agent who had cheated another merchant? In the setting described above, the expectation that all merchants would cease operating through a "cheater," an agent who ever cheated another merchant is sufficient to motivate each merchant not to hire that agent. In other words, a "collective punishment" is self-enforcing: if it is expected to be practiced, it would indeed be practiced. This is the case since, as discussed above, agency relations between any particular merchant and agent can terminate even if the agent is honest.

To see the implications of termination suppose that agency relations will be terminated after one period even if the agent is honest. If merchants practice collective punishment, cooperation is still possible if the agents are sufficiently patient. Although the bilateral relation with any particular merchant would be terminated after one period, an agent would still refrain from cheating since this implies that he would not be hired in the future by <u>all</u> the merchants. But cooperation is not possible with an agent who had cheated in the past since he would not be hired by other merchants in the future even if he is honest in the current period. Hence, one who cheated in the past would find it optimal to cheat again if hired expecting not to be hired in the future in any case. Anticipating that, a merchant would not hire a cheater and the collective punishment becomes self-enforcing. When agency relations are expected to be terminated with probability lower than one, agency relations with a cheater can be established. Yet, a cheater will remain honest only if paid a wage higher than that of an honest agent. As before, a cheater – unlike an honest agent – does not consider the implications of cheating on his future relations with all the merchants. Hence, merchants strictly prefer to hire an agent who has never cheated implying that the collective punishment is self-enforcing.

Expectations for collective punishment have also implications with respect to costly acquisition and transmission of information. Suppose that each merchant can either invest or not invest in getting

attached to a network of information before the game begins and his action is common knowledge. Investing requires bearing the cost of information gathering each period, in return for which the merchant learns the private histories of all the merchants who also invested. Otherwise, he knows only his own history. When collective punishment is expected, agents' histories have value and hence merchants are motivated to invest in gathering information. This is so since the wage required to keep an agent honest is a function of his history, since an agent who cheated in the past will cheat if rehired and paid the ongoing wage.[12] Similarly, if an agent is hired by a merchant who is not attached to the information network he would cheat the merchant unless paid a wage higher than the ongoing one. The availability of information, in turn, makes collective punishment possible. Note that the opposite is true in the absence of expectations for collective punishment. An agent's wage is not a function of his history and merchants are not motivated to invest in gathering the information. But if merchants are not gathering information, collective punishment can not be expected to be practiced.[13]

Section II: **Selecting Economic Institution: Cultural and Social Factors**

Schelling ([1960] 1980) has pointed out that cultural and social factors influence selection of alternative solutions in a multiple equilibrium game by making one rather than another a natural "focal point." Were the cultural differences between the Maghribis and the Genoese such that they were likely to affect the selection of an institution from among the above two self-enforcing ones? When the Maghribis began trading in the Mediterranean early in the 11th century and when the Genoese began trading toward the end of that century, they had already internalized different cultures and were in the midst of different social and political processes. Their cultural heritage and the nature of these processes suggest that among the Maghribis a collectivist equilibrium was a natural focal point, whereas among the Genoese it was an individualist equilibrium.

The Maghribis were *mustarbin*, that is, non-Muslims (Jews), who adopted the values of the Muslim society. Among these values was the view that they were members of the same *umma*. This

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[12] This follows directly from the above discussion of the self-enforceability of the collective punishment. A cheater will cheat at the ongoing wage because this wage reflects the deterrence implied by the collective punishment but a cheater is already subject to this punishment and hence the threat of such punishment does not contribute to deter cheating. See discussion in Greif (1993, 1994a).

[13] Clearly, in reality information has many dimensions and even under second party enforcement some information by have value. Yet, under third party enforcement, the is an additional motivation to acquire information.

term, although translated as "nation," is derived from the word *umm,* meaning "mother," reflecting the basic value of mutual responsibility among the members of that society (see e.g., Cahen, 1990). Further, *umma*'s members shared the fundamental duty to practice good and to ensure that others did not practice sin (B. Lewis, 1991). In addition, the Maghribis were part of the Jewish community, within which it was a prominent idea that "All Israel is responsible for every member." Furthermore, as is common among immigrant groups, the Maghribis, who migrated from Iraq to Tunisia, probably retained social ties that enabled them to transmit the information required to support a collectivist equilibrium.

In contrast, Christianity during this period placed the individual rather than his social group at the center of its theology. It advanced the creation of "a new society based not on the family but on the individual, whose salvation, like his original loss of innocence, was personal and private."[14] Indeed, the contract through which the Genoese established their city shortly before 1099 was a contract between individuals, not between families or other social groups. Furthermore, for political reasons, the number of Genoese active in trade rose dramatically toward the end of the twelfth century. While the historical records from the middle of the century reflect the operation of a few dozen traders in each trade center abroad, the records from the late twelfth century reflect the operation of hundreds of Genoese in each trade center. At the same time, Genoa experienced a high level of immigration. For instance, Genoa's population increased from 30,000 to 100,000 between 1200 and 1300. In the absence of appropriate social networks for information transmission, the individualist equilibrium was likely to be selected.

The distinct cultural and social conditions among the Maghribis and the Genoese were likely to direct each of these groups toward distinct equilibria. Does the historical evidence indicate such divergence? That is, was there high investment in information and collective punishment among the Maghribis and low investment in information and individualist punishment among the Genoese?

The historical evidence indicates that the Maghribis invested in sharing information and the Genoese did not. Each Maghribi corresponded with many other Maghribi traders by sending informative letters to them with the latest available commercial information and "gossip," including whatever transpired in agency relations among other Maghribis. Important business dealings were conducted in public, and the names of the witnesses were widely publicized (Goitein 1967, 1973; Greif 1989). Information transmission was probably facilitated by the relatively small size of the Maghribi traders' group (although as discussed below, this size was endogenously determined). In 175 documents, for

[14] Hughes (1974), p. 61; MacFarlane (1978) on English individualism during this time.

example, 330 different names are mentioned.[15] Although most likely not every Maghribi trader was familiar with all the others, belonging to the Maghribis was easily verifiable through common acquaintances, an extensive network of communication, a common religion, and a common language (Judaeo-Arabic).

Collective punishment is reflected in the historical records although it was rarely used.[16] For example, in the first decade of the 11th century, Samhun ben Da'ud, a prominent trader from Tunisia, sent a long letter to his business associate, Joseph ben 'Awkal of Fustat. The letter is explicit that Joseph made his future dealings with Samhun conditional upon his record: "If your handling of my business is correct, then I shall send you goods." It happened, however, that Samhun did not handle Joseph's business to his satisfaction – Joseph believed that Samhun had intentionally not remitted his revenues on time. Joseph's response was to ignore Samhun's request to pay two of Samhun's creditors in Fustat. By the time Samhun found out about it "their letters filled with condemnation had reached everyone." The contents of these letters caused Samhun to complain that "my reputation (or honor) is being ruined."[17]

In contrast, the Genoese seem to have held an opposite attitude regarding information sharing.[18] Lopez (1943) noted the efforts of the Genoese to conceal information and conjectured that the "individualistic, taciturn, and reserved Genoese" were not "talkative" about their businesses and were even "jealous of their business secrets" (p. 168). For example, when the Vivaldi brothers attempted in 1291 to sail from Genoa to the Far East through the Atlantic, their commercial agreements were drawn for trade in "Majorca, [and] even [in] the Byzantine Empire" (p. 169). Genoa's historical records are not explicit about the nature of punishment inflicted on an agent who cheated, but they suggest a lack of collective punishment and informal communication.[19]

Cultural factors that coordinated expectations and social and political factors that slightly altered the relevant games in the formative period seem to have directed the Maghribis and the Genoese toward different equilibria, each of which corresponds to the governance of agency relations by a distinct

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[15] These letters are all that are available regarding trade with Sicily and Israel during the mid-eleventh century, and the trade of Naharay ben Nissim. See Michael (1965); Gil (1983); and Ben-Sasson (1991).

[16] The above 175 contracts reflect at least 653 business ventures but only 3 cases of alleged cheating.

[17] DK 13, a. ll. 26 ff., 41, Stillman (1970, pp. 267 ff.); and Goitein (1973, pp. 26 ff.). For other examples and discussion, see Greif (1989, 1993).

[18] Epstein (1994) has examined the methods used by Genoese to foster trust while retaining secrecy.

[19] Lopez (1943), p. 180; de Roover (1965), pp. 88-9.

economic institution. To gain additional support to the conjecture that agency relations within each group were governed by distinct institutions, predictions generated under the assumption that distinct institutions prevailed are confronted with the historical records. At the same time, the nature of these predictions indicates the relationship between economic, cultural, social, and political factors in generating a society's institutional structure. The first such prediction is regarding social structures as discussed in the next section.

Section III: **The Cultural Content and Social Ramifications of Distinct Economic Institutions**

Each of the economic institutions that seems to have governed agency relations among the Maghribis and Genoese reflects a distinct cultural and social heritage. While distinct heritages provide different focal points, the related institutions enhance and give distinct content to a cultural element – cultural beliefs. Cultural Beliefs are the ideas and thoughts common to several individuals that govern interactions – among these people, and among them, their gods, and other groups – and which differ from knowledge in that they are not empirically discovered nor analytically proven.[20] While the rules of the game associated with each of the above enforcement institutions are identical, the cultural beliefs associated with each are not. Each entails different expectations with respect to actions that would be taken following cheating. In the second party enforcement institution members of the society hold "individualistic cultural beliefs," as merchants are expected to be indifferent to whatever transpired among other merchants and agents. In the third party enforcement institution member of the society hold "collectivist" cultural beliefs, as merchants are expected to respond to whatever transpires among others.

In general, following the crystallization of cultural beliefs with respect to a particular game, they become identical and commonly known through the socialization process by which culture is unified, maintained, and communicated. Hence, once a specific set of cultural beliefs crystallizes among members of a society, it has an enduring impact that may transcend the boundaries of the specific context within which it was formed. As cultural beliefs are the expectations held by members of a society, they influence a society's response when history alters the environment. Indeed, historical changes altered the environment in which the Maghribis and the Genoese operated in a manner that directly effected merchant-agent relations. Following various military and political changes in the Mediterranean, both

[20] E.g., Davis (1949) (in particular pp. 52 ff., 192 ff.) and Bandura (1971).

groups had the opportunity to expand their trade to areas previously inaccessible to them.[21] Commercially, both groups responded similarly and expanded their trade from Spain to Constantinople. Socially, however, their responses differed: the Genoese responded in an "integrated" manner while the Maghribis responded in a "segregated" manner.

The Maghribis expanded their trade by employing other Maghribis as agents. They emigrated from North Africa to other trade centers, and for generations the descendants of Maghribis continued to cooperate with the descendants of other Maghribis.[22] For example, in the letters of Naharay ben Nissim, the most important Maghribi trader in Fustat around the mid-century, 97 different traders are mentioned but only 2 were Muslims.[23] This segregated response can not be accounted for as a result of the Maghribis being a religious minority, since they did not establish agency relations with other Jewish traders even when these relations were (ignoring agency cost) perceived by the Maghribis as very profitable. This was true, in particular, with respect to Italian Jewish merchants. (Greif 1989, 1993; Goitein, 1973, pp. 44, 211.) That this segregation was endogenous is also reflected in the Maghribis' later history when, toward the end of the 12th century, they were forced by the ruler of Egypt to cease trading. At this point they integrated into the Jewish communities and vanished from the stage of history.

The Genoese also responded to the new opportunities by emigrating abroad, and their cartularies indicate that agency relations among Genoese prevailed. Yet although the cartularies were written in Genoa and hence are biased toward reflecting agency relations among Genoese, they nevertheless clearly indicate the establishment of agency relations between Genoese and non-Genoese. For example, in the cartulary of the Genoese Giovanni Scriba (1155-1164), at least 18.3 percent of the total sent abroad through agents was sent or carried by a non-Genoese.[24]

The rationale behind the Maghribis' and the Genoese's different responses to the same exogenous change in the rules of the game is clear once one considers the impact of cultural beliefs on equilibrium selection. The change altered the game in a specific manner. As trade with more remote trade centers

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[21] See discussion in, A. R. Lewis (1951). Among these changes were the disintegration of the Muslim Caliphate in Spain, the rise of the Fatimids in North Africa, and the decline of the Byzantine naval power.

[22] Goitein (1967), pp. 156-59, 186-92; Gil (1983), vol. 1, pp. 200 ff.

[23] Al Qasim and Muhammad. Based on the 37 documents published by Michael (1965).

[24] For non-Genoese in other cartularies see, for example, Oberto Scriba de Mercato 1186, No. 9, 38. Oberto Scriba de Mercato 1190, No. 138, 139. Guglielmo Cassinese (1190-1192), No. 418, 1325. Lanfranco (1202-1226), No. 524. The ease of hiring non-Genoese is reflected in their use to circumvent a politically unfavorable situation in Sicily. See Abulafia (1977, pp. 201 ff.)

became possible, a merchant could either hire an agent from his own economy who would sail or emigrate abroad, or hire an agent native to the other trade center. Such inter-economy agency relations are likely to be more efficient than intra-economy agency relations, since they enhance commercial flexibility. Furthermore, a native agent doesn't need to immigrate and he is likely to possess a better knowledge of local conditions.

In deciding whether to establish inter-economy agency relations, however, a merchant's concern is profitability and not efficiency. The relations between efficiency and profitability are influenced by cultural beliefs that crystallized before inter-economy agency relations become possible. The collectivist cultural beliefs associated with the third party enforcement institution create a wedge between efficient and profitable agency relations, leading to a "segregated" society in which efficient inter-economy agency relations are not established. This is not the case when individualist cultural beliefs prevail. In the absence of a wedge between profitable and efficient agency relations, an integrated society in which inter-economy agency relations are established will emerge.

To see why this is the case, suppose for the moment that information regarding agents' past behavior is common knowledge. Further suppose that two **identical** economies, within which either individualist or collectivist cultural beliefs prevails, become a **joint economy** in which players can identify members of their previous economy and inter-economy agency relations are possible. What will the patterns of hiring agents in the joint economy be as a function of the players' cultural beliefs? (For a formal presentation of the following argument, see Greif, 1994a.)

Intuitively, when players project their cultural beliefs on the new game – that is, when their expectations concerning others' actions in the post-change game are the pre-change expectations – these pre-change cultural beliefs constitute the initial conditions for a dynamic adjustment process.[25] For example, if the pre-change economies were collectivist, players expect each merchant to hire agents from his own economy and expect that merchants of the same economy will retaliate against an agent who has cheated one of them. Yet the pre-change cultural beliefs are insufficient to calculate best responses in the post-change game. For a player to find his best response, he must hold expectations regarding what others will do in every possible situation. In the post-change game there are situations that were not feasible before, and with respect to which the pre-change cultural beliefs don't provide any guide for action. For example, the pre-change cultural beliefs do not specify how merchants from one economy

[25] For references and results regarding this type of convergence, see Milgrom and Roberts (1990). For a sociological discussion of the tendency to value cultural patterns of behavior and the tension between these values and behavior, see Davis (1949), pp. 52-3. For an economic analysis, see Geanakoplos, et al. (1989).

would react to actions taken by an agent from their economy in inter-economy agency relations. As the others' strategies are not specified, a player cannot find his best response.

To find his best response, a merchant has to form expectations about the response of the merchants from the other economy to actions taken in inter-economy agency relations.[26] Although the merchants from the agent's economy can be expected to respond in various ways, two responses predominate. For any agent's action in inter-economy agency relations, the merchants from the agent's economy can regard him either as one who cheated one of them or as one who did not cheat one of them. For example, in a collectivist economy the merchants may consider an agent who cheated in inter-economy agency relations as a cheater subject to collective retaliation, or they may ignore his cheating. There is nothing in the pre-change cultural beliefs, however, that indicates which of these responses will be selected for each action. Accordingly, the best that can be done analytically is to assume that in inter-economy agency relations any probability distribution over these two responses is possible.[27] Considering the pre-change cultural beliefs and any such probability distributions as initial conditions, enables examination of the merchants' best response (while not imposing any differences between the pre-change economies apart from their cultural beliefs).

What would the merchants' best response be as a function of their cultural beliefs? It is easier to present the related analysis, assuming initially that there is no efficiency gain from inter-economy agency relations. Intuitively, when inter-economy agency relations become possible between two collectivist economies, the initial cultural beliefs specify collective punishment in intra-economy agency relations. But if there is some doubt about whether collective punishment also governs inter-economy agency relations (that is, in all but one probability distribution over the two possible responses), the optimal wage in inter-economy agency relations is higher than in intra-economy relations. It is higher because the uncertainty about collective punishment in inter-economy relations reduces the probability that an agent who cheats in such relations will be punished. This increases the wage that has to be paid to the agent to keep him honest: a decline in the severity of the punishment for cheating must be offset by an increase in the reward for honesty. As the merchants' cost of establishing inter-economy agency relations

[26] Since the analysis abstracts away at this stage from the relations between cultural beliefs and values, it is implicitly assumed that merchants are not expected to respond to the mere act of hiring an agent from the other economy. Note that the when a merchant hires an agent from the other economy, the merchants from his economy stands to gain as unemployment rises in their economy and hence agent's wages fall.

[27] This probability distribution can also be thought of as reflecting a merchant's uncertainty regarding the agent's expectations concerning the responses of the merchants from the agents' economy.

is higher than the cost of establishing intra-economy agency relations, only the latter will be initiated, and segregation is the end result. If inter-economy agency relations are more efficient, the analysis implies that merchants will initiate them only if the efficiency gains are sufficiently large.

The foregoing analysis does not hold when inter-economy agency relations become possible between two individualistic economies. Although similar uncertainty is likely to exist, the inter-economy and intra-economy optimal wages are the same. Individualist cultural beliefs make this uncertainty irrelevant for the determination of the optimal wage. Hence any efficiency gains from inter-economy agency relations will motivate merchants to establish them.[28]

While a similar analysis can be conducted when a collectivist and an individualist society interact, the above discussion indicates the mechanism through which cultural factors manifested through economic institutions support the emergence of distinct social structures which, in turn, reinforce the original cultural factors and economic institutions. Finally, the above discussion assumes that information regarding agents' histories can be obtained without any cost. Clearly, relaxing this assumption strengthens the results discussed above. In particular, if merchants do not learn about the actions taken by an agent in inter-economy agency relations, they can't be expected to retaliate by imposing a collective punishment. Hence, the above analysis indicates that cultural factors, manifested through and reinforced by economic institutions and social structure, can influence social boundaries of economic interactions.

Cultural beliefs, however, can also influence the nature of the relations within the social structures they reinforce. In the specific cases of the Maghribis and Genoese, this influence was to determine whether their social structures would be "vertical" or "horizontal." Vertical social structure is one in which an individual functions as either a merchant or an agent, while a horizontal structure is one in which an individual functions as an agent and a merchant, providing and receiving agency services.

Examining the relations between the cultural beliefs associated with the two economic institutions and social structures requires extending the theoretical analysis to allow each merchant to serve as an agent for another merchant. Suppose this is the case, and re-define the collectivist cultural beliefs to include the expectations that merchants will not retaliate against someone who cheats a merchant who has cheated any other merchant. Indeed, the historical evidence indicates that Maghribis shared such expectations; whoever was hired by a merchant who had cheated in the past was not expected to be subjected to collective punishment if he cheated that merchant. The one who cheated a

[28] For a formal presentation of this argument, see Greif (1994a).

cheater was not subject to collective punishment. For example, a Maghribi merchant who was accused in 1041-1042 of cheating complains that when it became known, "people became agitated and hostile and whoever owed [me money] conspired to keep it from [me]."[29]

What are the relations between cultural beliefs and the selection over vertical and horizontal social patterns of agency relations?[30] The collectivist cultural beliefs are likely to lead to a horizontal social structure while the individualist cultural beliefs are likely to lead to a vertical social structure. Under collectivist cultural beliefs a merchant's capital functions as a bond that reduces the wage required to keep him honest when he functions as an agent. If a merchant cheats while functioning as an agent, he is no longer able to hire agents under the threat of collective punishment. Hence, cheating by a merchant while he functions as an agent reduces the future rate of return on his capital. This implies that a merchant who had cheated while functioning as an agent had to bear a cost that an agent (who can not function as a merchant) would not have to bear. Hence a lower wage is required to keep a merchant honest and each merchant is motivated to hire another merchant as his agent leading, *ceteris paribus*, to a horizontal social structure. This is not the case, however, under individualist cultural beliefs. Past cheating doesn't reduce the rate of return on a merchant's capital. But having capital to invest *de facto* increases a merchant's reservation utility relative to that of an agent's thereby increasing the wage required to keep him honest. Merchants are discouraged from hiring other merchants as their agents leading, *ceteris paribus*, to a vertical social structure.

Differences in social structure are indeed observed between the Maghribis and the Genoese. The Maghribi traders were, by and large, merchants who invested in trade through horizontal agency relations. Each trader served as an agent for several merchants while receiving agency services from them or other traders. Sedentary traders served as agents for those who traveled, and vice versa. Wealthy merchants served as agents for poorer ones, and vice versa. Among the Maghribis there was not a "merchants' class" and an "agents' class." The extent to which the Maghribis' social structure was horizontal can be quantified by examining the related distributions of "agency measure." Agency measure is defined as the number of times a trader operated as an agent divided by the number of times a trader operated as either a merchant or an agent. It equals one if the trader was only an agent, zero if he was only a merchant, and some intermediate value in between if he was both a merchant and an agent. In

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[29] Bodl. MS Heb a 2 f. 17, Sect. D, Goitein (1973, p. 104). See also Greif (1989; 1993). Regarding the Italian merchants not holding such beliefs, see, for example, de Roover (1965), pp. 88-89.

[30] The basic logic of the argument developed below resembles that of Bernheim and Whinston (1990).

175 letters written by Maghribi traders and in which 652 agency relations are reflected, 119 traders appear more than once, and almost 70 percent of them have an agency measure between zero and one. Furthermore, the more a trader appears in the documents, the more likely he is to have an agency measure close to one half.[31]

The horizontal social structure of the Maghribis is also reflected in the forms of business associations through which agency relations were established among the Maghribis, mainly partnership and "formal friendship." In partnership two or more traders invested capital and labor in a joint venture and shared the profit in proportion to their capital investment. In "formal friendship" two traders who operated in different trade centers provided each other with agency services without receiving pecuniary compensation.[32]

In contrast, agency relations among the Genoese traders were vertical. In Italy, in general, wealthy merchants, who rarely if ever functioned as agents, hired relatively poor agents, who rarely if ever functioned as merchants (de Roover (1965), pp. 51 ff.). Genoa's historical records reflect the operation of 1345 agents during the twelfth century. While as many as 78 percent of them invested in trade, their total annual investments ranged from 20 to 33 percent of the total overseas trade (Krueger, 1993, p. 282). Byrne (1917) concluded that during the late 12th century, "as a rule" the Genoese agents were "not men of great wealth or of high position" (p. 159) while Krueger (1993) has noted that "most travelling merchants were a notch or two lower than the "investing" merchants in the political, fiscal, and social life of twelfth century Genoa" (p. 282). Agency measures calculated from specific cartularies reflect this assertion. For example, only 21 percent of the 190 trader families mentioned more than once in the cartulary of Giovanni Scriba (1155-1164) have an agency measure between zero and one and in value terms only 11 percent have this agency measure.[33] The vertical character of the Genoese social structure is also reflected in the forms of business associations through which agency relations were established. They mainly used *commenda* contracts, which were, by and large, established between two parties, one providing capital and the other providing work in the form of traveling and transacting overseas. The differences in the forms of business associations between the two merchant groups does

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[31] This data set is defined in fn. 15. Value-based agency measure can not be calculated for the Maghribis.

[32] Goitein (1967), pp. 214 ff.; Stillman (1970); Gil (1983), vol. 1, pp. 200 ff. For business associations, see Goitein (1973), pp. 11 ff.; Gil (1983), vol. 1, pp. 216 ff. Goitein (1964), p. 316, concluded that about half of the business dealings reflected in the Geniza are formal friendships.

[33] Krueger (1957) concluded that only 6 percent (36 individuals) of the traders mentioned in Giovanni Scriba functioned as both agents and merchants.

not reflect diverse knowledge.[34] Rather, distinct economic institutions motivated the use of different business practices.

Another implication of vertical relation is that it is likely, in the long run, to affect a society's wealth distribution. Specifically, under individualist cultural beliefs an agent's ability to commit is negatively related to his wealth and hence wealthless individuals are better able to capture the rent (above the reservation utility) available to agents. Indeed, Genoese historical sources reflect a dynamic of wealth distribution that conforms to the theoretical prediction. Wealth transfer is reflected in a declining concentration of trade investments and the increase, over time, of trade investments made by commoners (that is, non-nobles). In the cartulary of Giovanni Scriba (1155-1164) trade was concentrated, by-and-large, in the hands of a few noble families, and less than 10 percent of the merchants invested 70 percent of the total. In the cartulary of Oberto Scriba (1186), 10 percent of the families invested less than 60 percent. In 1376, the only year for which, to the best of my knowledge, data are available in the secondary literature, commoners who paid customs in Genoa exceeded nobles (295 versus 279), and the share of the latter amounted to only 64 percent of the total.[35] That agency relations shifted wealth distribution is reflected, for example, in the affairs of Ansaldo Baialardo, who was hired in 1156 by the noble Genoese merchant Ingo do Volta. From 1156 to 1158 Ansaldo sailed abroad as Ingo's agent, and by investing only his retained earnings he accumulated the sum of 142 lire. (A house in Genoa cost about 40 lire.)[36]

Section IV: **Political Structure and Compatible Economic Institutions, Cultural Beliefs, and Social Structures**

In a "collectivist" society such as the Maghribis', collectivist cultural beliefs support an economic self-enforcing collective punishment, horizontal agency relations, segregation, and an ingroup social communication network. In such a society individuals can be induced to forgo "improper" behavior – unrelated to agency relations – through a credible threat of informal collective economic punishment. If every Maghribi expects everyone else to consider a specific behavior as "improper" and punishable in the same manner as cheating in agency relations, this punishment is self-enforcing for the same reasons the

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[34] Krueger (1962). For general discussion, see, for example, de Roover (1965). Knowledge: Lieber (1968).

[35] Kedar (1976), pp. 51-2. De Roover (1965) argued that agency relations in Italy facilitated wealth transfer.

[36] On Ansaldo, see de Roover (1965), pp. 51-2. House: Giovanni di Guiberto (1200-1211), No. 260, 261.

collective punishment in agency relations is self-enforcing and is feasible based on the existing network for information transmission.

In an "individualist" society such as the Genoese, individualist cultural beliefs support a second party enforcement institution, vertical and integrated social structure, a relatively low level of communication, and no economic self-enforcing collective punishment. In such a society a relatively low level of informal economic enforcement can be achieved due to the absence of economic self-enforcing collective punishment and networks for information transmission. In such a society a legal system based on the authority of the state is required to provide the enforceability necessary to foster exchange, support collective actions, and mitigate free rider problems.

For example, in an individualist society such as Genoa's but not in a collectivist society such as the Maghribis', a political organization with the ability to enforce its administrative and legal decisions has to supplement the operation of the individualist private order institution that governs agency relations to render it effective. This need was not reflected in the above discussion since it was assumed that an agent's benefit from embezzling a merchant's goods was in the form of increasing his consumption at the period when embezzlement occurred. While this is a standard assumption in efficiency wage models, in the historical context under consideration an agent could have used the embezzled capital for investment. That is, since any agent had the knowledge required to be an active participant in long distance trade, he could have used the embezzled capital to trade each period following its embezzlement. Hence, deterring cheating requires satisfying an additional incentive compatibility constraint – a honest agent must be better off than cheating and becoming a merchant utilizing the embezzled capital.

Whenever agency relations are governed by a collectivist punishment that induces a horizontal social structure, this problem can be mitigated without a legal system based on the coercive power of the state. The essence of a horizontal social structure is that merchants also act as agents. Hence, cheating while functioning as an agent implies increasing one's capital but a reduction in the expected return from all his capital, as he would no longer be able to employ agents subject to collective punishment.[37] Hence, in a collectivist society even in the absence of a legal system, an honest agent can be better off than cheating and becoming a merchant utilizing the embezzled capital.

This, however, is not the case in an individualist society in which agents are not expected to be subject to collective punishment. An agent who embezzled goods would not be recruited by the cheated

[37] That is, he will be able to employ agents utilizing only second party enforcement. Hence, the wage required to keep the agent honest would be higher than it is when the agent is subject to collective punishment.

merchant again, but could become a merchant by himself, able to utilize agents under the same conditions as the merchant he had cheated. Hence, only if agents' wages are so high that anyone prefers being an agent rather than a merchant, can agency relations be established. In other words, for agents to be employed the merchants have to pay them all the profit and a part of the capital. Clearly, there can not be an equilibrium with such a wage. Hence, for agency relations to be established in a individualist society there is a need for an external mechanism – such as a legal system backed by the state – that restricts agents' ability to embezzle merchants' capital. (Note, however, that whenever this system has a limited ability to restrict cheating from mis-reporting profit expenses, and so forth, a reputation mechanism still has to be used.)

During the period under consideration, Genoa had just been incorporated into a city and liberated *de facto* from the rule of the Holy Roman Empire.[38] Similarly, the Maghribis immigrated to and operated within the Fatimid Caliphate, in which "the administration of their own affairs was left to themselves" (Goitein, 1971, p. 1). Hence both groups were in a position to devise their own form of authority and jurisdiction. Yet it was the Genoese who developed formal organizations to support agency relations and exchange; the Maghribis did not develop such organizations and seem not to have used the ones available to them.

During the 12th century the Genoese ceased to use the ancient custom of entering contracts by a handshake and developed an extensive legal system for registration and enforcement of contracts. Furthermore, the customary contract law that governed the relations among Genoese traders was codified as permanent courts were established (e.g., Vitale, 1955). These courts limited an agent's ability to embezzle a merchant's entire capital by making his family members responsible for (verifiable) illegal actions taken by him (such as outright embezzling all the merchant's capital), and requiring, at least during the twelfth century, that an agent must return to Genoa to settle his account. Furthermore, the courts attempted to restrict an agent's ability to cheat by fixing a minimum percentage of profit that the agent was obliged to provide the merchant if he was unable to produce an account.[39] The emerging legal system was also important to the relations between agents and merchants from different political units. It was an integral part of a "community responsibility system" through which a merchant could reclaim his

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[38] E.g., *Annali Genovesi*, vol. I, 1162. See discussion in Airaldi (1986) and Vitale (1955).

[39] Lattes (1939), pp. 77, 154. He uses evidence from the 14th century that probably originated in an earlier period. Legal development in Genoa predated the first evidence regarding agency relations among Genoese, as it occurred during the tenth century and concerns property rights in land.

capital from an absent alien agent by holding his compatriots responsible for the damage.[40]

The Maghribi traders had an access to two legal system the authority of both was backed by the state. Any resident in the Islamic domain could sue and receive justice from the Muslim legal system. In additions, the Jewish legal system in the Fatimid Caliphate was recognized by the state as having authority over the Jews who choose to used it. The court's decisions were backed not only by the community as a whole, but also by the state police. Yet, despite the existence of such a well-developed Jewish communal court system whose authority was backed by the state, the Maghribis entered contracts informally, used or adopted an informal code of conduct, and attempted to resolve disputes informally. (See, for example, Goitein, 1967; Greif, 1989, 1993.)

The different role of the government and its legal system in collectivist and indvidualist societies is also likely to manifested itself when collective action is required and free rider problems need to be mitigated. In the context of medieval trade, such a distinct response was likely to manifest itself in the manner in which the Maghribi and Genoese traders mitigated the need for enforcement required to support collective action in the relations between them and the rulers of the territories in which they traded.

The medieval ruler could abuse the property rights of alien traders visiting his territory. Theoretically, as long as the number of traders is sufficiently low, however, the relative high value for the ruler of each trader's future trade is sufficient to motivate the ruler to respect their rights. When the number of traders is large, however, this is no longer the case. A mechanism that might provide protection to traders at the higher volume of trade is for (sufficiently many) traders to respond – in the form of a trade embargo – to transgressions by the ruler against any trader. Once an embargo is declared, however, some traders can benefit from ignoring it and selling their goods in the prohibited area in times of shortage. Hence, some enforcement mechanism is required to assure that each trader will indeed respect a collective decision to impose an embargo.[41] In collectivist societies one would expect that informal enforcement mechanisms would be sufficient to insure traders' compliance with embargo decisions. In individualist societies, however, one would expect organizations specializing in embargo enforcement to emerge.

Indeed, the historical evidence concerning the Maghribis and the Genoese is consistent with this

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[40] The operation of this system is reflected, for example, in the twelfth century Genoese contract preserved in Giovanni Scriba 1245 (22 July, 1164). For discussion, see Greif (1995).

[41] For theoretical exposition of the traders-ruler relations, the associated commitment problem, and the role of the European Merchant Gild in assuring collective action, see Greif, Milgrom and Weingast (1994c).

prediction. Among the Maghribis, compliance was assured through informal means. After the Muslim ruler of Sicily abused the rights of some Maghribi traders, the Maghribis responded by imposing, circa 1050, an embargo on Sicily. It was organized informally. Maymun ben Khalpha wrote a letter to Naharay ben Nissim of Fustat (old Cairo) from Palermo (Sicily), in which he informed Naharay about the tax increase and asked him to "hold the hands of our friends [i.e., Maghribi traders] not to send to Sicily even one dirham [a low value coin]". Indeed, the Maghribis sailed that year to Tunisia and not to Sicily, and a year later the tax was abolished.[42] There is no evidence that compliance was supported by any formal enforcement organization, although the Maghribis could have used the Jewish court system or a communal organization to this end.

In contrast, the city of Genoa functioned as a formal enforcement organization to make the threat of collective retaliation credible. After the authorities had declared that a certain area was a *devetum,* any merchant found there was subject to legal prosecution. For example, in 1340 the ruler of Tabriz (an important trade center between the Black Sea and the Persian Gulf) abused many Genoese traders, and Genoa responded by declaring a *devetum* against the city. In 1343, during the *devetum*, a Genoese merchant named Tommaso Gentile was on his way from Hormuz to China. Somewhere in the Pamir plateau he fell sick and had to entrust his goods to his companions and head back to Genoa by the shortest route. His way, however, passed through Tabriz. When this became known in Genoa, Tommaso's father had to justify the transgression before the court, which accepted the claim of an act of God and acquitted Tommaso without a penalty (Lopez, 1943, p. 181-3).

Collectivist and individualist societies have distinct "demands" for a state. In particular, an individualist society, but not a collectivist society, requires a government having the coercive power and administrative structure required to be able to confiscate individuals' wealth and imprison them in case of need. Yet, the ability for this demand to be fulfilled without undermining economic growth by its own existence depends on the process through which the government is "supplied." When a strong government exists, to effectively advance economic exchange and performance it should be able to commit to the security of private property rights. In the absence of such commitment individuals would refrain from using the legal system to support exchange, fearing predation. This government commitment problem can be mitigated either by the government's nature or its administrative structure. When a government is effectively controlled by the members of its society – as is arguably the case

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[42] DK # 22, a, ll. 29 - 31, b, ll. 3 - 5, Gil (1983a, pp. 97-106); TS 10 J 12, f. 26, a,ll. 18-20, Michael (1965), Vol. II, p. 85.

under ideal democracy – commitment to property rights is trivially achieved.[43] When this is not the case, however, commitment can be achieved by a government with coercive ability if it does not have the administrative structure required to make predation profitable.[44]

An individualist society, such as the Genoese, requires a government having the coercive power and administrative structure necessary for an effective legal system. Hence, only if this government is controlled by the individuals it serves, economic efficiency is not undermined due to the government commitment problem. A collectivist society, such as the Maghribis', does not have to have a strong government but if such a government exists, the government commitment problem can be mitigated by having a meager administration and by controlling subjects and generating revenues not directly but through the various groups that constitute the collectivist and segregated society.

It is interesting to note that the nature of the political systems within which the Maghribis and Genoese traders operated match those discussed above as required to foster economic efficiency. The collectivist Maghribis were governed by a strong military but administratively weak government in whose functioning they – as the middle class in the Muslim Mediterranean during this period in general – had nothing to say. At the same time, this government utilized the segregated nature of the society as its administrative structure. As has been noted by Goitein (1973), "there was very little contact between the world of the [Muslim or other] traders and that of the government" (p. 10). These traders, like all the other members of the "middle class" in the Muslim Mediterranean at the time, were governed by a military elite of Turkish or Berber decent. This elite did not establish any elaborate bureaucracy and the government's control over the population was extended by taking advantage of existing commercial associations, such as the Maghribi traders', urban neighborhood associations, and ethnic or religious groups. The weak bureaucracy established by this elite seems to have served them well in fostering their commitment to respect the property rights of their subjects. At the same time, the segregated nature of the society enabled exchange despite the absence of elaborate bureaucracy, and provided a mechanism for extending control over the population to the elite.[45]

The individualistic Genoese had a relatively strong and effective government that they had

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[43] North and Weingast (1989) argued that England's economic growth was fostered by the Parliament's ability to constraint the king.

[44] That is, it does not have the ability to obtain information regarding the distribution of wealth required for a predation profitable relative to the alternative. For the strategic use of administrative structure by the absolute kings of Spain to enhance their ability to commit to property rights, see Conklin 1993.

[45] For general discussion see, in particular, Udovitch (1988).

established and controlled. Its contractual nature is well reflected in the Genoese Annals written shortly after Genoa's establishment. "At the time of the fleet to Casarea [a port town in Israel], or a little before [that is, around 1096], in the city of the Genoese, a *compagna* [that is, a commune or a temporarily sworn association] of three years with six consuls has begun" (*Annali,* 1099, vol. I, p. 9). After incorporating into a city, Genoa gradually liberated itself from the rule of the Holy Roman Empire and in 1164 its independence was *de jure* recognized by the Empire. Among other prerogatives, it gained the right to nominate its own consuls, judges, and to impose and collect taxes.[46] The Genoese established a republic in which each (male) member had the right to vote. Although only nobles could be elected to some offices prior to 1257. To enhance the impartiality of their political and legal system, the Genoese went in 1194 as far as establishing a political system in which a non-Genoese was hired for a specific (and short) period of time, during which one of his functions was to be responsible for the security of property rights and the operation of the legal system.[47]

The study of the general political and social processes that led to this compatibility between these societies' economic institutions and their political system is beyond the scope of this paper. Yet, it is interesting to note that among the Genoese the nature of the economic institutions that governed agency relations seems to have had direct implications for the development of Genoa's political system. Specifically, as discussed in section III, agency relations were based on a second party enforcement mechanism leading to a dynamic of wealth distribution that increased the wealth and strength of the non-noble Genoese. A relative increase in the wealth possessed by a sub-group within a society is likely to lead them to be able to achieve a greater say in political matters. This is especially true in a period when military ability was conditional on having the resources to build fortifications and acquire expensive military equipment. Indeed, the *popoli* of Genoa revolted during the 13th century against the nobility and changed Genoa's political organization to provide them with a share in Genoa's political decision making (e.g., Vitale, 1955). Genoa's political organization enabled the operation of an economic institution that led to a dynamic of wealth distribution that eventually modified the original political organization.

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[46] E.g., *Annali Genovesi*, vol. I, 1162. See discussion in Airaldi (1986) and Vitale (1955).

[47] For discussion and references, see Vitale (1951, 1955), Greif (1994b). For the observation that in the Italian cities of the period, in general, the political system was controlled by the merchants who utilized it to advance their interests. See, for example, Cipolla (1963), p. 397.

Section V: **The Emergence of Distinct Trajectories of Organizational Development**

In the context of this work, organizations are viewed as factors that alter the rules of the game. While in the short run decision makers take the rules of the game as given, in the long run the (non-technologically determined) rules of the game may be changed endogenously as decision makers attempt to improve their lot by establishing organizations. Such organizations alter the rules of the game by, for example, introducing a new player (the organization itself), by changing the information available to players, or by changing payoffs associated with certain actions. This view of organizations goes back at least to Hobbes, and examples of organizational innovations of this nature are the court system, the credit bureau, and the firm. An introduction of a new organization reflects an increase in the stock of knowledge, which may be the outcome of an intentional pursuit or unintentional experimentation.

Distinct inter-related systems of economic institutions, culture, and social and political structures provide different incentives regarding organizational innovations. In particular, diverse cultural beliefs impact motivation for organizational innovations since a necessary condition for an organizational change is that those able to initiate it expect to gain from it. Since these expectations depend on cultural beliefs, diverse cultural beliefs can lead to a distinct trajectory of organizational development. The distinctiveness of various organizational trajectories is likely to be reinforced by the process of modifying and refining "microinventions," which follow an "organizational macroinvention."[48] An example discussed below relates the cultural beliefs associated with agency relations with the development of the family firm. Once this organization has been invented, modifying inventions such as selling shares in stock market and appropriate accounting procedures, can further differentiate one society's organizational trajectory from another. Distinctiveness of various organizational trajectories is further enhanced as existing organizations influence responses to exogenous changes in the rules of the game. An example mentioned above is that of the Genoese utilizing their legal system to mitigate the collective actions problem inherent in their relations with alien rulers.

The historical records show other organizations in which the developments among the Maghribis and the Genoese differ, and this divergence can be consistently accounted for as reflecting the impact of the two distinct economic, social, political and, in particular, cultural systems discussed above. The history of the modern bill of lading exemplifies a development of formal organization among the Genoese but not among the Maghribis. This bill combines an earlier version of the bill of lading with a so-called bill of advice. The former was the ship's scribe's receipt for the goods the merchant deposited

[48] Mokyr (1990) introduced this terminology with respect to technological change.

on the ship. This receipt was sent by the merchant to his overseas agent, who then claimed the goods on the basis of the scribe's own signature. The letter of advice was sent after the ship arrived at its destination by the ship's scribe to the consignee who did not come to claim the goods. The bill of lading and the letter of advice surmounted an organizational problem related to the shipping of goods abroad.

The earliest known European bill of lading and letter of advice dates from the 1390s and relates to the trade of Genoa, whereas the Maghribi traders hardly ever used bills of lading even though the device was known to them.[49] Why did the Genoese advance the use of the bill and the Maghribis abandon it? The Maghribis rejected the bill because they had solved the related organizational problem by using their informal collective enforcement mechanism. Maghribis entrusted their goods to other Maghribis traveling on board the ship that carried their merchandise. For example, in a letter sent early in the 11th century by Ephraim, son of Isma'il from Alexandria, to Ibn 'Awkal, a prominent merchant who lived in Fustat (old Cairo), Isma'il mentions the names of the men in four different ships entrusted "to watch carefully the 70 bales and one barqalu [containing the goods] until they will deliver them safely into the hands of Khalaf son of Ya'qub."[50]

Instead of solving the organizational problem between the merchant and the ship's operator, the Maghribis circumvented it. This fact is forcefully illustrated in a letter sent from Sicily in 1057 that describes what happened to loads of merchandise whose covers were torn during a voyage. The ship arrived in port, and the owner (operator?) of the ship started to steal merchandise. The writer of the letter remarked that "unless my brother had been there to collect [the goods], nothing that belonged to our friends [i.e., the Maghribi traders] would have been collected."[51] The fact that the ship's owner did not consider himself, and was not considered by the traders, responsible for protecting the goods is clear from this letter. Similarly, if goods of unknown ownership were unloaded from the ship, or if the ship did not reach its destination, it was not the captain but the Maghribi traders who took care of the goods of their fellow traders.[52] The Genoese traders, lacking an equivalent informal enforcement mechanism, could not rely on fellow traders to protect their goods, and solved the organizational problem associated with shipping goods by using the bill of lading, the letter of advice, and the legal responsibilities they

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[49] For information on Genoa, see Bensa (1925). For the use of the bill of lading by the Maghribi traders and possible bias in the historical records, see Goitein (1973), pp. 305 ff..

[50] TS 13 J 17, f. 3. Goitein (1973), p. 313. For the generality of this practice, see Goitein (1967).

[51] Bodl. MS Heb. c28, f. 61, a, ll. 12 - 14, Gil (1983a, pp. 126-33).

[52] E.g., Bodl. MS Heb., c28, f. 61, a, ll. 9-17, Gil (1983a, pp. 126-33).

entailed.

The organizational implications of distinct cultural beliefs seem also to have manifested themselves in the development of various organizations related to agency relations. The wage required to keep an agent honest under the reputation mechanism discussed above declines with the probability that agency relations will be terminated despite the agent being honest. That is, the more likely it is that there is a future to the relations between a specific agent and merchant, the less that merchant has to pay his agent. The magnitude of this reduction is a function of cultural beliefs. This is so because the gains from reducing the probability of such termination depend on the probability that both a cheater – an agent who cheated in the past – and an honest agent will be rehired. The lower the probability is that a cheater will be rehired, and the higher the probability that an honest agent will be rehired, the lower the gain from changing the probability of forced separation. Furthermore, when an unemployed honest agent will be rehired with probability one, the gain from changing the probability of forced separation is zero.

Collectivist cultural beliefs and the resulting segregation and collective punishment increase, and may bring to one the probability that a honest agent will be rehired. Furthermore, these factors are likely to bring the probability that a cheater would be rehired to zero. Thus, under collectivist beliefs and segregation, a merchant's incentive to reduce the probability of forced separation is marginal, or even absent. In contrast, under individualist cultural beliefs and the resulting integration and second-party punishment, merchants are motivated to establish an organization that reduces the likelihood of forced separation.

The evolution of family relations and business organization among the Maghribis and the Genoese suggests that only the latter introduced an organization that changed the probability of forced separation. When the Maghribi and Genoese merchants first began trading in the Mediterranean, it was common in both groups for a trader's son to start operating independently during his father's lifetime. The father would typically help the son until he was able to operate on his own. After the father's death, his estate was divided among his heirs and his business dissolved.[53] Later development of family relations and business organization, however, differ substantially. During the 13th century the Genoese traders adopted the family firm, the initial essence of which was a permanent partnership with unlimited

[53] Regarding the Maghribis, see Goitein (1967) pp. 180 ff.; Gil (1983), vol. 1, pp. 215 ff.. Regarding the Genoese, see, for example, Giovanni Scriba 236, 575, 1047 for father's help and 946 for a will.

and joint liability.[54] This organization preserved the family wealth undivided under one ownership, and a trader's son, reaching the appropriate age, joined his family's firm.[55] The Maghribi traders, after being active in trade at least as long as the Genoese, did not establish a similar organization.

It is a widely held view among economic historians following the work of Lane (1944) on the family firm in Venice, that the family firm was established to surmount agency problems. Lacking alternative institutions, the merchant-agent relations were organized within the family in which solidarity guaranteed honesty. This assertion certainly captures some aspects of reality, but it neither provides a complete explanation nor addresses all relevant questions. Why didn't family members simply establish agency relations with each other? Why did the Maghribi traders not introduce a similar organization? Furthermore, even a superficial examination of the internal structure of the important family firms reveals that agency relations were not necessarily established between family members. For example, the Peruzzi company, probably the largest Italian company during the late Medieval period, had, in 1335, fifteen overseas "branch managers," only three of whom were members of the Peruzzi family. In 1402, none of the overseas employees of the Medici company was a Medici.[56]

The analysis above indicates the sources of the uneven development among the Italians and Maghribis. Given the collectivist cultural beliefs of the Maghribis and the resulting segregation, collective punishment, and horizontal relations, a merchant could not gain much by introducing an organization that reduced the likelihood of forced separation. Among the Italian traders, however, individualist cultural beliefs motivated merchants to increase the security of the employment they offered their agents. The family firm seems to have been the manifestation of this desire. In the Italian family firm, several traders combined their capital and formed an organization with an infinite life-span and a lower probability of bankruptcy that replaced each individual merchant in his relationship with agents.[57]

The introduction of the family firm, that is, of an organization replacing individual merchants in

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[54] The family firm first emerged in the early thirteenth century in Piacenza, Lucca, and Siena, and then spread to other Italian cities, including Genoa. See discussion, for example, in De Roover (1965), pp. 70, ff.; Rosenberg and Birdzell (1986), pp. 123-4.

[55] See discussion in de Roover (1965), pp. 70, ff.; Rosenberg and Birdzell (1986), pp. 123-4.

[56] De Roover (1963), p. 44, table 7, p. 80 table 19. See also the discussion de Roover (1948, 1965, pp. 78-9); Herlihy (1985).

[57] Additional theoretical and historical work is required to establish whether and how the family firm achieved a level of commitment above that of each of its individual members. It should be noted that agency relations in the Italian family firms were not confined to family members. E.g., de Roover (1963, 1965).

their relations with agents, was an "organizational macroinvention" that led to modifying and refining "microinventions." Family firms began to sell units, or shares, to non-members. For example, the capital of the Bardi company was made up of 58 shares: 6 members of the family were in the possession of the majority of the shares while 5 outsiders owned the rest. In 1312, the capital of the Peruzzi company was distributed among 8 members of the family and 9 outsiders. In 1331 the Peruzzi family lost control of the company when more than half the capital belonged to outsiders.[58] Once shares became tradable a need for a suitable market arose, and "stock markets" were developed. Furthermore, a separation between ownership and control was introduced, which required appropriate institutions to surmount the related contractual problems and improvement in information-transmission techniques and accounting procedures.[59]

Section VI: **Moral and Social Enforcement Mechanisms and Their Inter-relations with Economic Institutions and Social Structures**

In the above analysis, "cheating" had no normative content. In reality, however, various actions do have normative values and moral considerations influence the choice of actions. Behavior may also be influenced by a social enforcement mechanism, that is, one's concern regarding others' social approval or disapproval of behavior. The importance of these factors, particularly that of values in affecting behavior, has been recognized by prominent economists and has been confirmed in experimental studies.[60] For example, Arrow (1974) has proposed that values such as trust, loyalty, and truth are "commodities ... [which] increase the efficiency of the [economic] system" (p. 23). Similarly, North (1981, 1990) has emphasized the role of "ideology" in reducing transaction costs and directing economic behavior.[61] In other words, values should be viewed as a component in the institutional structure of

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[58] de Roover (1963), pp. 77-8. See additional examples in de Roover (1965).

[59] See, for example, the elaborate contractual relationships between the Medici and their managers described in de Roover (1963). For a general discussion of the European trade organization during this period see Gras (1939); de Roover (1965); Lopez (1976); Postan (1973).

[60] For experimental results concerning the importance of values, see Dawes and Thaler (1988); Hoffman and Spitzer (1985); Hoffman, et. al. (1991). For discussion, see Rabin (1993), Hirshleifer (1985), Opp (1985).

[61] See also Akerlof (1986) and Stewart (1990). In these works values are viewed as an end for their own sake, that is, a factor that shapes utility functions. An alternative view of values in economics is influenced by the works of behavioral biologists such as Wilson (1975) and Dawkins (1976). This view holds that values are a means to achieve material rewards and not an end in themselves. For application of this approach in economics, see for example, Frank (1987).

societies.

Yet integrating values in an economic analysis of the endogenous emergence of institutions is problematic. Previously, as the above quotations indicate, integration took the form of viewing values as providing a "first party enforcement mechanism." One's utility loss from acting against her values compels the individual to act in a manner that is not the most beneficial in terms of economic reward. Hence, individuals identical in all but their values would choose different actions in the same situation. Yet simply viewing values as exogenously given is methodologically deficient in the analysis of the endogenous emergence of institutions. By appropriately defining values, every behavior can be accounted for and any difference between societies can be "explained." At the same time, ignoring values in historical comparative institutional analysis is also methodologically deficient. Arguably, values are fixed within a society over a relatively short period of time but values are neither constant over time nor identical across societies.

Accordingly, the following discussion presents a possible method for integrating moral considerations in an institutional analysis. It avoids the arbitrariness of taking values as exogenous by allowing the development of distinct values among identical individuals. Instead of taking values as exogenous, the mechanism through which values are generated are taken as exogenous and identical across societies. Examining the factors leading a given mechanism to generate distinct values in fundamentally identical societies enables examination of the endogenous process of values' formation and their inter-relations with other elements in a society's institutional structure.
Sociologists have argued that individuals attempt to find moral justification for their behavior: actions that are followed are increasingly viewed as those that *ought* to be followed.[62] Once a value system has been formed it constitutes part of the institutional structure of a society since it acts as a first party enforcer. It places an additional constraint on the choice of behavior. Hence, behavior that was induced in the past and may have been optimal at that time would tend to be reinforced by the evolving value system. Such a value system may be maintained – or at least slow to changed – even when the underlying conditions render it economically inefficient. Following the development of supporting values, a larger change in the underlying conditions is required to alter behavior.

This does not imply, however, that a value system formed in the past has a permanent hold over a society and should be taken as exogenous in analyzing a subsequent historical period. Rather, as

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[62] Davis (1949), p. 52; Homans (1950); Scott (1987), p. 16. This view of culture as a "legitimizing" mechanism is fundamental in the works of Karl Marx and E. Durkheim. For recent economic analyses, see Sugden (1989).

observed by the eminent sociologist Davis (1949), there is a constant interaction between actual behavior and the value system. Each is shaped and being shaped by the other and, in particular, the value system is gradually modified to accommodate actual behavior. Davis has argued that "in human society there is what may be called double reality -- on the one hand a normative order embodying what *ought* to be, and on the other a factual order embodying what *is*. In the nature of the case, these two orders cannot be completely identical, nor can they be completely disparate. The normative order acts, for example, as a determinant (though not the only determinant) of the factual order.... In turn, the factual order exercises an influence on the normative system, for the norms must always refer to events in the real world and take into account the factual situation.... The normative system, since it aims to achieve results in the factual world, is subject to constant modification by events in that world" (pp. 52-3).[63] Since current values are a product of current behavior and past values, while current behavior is determined by past values, cultural beliefs, and the economic cost and benefit of various actions, economic change can, over time, alter values.

Past behavior can influence current behavior through an additional mechanism, related yet distinct, from that of value formation. When individuals view actions that were followed in the past as those that *ought* to be followed, a second or a third party enforcement mechanism supporting these actions may endogenously arise. This is the case when utilities are belief dependent in the sense that a deviation from an expected patten of behavior has a direct influence on them. As recently modeled by Geanakoplos, Pearce, and Stacchetti (1989), belief-dependent utilities capture the inducement to act in an expected manner generated by emotions, such as anger or disappointment. In particular, when utilities are belief dependent a deviation from an expected pattern of behavior may induce players to respond by taking an action costly to the deviator even if this action is economically costly to them as well. The expectations for such *ex post* response, induce decision makers to *ex ante* conform to past behavior. When utilities are belief dependent, past behavior can determine over current behavior.

Similar analysis can also be used to examine social enforcement mechanism, that is, the human tendency of seeking implicit or explicit social approval for conduct by conforming to established patterns of behavior. Hence, behavior can be motivated by social exchange and the expectation of emotionally prompted social approval.[64] Note that this mechanism differs from that generated by belief dependent

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[63] For a recent theoretical analysis of the extent to which the value of "fairness" can influence economic behavior, see Rabin (1993). In an earlier work, Rabin (1991) has examined the impact of pecuniary incentive to modify values through cognitive dissonance.

[64] For economic implications of such tendencies, see Kuran (1987), Hollander (1990).

utilities. When utilities are belief dependent it is the knowledge that the actions of decision makers are chosen based on emotions generated by expected behavior, that influences behavior. Here, behavior is motivated by one's feelings of approval or disapproval. The importance of this mechanism in inducing behavior has been recognized by economists, such as Adam Smith in his "Theory of Moral Sentiments," and sociologists, such as George C. Homans (1961).

Similarly, social enforcement mechanisms can be integrated in the analysis using an approach similar to that discussed above with respect to moral enforcement. Sociologists have identified a mechanism important in determining the degree to which social approval influences behavior. Holländer (1990) has noted that an individual "can obtain approval only from those who know his behavior and communicate their feelings to him" (p. 1159). In this statement he has echoed the eminent sociologist, Homans (1950), who pointed out that the more individuals interact, the more effective social enforcement is. Economic interactions among the same individuals give rise to "friendliness" among them and the higher the friendliness level is the more effective the operation of the social enforcement mechanism is. While Homans reached this conclusion based on field work, recent experimental studies have confirmed the importance of interaction in social enforcement.[65]

The analysis of section III demonstrated that in two identical societies, distinct social structures can emerge. Societies' social structures, in turn, are important in determining the actual impact of social approval on behavior. A society in which the social structure is such that the same individuals interact frequently and in which social mobility across groups is limited, a social enforcement mechanism will have a stronger impact on behavior. A society in which the social structure is such that the same individuals do not interact frequently, and in which social mobility across groups is high, a social enforcement mechanism will have a weaker impact on behavior.

The relations between behavior, social structure, value formation, and social enforcement suggest that among the Maghribis and Genoese, the above mechanisms influencing values formation and the effectiveness of social approval were likely yield distinctly different outcomes. The Maghribis shared a network of information transmission and had a segregated social structure with relatively frequent interactions. These were likely to lead to values that elevated loyalty to the group and mutual assistance and to increase the effectiveness of a social approval mechanism. In contrast, the Genoese had a low level of information transmission and an integrated society with a relatively low frequency of interactions. These were likely to induce values that did not elevate loyalty to the group but rather self-

[65] For discussion and references, see Dawes and Thaler (1988).

reliance, and to hinder the effectiveness of a social approval mechanism.

Clearly, it is difficult to empirically assess the validity of the above conjectures regarding values and the effectiveness of the social approval mechanism. Any appraisal of values held by historical actors or the level of social pressure they were prone to is highly subjective. Yet it should be noted that the available evidence suggests that the Maghribis and the Genoese held attitudes consistent with the above predictions. In particular, to the extent that their behavior is any indication of their values, it seems that the Maghribis held values that promoted assistance to other members of their group. Assistance was given to traders who went bankrupt, with loans, remission of debts, and credit extension being the usual forms of assistance.[66] The Italian historical records of the period do not enable examination of similar of pattern of assistance. Yet, it is instructive to note that it was the Italians who invented insurance during this period. Presumably, in the absence of mutual assistance based on group oriented values and a social enforcement mechanism, the desire for insurance was manifested in the invention of a legal substitute.[67]

More generally, studies evaluating the "character" of the Italian traders suggest that among them values and social approval mechanism did not support behavior similar to that of the Maghribis. An eminent Italian scholar of this period, Armando Sapori, has concluded that "when he [the Italian merchant] quarreled he not only used strong language, but also revealed that he had a very hard heart and paid no heed to blood ties. His disputes were often instigated by the most trivial motives and then would drag on interminably, almost always passing from the stage of reasonable discussion to that of personal invective and sheer insult" (1970, p. 10).

Concluding Remarks: **The Economy as a System of Economics, Cultural, Social, and Political Factors, Economic Efficiency, and Path Dependence**

To the extent that a society's economic performance over time is determined by its institutional and organizational structure, comprehension of the inter-relations between the various components of a society's institutional structure is required to understand economic growth and stagnation. Indeed, each of the systems analyzed in this paper has different efficiency implications. The collectivist system is more efficient in supporting intra-economy agency relations, requires less costly formal organizations (such as law courts), and probably has a relatively effective ingroup moral and social enforcement mechanism. Yet, it restricts efficient inter-economy agency relations, and more generally, limits

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[66] See, for example, TS 10 J 16, f. 10, Gil (1983b), vol. 3, p. 262; Goitein (1967), p. 204.

[67] Regarding the invention of insurance, see discussion in De Roover (1965), pp. 56-7.

individual initiative and the development of "anonymous" exchange through the development of appropriate organizations, such as the firm, and the court of law. The individualist system does not restrict inter-economy agency relations and, more generally, promotes organizations that support anonymous exchange, but it is less efficient in supporting intra-economy relations, requires costly formal organizations, and is less likely to have effective ingroup moral and social enforcement mechanisms. Each system also entails a different pattern of wealth distribution and each pattern of wealth distribution is likely to have different efficiency implications. This implies that the relative efficiency of individualist and collectivist systems depends on the magnitude of the relevant parameters. Hence, although in the long run the Italians drove the Muslim traders out of the Mediterranean, the historical records do not permit any explicit econometric test of the relative efficiency of the two systems.

The analysis supports, however, the claim that trajectories of institutional structures are path dependent. In particular, it indicates three factors that make institutional structure path dependent hindering successful inter-society adoption of institutions. First, economic institutions are composed of two interrelated elements: cultural beliefs – how individuals expect others to act in various contingencies – and organizations – the endogenous human constructions that alter the (non technologically determined) rules of the game and that, whenever applicable, have to be an equilibrium. Since cultural beliefs are uncoordinated expectations, the capacity of economic institutions to change is a function of their history, implying that the ability of one society to use another's societal organizations is limited. A second source for path dependence is that organizational development itself is a historical process in which existing organizations and institutions impact the responses of individuals and societies to exogenous changes and determine incentives with respect to the introduction of new organizations. Hence, past organizations direct future institutional and organizational development. Finally, institutional structures exhibit path dependence since past behavior, cultural beliefs, social structures, and organizations impact the development of values and social enforcement mechanisms that inhibit flexibility in departing from past patterns of behavior.

It is interesting to note that the Maghribis' institutional structure resembles that of contemporary developing countries whereas the Genoese societal organization resembles the contemporary developed West, suggesting that institutional path dependence may have been important in the economic development of these societies. Historically then, the medieval Latin individualist society may have cultivated the seeds of the "Rise of the West." While this conjecture should await further research regarding the extent to which Genoa and the Maghribis represent the nature of the Latin and the Muslim societies of the period, this paper's analysis enables conjecturing about the possible long-run benefits of

the individualistic system. To the extent that a division of labor is a necessary condition for long-run, sustained, economic growth, formal enforcement institutions that support anonymous exchange facilitate economic development. Individualist cultural beliefs foster the development of such institutions and hence permit society to capture these efficiency gains. Further, an individualist society entails less social pressure to conform to social norms of behavior and hence fosters initiative and innovation.

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