

# ‘Trust in God, but tie your camel first.’ The economic organization of the trans-Saharan slave trade between the fourteenth and nineteenth centuries

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## Abstract

*This article examines the economic organization of the trans-Saharan slave trade between the fourteenth and nineteenth centuries on those routes that moved slaves from Sudanic Africa via entrepôts in the Sahel and Sahara to the Maghrib. The commercial framework of this trade was integrated into ethnic, cultural, and religious systems, yet for its efficient operation could not rely solely on these social institutions. Temporary cooperation of itinerant slave traders is considered and then projected onto the broader patterns of commercial organization. It is shown that similar pressures resulted in comparable outcomes: partnerships were formed to take advantage of economies of scale in commercial services and to limit cooperation problems. This demonstrates that the organization of the trans-Saharan slave trade was economically rational and can be analysed in terms of cooperative and non-cooperative strategies. Moreover, it is argued that the trade was not restrained by social institutions but versatile in adapting its economic institutions to specific market imperfections. It is concluded that recent economic models are more useful in explaining the economic behaviour of slave traders than conventional neoclassical economics.*

## Introduction

Throughout human history, trade and exchange have been integral to the internal development and external interaction of economies. The correlation between market exchange and economic growth has been observed by figures as diverse as the fourteenth-century Arab historian Ibn Khaldun and the eighteenth-century Scottish economist Adam Smith. Long-distance trade in particular has been the hallmark of the integration of the world economy in the early modern and modern periods and remains the *raison d'être* for the ongoing

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processes of globalization. In the pre-modern period it was generally true that the longer the distance, the more trade was confined to commodities with high value-to-bulk ratios. Trade in such goods was potentially more profitable than local or regional commerce, especially for powerful groups that could bar entry to others. This trade was not, however, always limited to luxuries: the Saharan salt trade is a prime example of the long-distance trade of an essential commodity across hundreds of kilometres of difficult terrain to the West African savanna.<sup>2</sup> The complementary needs and endowments that characterized this exchange of salt for Sudanic cereals, cloths and slaves prompted the nineteenth-century German explorer Heinrich Barth to reflect on how deeply ingrained the principles of exchange are in the laws of nature.<sup>3</sup> Accordingly, much historical research and scholarly debate has centred on the role of long-distance trade in the processes of economic growth and the development of mercantile capitalism. Moreover, trade has long been identified as a major agent in the propagation of cultural identities, moral values, and ideologies.

In contrast to these approaches, this article takes a microeconomic perspective by focusing on the organization of the trans-Saharan slave trade in an environment of cross-cultural encounters and equivocal political authority. Trans-Saharan traders had to adapt to unique geographical and institutional challenges by negotiating variable balances between competition and collaboration. The trans-Saharan slave trade, therefore, provides a valuable case study for testing new models of analysis on a trade that has hitherto been mainly interpreted in cultural or religious terms.

To show that the organization of the slave trade was economically rational, it is necessary to consider it in the context of an institutional environment characterized by the absence of secure markets. How economic organization was shaped by, and interacted with, the institutional framework in terms of property rights, transaction costs and asymmetric information is examined. In a recent compilation of studies in institutional economics, Douglass North and his collaborators point out that the field is still perceived as ‘long on theoretical analysis but short on empirical work’.<sup>4</sup> This article aims to make an empirical contribution by testing the main tenets of the theory in a specific historical case study.

This discussion covers the fourteenth to the nineteenth century.<sup>5</sup> Such an extensive time period allows for the inclusion of diverse perspectives and better demonstrates the dynamic of the trade as it adapted its organization and institutions to changing conditions. The starting point of this discussion, the fourteenth century, marks an important shift in trans-Saharan commerce following the transformation of the West African gold trade and the expansion of the slave trade. The fourteenth century is also significant in that it offers a number of sources that afford direct insights into the trade. The terminus of this discussion

2 See, for instance, E. Ann McDougall, ‘The Ijil salt industry: its role in the pre-colonial economy of the western Sudan’, PhD Thesis, University of Birmingham, 1980, *passim*.

3 Heinrich Barth, *Reisen und Entdeckungen in Nord- und Central-Afrika in den Jahren 1849 bis 1855*, Gotha: Justus Perthes, 1857, vol. I, p. 571. Unless otherwise indicated, all translations from German are the author’s.

4 Lee J. Alston, Thrainn Eggertson, and Douglass C. North, ‘Introduction’, in Lee J. Alston, Thrainn Eggertson, and Douglass C. North, eds., *Empirical studies in institutional change*, Cambridge: Cambridge University Press, 1996, p. 1.

5 All dates refer to the Common Era.

is also marked by an external dynamic that transformed the trans-Saharan slave trade. The growing political influence of European powers culminating in direct colonial rule gave weight to abolitionist forces that hindered and displaced the slave trade at a time otherwise characterized by its continued expansion. The tension between these trends ultimately resulted in the trade's decline, but also spawned a great number of sources to reflect on the trade, the slow progress of abolition, and the opportunities for European traders to market their goods through existing networks.

As suggested above, the slave trade was just one component of a complex network of exchange. This article focuses specifically on the trade in slaves for three reasons. First, slaves were universally demanded for military, administrative, mercantile, productive, domestic (including sexual), and social (prestige) purposes by societies outside as well as within the Sahara. That this demand continued to be met by supplies is evident in the increase, albeit not constant or on all routes, in the number of slaves exported across the desert from the fourteenth to the nineteenth century. For this reason, the slave trade lends itself more readily to an examination over a sustained period than trade in other goods such as gold, ivory, horses, or ostrich feathers that were subject to supply bottlenecks or changes in demand. Second, with the fourteenth-century decline of the gold trade, slaves became the main export from Sudanic Africa and constituted the major share of the total value of the trans-Saharan caravan trade, without which many routes would hardly have existed: in 1858, the British Consul-General in Tripoli estimated that the slave trade accounted for 'more than two-thirds of the value of all the caravan trade'.<sup>6</sup> This predominance of the slave trade in trans-Saharan commerce is clearly reflected in contemporary sources. It is thus appropriate to scrutinize the organization of trans-Saharan trade in terms of its principal commodity. Lastly, slaves were widely used as currency, with important implications for transaction costs and credit arrangements. In fact, some Sudanic rulers refused to pay merchants by any other means than slaves, while nineteenth-century Moroccan merchants continued to insist on payment in slaves to the dismay of French colonial administrators.<sup>7</sup>

The traditions of Muhammad, the Prophet of Islam, contain the saying 'Trust in God, but tie your camel first', which aptly encapsulates the theme of this study. It is shown that the commercial framework of the trans-Saharan trade in slaves was integrated into ethnic, cultural, and religious systems but for its efficient operation could not rely solely on such social institutions. It was the development and continuous adaptation of economic institutions, especially coalitions based on informal reputation and sanction mechanisms, that accounts for the survival and expansion of the trans-Saharan slave trade throughout the period. These institutions, in turn, were defined by the unique commercial circumstances created by the need to traverse the world's most expansive and arid desert.

6 Cited in A. Adu Boahen, 'The caravan trade in the nineteenth century', *Journal of African History*, 3, 2, 1962, p. 358. The Sudan (with the adjective Sudanic rather than Sudanese) is defined throughout this discussion not as the modern state, but the region spanning from east to west between the southern edge of the Sahara and the wet tropical regions in the south.

7 Leo Africanus, *The history and description of Africa and of the notable things therein contained*, 3 vols., trans. J. Pory, ed. R. Brown, London: Hakluyt Society, 1896, vol. 3, p. 833; cf. Murray Gordon, *Slavery in the Arab world*, New York: New Amsterdam, 1989, p. 113.

## Economic models

Modern economics is based on the premise that scarce resources are most efficiently allocated through voluntary exchange. The neoclassical economic model assumes a discrete market with perfect information, competition, and free entry, which is in contrast to the historical reality of imperfect markets with asymmetric information, entry barriers, and transaction costs. In recent years, the application of game theory to exchange models has demonstrated that particular obstacles to exchange, especially the principal-agent problem, cannot be theoretically resolved using the model of an anonymous market.

In the context of sixteenth-century European companies, Carlo Cipolla writes that a ‘merchant to whom others entrusted their savings could easily have disappeared with the capital or cheated in business conducted in far-off markets where none of his associates had any control’.<sup>8</sup> North African merchants, who employed agents in caravans as well as in distant markets, faced a similar situation. If an agent’s most profitable course of action was to act opportunistically, the principal would in anticipation of this event be reluctant to invest. Yet the greatest economic benefit could be achieved through investment and cooperation. To resolve this dilemma, the agent needed the ability to credibly commit himself to cooperation. Much of the existing literature has focused on legal institutions that underpin commitment through the threat of sanctions. The effectiveness of legal institutions is, however, contingent on the ability and will of a political authority to enforce sanctions. Recent developments in microeconomic theory, especially transaction cost and information economics as well as game and contract theory, have allowed a broadening of the scope of enquiry.<sup>9</sup> Most recently, a sub-field that Avinash Dixit tentatively entitled ‘Lawlessness and economics’ conceptualizes alternative institutions that can support contract enforcement in the absence of political authority.<sup>10</sup> Although this research aims at generating models of institution-building in modern-day developing countries, its underlying assumptions closely match the historical conditions faced by trans-Saharan slave traders and may therefore be better suited than conventional neoclassical economics to analyse their exchange relations.

This revised understanding emphasizes alternative ways of achieving credible commitments between principal and agent, in particular through economic incentives offered by repeated interaction. The agent’s incentive in this model is the long-term benefit he can realize through cooperation, which outweighs the immediate benefits of cheating. First he must, however, be able to credibly commit himself to cooperative behaviour to induce the principal to invest or, in other words, to trust him. Trust, in an economic context, can be defined as a ‘particular level of subjective probability with which an agent assesses that another agent or a group of agents will perform a particular action [...] *before* he

8 Carlo M. Cipolla, *Before the Industrial Revolution: European society and economy, 1000–1700*, London: Routledge, 2nd edn, 1981, p. 198.

9 Avner Greif, ‘The fundamental problem of exchange: a research agenda in historical institutional analysis’, *European Review of Economic History*, 4, 3, 2000, p. 252.

10 Avinash K. Dixit, *Lawlessness and economics: alternative models of governance*, Princeton: Princeton University Press, 2004, p. vii. A recent model suggests that even in the presence of government-provided contract enforcement, informal trade networks tend to survive unless the cost of law drops below a certain threshold; see Ethan B. de Mesquita and Matthew Stephenson, ‘Legal institutions and the structure of informal networks’, *The Harvard John M. Olin Discussion Paper Series*, 419, 2003, pp. 1–37.

can monitor such action'.<sup>11</sup> Hence an agent's ability to generate trust in his *ex ante* commitment can itself be regarded as a commodity necessary for long-distance exchange relations, especially when information and monitoring are costly.

The 'spirit of mutual trust and a sense of honesty in business' have been cited as the precondition for the growth of partnerships in early-modern Europe.<sup>12</sup> Such a sense of social and personal rectitude may have indeed facilitated exchange relations between principals and agents of similar backgrounds. It is telling that the Arabic word for agent, *wakīl*, shares a common root with the word for trust, *tawakkul*.<sup>13</sup> For the trans-Saharan trade, the common religion (and often ethnic origin) of merchants north and south of the desert may have inspired a shared notion of honourable behaviour in business dealings. However, a more reliable institutional response to the problem of trust is a reputation mechanism as identified by Avner Greif in his study of the Geniza documents relating to Jewish traders in the eleventh-century Maghrib.<sup>14</sup> A reputation mechanism is the establishment of a linkage between past conduct and future utility, which can be extended from a bilateral relation between one principal and one agent to a number of possible principals and agents. In this case, the reputation mechanism can become a valuable way of establishing an agent's trustworthiness based on the experience of other principals. At the same time, sanctioning will be more effective as the opportunistic agent is excluded from a greater number of potential future transactions. However, these forms of collective action also suffer disadvantages as the speed of detection, information-transmission, and sanctioning decreases and a new set of potential monitoring problems arises. These problems intensify when, as in the trans-Saharan slave trade, the distinction between the two groups is dynamic, with principals at times also acting as agents in a system of informal business cooperation (described in the Geniza documents as 'friendship' or 'mutual kindness').<sup>15</sup> It follows that cooperation is dependent on historically specific conditions, usually characterized by an identifiable and stable group of potential participants, benefits to cooperation large enough to offset increased monitoring and enforcement costs, and frequent intra-group communication.<sup>16</sup>

Organization theory predicts that private-order institutions will be created when cooperation can achieve economic benefits that the market fails to capture.<sup>17</sup> Greif concludes for the Maghribi traders that the economic institution of the reputation mechanism, and not social control or ethics, played a central role in enabling the agent to credibly commit

11 Diego Gambetta, 'Can we trust trust?', in D. Gambetta, ed., *Trust: making and breaking cooperative relations*, New York, London: Basil Blackwell, 1988, p. 217.

12 Cipolla, *Before the Industrial Revolution*, p. 198.

13 Transliterations from Arabic follow the system of the *Encyclopaedia of Islam*.

14 Avner Greif, 'Reputation and coalitions in medieval trade: evidence on the Maghribi traders', *Journal of Economic History*, 49, 4, 1989, pp. 857–82.

15 Shlomo D. Goitein, *A Mediterranean society, vol. 1: economic foundations*, Berkeley, Los Angeles: University of California Press, 1967, p. 169.

16 Avinash K. Dixit and Susan Skeath, *Games of strategy*, New York, London: Norton & Co., 2nd edn, 2004, pp. 400–3.

17 Oliver E. Williamson, *The economic institutions of capitalism: firms, markets, relational contracting*, New York: Free Press, 1985, p. 20.

to his contractual obligations.<sup>18</sup> This study serves to strengthen this emphasis on the role of economic institutions in pre-modern long-distance trade. While the Substantivist interpretation of West African economic history is now largely discredited, similar propositions for the trans-Saharan trade have remained largely unchallenged.<sup>19</sup> Marie Perinbam, for instance, suggests that ‘in the western Sahara and neighboring Sudanese pre-capitalist-industrial societies, economic function and organization of long-distance trade were for the most part embedded in social organization’.<sup>20</sup> Without altogether discounting the importance of social norms, ties, and ethics, it is argued here that the trans-Saharan slave trade relied on the development of a specific set of economic institutions based on individual utility-maximizing behaviour and market-orientation.

## Setting and sources

‘Allah, say the Moslems who worship him, wanted to have one place in the world where he could walk in peace. So he removed from the desert all unnecessary life. The great Sahara is called the Garden of Allah.’<sup>21</sup> To mere humans, the Sahara has rarely invoked the image of a garden: at nearly the size of Europe, it is the world’s largest and most arid desert. The vastness of the Sahara is often compared to that of a sea, an analogy reflected in the name Sahel, from the Arabic for coast, for its southern desert-edge region. It is a transition zone in terms of climate, culture, commerce, and transport, from which a great number of slaves subjected to the trans-Saharan trade originated. Many more were brought there from further south and assembled at the southern caravan termini such as Walata, Timbuktu, or Kano.<sup>22</sup>

The nomadic inhabitants of the desert and Sahel can be divided into four main groups: Moors, Tuareg, Teda, and Arabs.<sup>23</sup> As the present study is not concerned with ethnology, it follows Ann McDougall’s paradigm in reducing the diverse ‘tribal tapestry’ to the concept of ‘Saharan societies’.<sup>24</sup> While this approach does not reflect the gradations and evolution of tribal identities throughout the period, it allows for an overall consideration of their role in the trans-Saharan slave trade.

18 Greif, ‘Reputation and coalitions’, p. 859. Also see Jessica Goldberg, ‘Back-biting and self-promotion in the merchant letters of the Cairo Geniza’, forthcoming, on the use of language and gossip in the Geniza letters in relation to the management of agents.

19 For an assessment of the Substantivist historiography for West Africa see Gareth Austin, ‘The problem of “embeddedness” and global economic history’, unpublished paper for ‘Third Global Economic History Network Workshop’, Konstanz, 3–6 June 2004, pp. 1–3, as well as Wolfgang Kaese, ‘Sklaverei in Afrika: Annäherung an eine Definition’, in Helmut Bley, Clemens Dillmann, Gesine Krüger and Hans-Hermann Pogarell, eds., *Sklaverei in Afrika: afrikanische Gesellschaften im Zusammenhang von europäischer und interner Sklaverei und Sklavenhandel*, Pfaffenweiler: Centaurus, 1991, pp. 9–13.

20 B. Marie Perinbam, ‘Social relations in the trans-Saharan and western Sudanese trade: an overview’, *Comparative Studies in Society and History*, 15, 4, 1973, p. 416.

21 Charles R. Joy, *Desert caravans: the challenge of the changing Sahara*, London: Chatto & Windus, 1963, p. 13.

22 In the interest of clarity, names of persons and places have been anglicized throughout.

23 Knut S. Vikør, ‘The oasis of salt: the history of Kawar, a Saharan centre of salt production’, PhD Thesis, University of Bergen, 1979, pp. 9–14.

24 Harry T. Norris, *The Arab conquest of the western Sahara*, Beirut: Librairie du Liban, 1986, p. 1; E. Ann McDougall, ‘Research in Saharan history’, *Journal of African History*, 39, 3, 1998, p. 473.

Until recent times, human habitation of, and trade across, the Sahara were only possible through what can indeed be described as the desert's gardens: oases. The distribution of these fertile havens determined the patterns of life and traffic. Command over a major oasis was generally tantamount to controlling its trade routes. For caravans, the most critical factor affecting the choice of itinerary was the seasonal availability of water. As their inhabitants depended on trade for most commodities, oases became 'islands of consumption' and significant commercial centres in their own right. As such they also facilitated trade between caravans and thus 'served as points where the batons of the trans-Saharan commercial relay were changed'.<sup>25</sup> At their height, they also frequently developed into important intellectual centres.<sup>26</sup>

The notion of the Sahara as the great divide between Mediterranean North Africa and sub-Saharan Africa that shapes our understanding of the continent to the present time is in fact comparatively recent. With the arrival of Europeans in West Africa and the growing competition between caravel and caravan, first for gold and later for slaves, the Sahara 'lost its economic centrality and with it, its role in Africa's destiny'.<sup>27</sup> Although the trans-Saharan slave trade continued to expand until the late nineteenth century, the desert and its commercial networks became peripheral as North and West Africa were integrated into the world economy. This development is reflected in the sources available for the study of trans-Saharan trade. While the fourteenth to seventeenth centuries are described by merchants, travellers, and historians of Arabic descent, European explorers, emissaries, and abolitionists dominate the narratives of the two subsequent centuries. Much of the Sahara's modern historiography has persisted in this tradition. While there are numerous studies of the Sudan and the ancient empires of Ghana, Mali, and Songhay, there is not yet an encompassing history of the medieval trans-Saharan trade and its relation to the economic development of the large area it affected. The limited scholarly attention that the organization of the trans-Saharan slave trade has received, compared to the vast literature on the Atlantic trade, can be partly explained by the scarcity of quantitative data. Literary sources from the Sahara that are currently being studied are mainly concerned with religious practice and jurisprudence and characterized by the absence of mercantile information on costs, commissions, and profits.<sup>28</sup>

With the onset of active European involvement culminating in colonialism, any inclination traders may have had to maintain records were discouraged by anti-slavery edicts and the penalties occasionally imposed by Western powers.<sup>29</sup> While archaeologists admit the 'near-impossibility, in the present state of field techniques, of recognizing chattel-slavery from material remains unassociated with documentary evidence', efforts to identify documents that could relate artefacts to the trans-Saharan slave trade are still in their early

25 Boahen, 'The caravan trade', p. 355.

26 Ghislaine Lydon, 'Inkwells of the Sahara: reflections on the production of Islamic knowledge in *Bilād Shinqīr*', in Scott Reese, ed., *The transmission of learning in Islamic Africa*, Leiden: Brill, 2004, pp. 39–71.

27 McDougall, 'Research', p. 468.

28 Ghislaine Lydon, 'Writing trans-Saharan history: methods, sources and interpretations across the African divide', *Journal of North African Studies*, 10, 3–4, p. 306. An international project to collect Arabic documents centred on Timbuktu is described in Aslam Farouk-Alli, 'Timbuktu's first private manuscript library', *ISIM Review*, 15, 2005, p. 51.

29 Gordon, *Slavery*, p. 11.

stages.<sup>30</sup> This accounts not only for the lack of information on the slave trade's suppliers and middlemen but also for the scarcity of accounts by the victims of this iniquitous trade. A notable exception is the life history of Griga as recorded by a French colonial official: born in the region of Sokoto around 1848, he was captured, traded across the Sahara, sold at Timimoun in the Algerian Sahara, and later freed.<sup>31</sup> Another rare and unusual narrative is that of Captain Riley, who after having been wrecked off Africa's west coast in 1815 was captured and sold to Saharan slave traders.

The remaining sources used for this study can be classed into two groups. First, there are sources of Arabic or North African origin, such as Ibn al-Khatib's fourteenth-century history, Ibn Battuta's travelogue, which is significant in that it is the first report by an author who undoubtedly himself crossed the desert, and Leo Africanus' sixteenth-century *History and description of Africa*. For the eighteenth century, *An account of Timbuctoo and Housa* by El Hage Abd Salam Shabeeny is particularly valuable as the author was himself an active merchant and gave accounts of his family business and travels.<sup>32</sup> The second category of sources used in this study are those of European origin, the earliest is of which is by René Caillié, a Frenchman who reached Timbuktu from West Africa in 1828 and then crossed the desert to the Moroccan coast. James Richardson undertook two major expeditions between 1845 and 1851 for the British Government and was succeeded by his travel companion Heinrich Barth. Another German, the physician Gustav Nachtigal, travelled in the Sahara for six years between 1868 and 1874.

While these sources cannot establish a quantitative assessment of the commerce across the Sahara over several centuries, they serve the purposes of this discussion by allowing specific economic assumptions to be tested against their observations.

## Itinerant slave traders: temporary coalitions

The caravan trade across the Sahara was of remote antiquity, yet it is only with the introduction of the camel in the first centuries BCE, that sustained commercial communication between the Mediterranean world and the Sudan became possible. Camels were only able to survive in the Sahel during the dry season and even then could not venture much further south as they were highly susceptible to disease.<sup>33</sup> This, combined with the cost of awaiting a sufficient number of slaves to be assembled in places other than the large permanent markets of the southern termini, acted as a disincentive for traders to venture further south to exclude intermediary merchants.

30 John Alexander, 'Islam, archaeology and slavery in Africa', *World Archaeology*, 33, 1, 2001, p. 56.

31 F. J. G. Mercadier, 'L'esclave de Timimoun', trans. D. P. Gutelius and J. O. Hunwick, in D. P. Gutelius and J. O. Hunwick, eds., *Griga: a life history of a Saharan slave*, Princeton: Markus Wiener, forthcoming; the author expresses his gratitude to Dr David Gutelius for making available his manuscript translation.

32 El Hage Abd Salam Shabeeny, *An account of Timbuctoo and Housa*, ed. J. G. Jackson, London: Longman, Hurst, Rees, Orme and Brown, 1820.

33 The influence of long-term climatic cycles on the pattern of exchange between the Sahel and the Sahara is explored in Ian Blanchard, 'The trans-Saharan slave trade, c.1320–1520: a study of environmental change and commercial adaptation', unpublished paper for 'Slavery, freedom and unfreedom in the Middle Ages' conference, Nottingham, 23 April 2005, pp. 1–18.

Within the Sahara, the camel enjoyed a distinct transport cost advantage over donkeys, oxen, and human portage: it carried a third more freight than a donkey, required fewer drivers, could survive longer without fresh water, and was able to traverse a full sand desert that no other domesticated animal could negotiate.<sup>34</sup> Consequently, camels represented a significant saving in human labour and overall transport costs.<sup>35</sup> This transport advantage resulted in the 'geographical anomaly whereby it was cheaper to transport goods a greater distance by camel than follow a shorter route by donkey or oxen'.<sup>36</sup> It is thus not surprising that most of the region's commerce lay in the hands of camel-breeding Saharans who controlled the volume, routes, and seasonality of trade across the desert. Their seasonal transhumance and reliance on trade for basic needs provided the framework for their specialization in providing services for the trans-Saharan commerce.<sup>37</sup>

Caravans were ephemeral commercial entities formed to serve an immediate purpose. These great moving communities reflected Muslim society at large in their socio-economic stratification and organization, with a *qāḍī* to adjudicate disputes and an *amīr* for leadership.<sup>38</sup> During his forced desert crossing as a slave, Captain Riley, who had navigated ships to many parts of the world, observed that the caravan leader's knowledge of the motion of the stars was superior to his own.<sup>39</sup> The *amīr*'s role in the realization of the caravan's commercial objectives went beyond guidance. Caravans were rarely formed for the transfer of a single commodity to one specific market, and generally took advantage of any commercial opportunities *en route* to pay for services, increase their capital, or convert their goods into those most demanded in their final port of call.<sup>40</sup> Upon arrival at a trading centre, caravans continued to act as a single entity under the leadership of the *amīr*, in negotiations with political authorities over tax payments and with local business coalitions over prices.

The arrival of a major annual caravan, importing large quantities of otherwise scarce commodities, could significantly deflate prices and hence profits for the itinerant traders. It was thus in their collective interest to agree on a fixed price below which a commodity

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- 34 James L. A. Webb, Jr, *Desert frontier: ecological and economic change along the western Sabel, 1600–1850*, Madison: University of Wisconsin Press, 1995, p. 11.
- 35 Philip D. Curtin, *Economic change in precolonial Africa. Senegambia in the era of the slave trade*, Madison: University of Wisconsin Press, 1975, p. 280.
- 36 E. Ann McDougall, 'Camel caravans of the Saharan salt trade: traders and transporters in the nineteenth century', in Catherine Coquery-Vidrovitch and Paul E. Lovejoy, eds., *The workers of African trade*, Beverly Hills, London, New Delhi: Sage Publications, 1985, p. 102.
- 37 Stephen Baier and Paul E. Lovejoy, 'The Tuareg of the Central Sudan: gradations in servility at the desert edge (Niger and Nigeria)', in Suzanne Miers and Igor Kopytoff, eds., *Slavery in Africa: historical and anthropological perspectives*, Madison: University of Wisconsin Press, 1977, pp. 394–5.
- 38 Ross E. Dunn, *The adventures of Ibn Battuta, a Muslim traveler of the fourteenth century*, Berkeley, Los Angeles: University of California Press, 1986, p. 38.
- 39 Captain Riley, *Sufferings in Africa: authentic narrative of the loss of the American brig Commerce, wrecked on the western coast of Africa, August 1815, with account of the suffering of her surviving officers and crew, who were enslaved by the wandering Arabs on the great African Desert, or Zahahrah*, ed. Gordon H. Evans, New York: Clarkson N. Potter, 1965 [first publ. 1817], p. 261.
- 40 Hopkins, *Economic history*, p. 63.

would not be sold. This strategy, however, necessitated monitoring and credible sanction mechanisms to prevent opportunism of individual traders. This was further complicated by the differentiation in the value of slaves, often based on subjective criteria: prices varied widely according to sex (including eunuchs), age, ethnicity, and ability. Likewise, successful cooperation could forestall an inflation of slave prices that would result from the surge in demand caused by a caravan's arrival.

While the basic foundations for mutual trust among the caravan community were laid by the shared journey across the desert, cooperation was reinforced through economic institutions. In late-eighteenth-century Cairo, the French physician Louis Frank observed the arrival of slave caravans from Dar Fur, Murzuk, and Borno. He noted that the sultan appointed one or two caravan chiefs who were 'entrusted not only with maintaining order but further with selling the slaves as well as other products on the sultan's account'.<sup>41</sup> Saharan and Sahelian entrepôts feared large, well-armed caravans and insisted that representatives negotiate on behalf of the group. Slave caravans in particular had their own incentives to camp outside of towns to prevent escapes. These factors aided the caravan in maintaining its corporate structure as a moving trading cartel and enabled it to dominate trade. Shabeeny gives an example of this in his description of late-eighteenth-century Timbuktu, where Moorish traders refused to pay duties by threatening to boycott its market.<sup>42</sup>

A central question in the analysis of the trans-Saharan slave trade is why these coalitions remained short-lived arrangements, and did not develop into permanent corporate entities comparable to the European slave-trading companies. Anthony Hopkins argues that the trans-Saharan caravan trade had reached its optimum point of organizational efficiency at an early date.<sup>43</sup> Camel transport was slow, labour-intensive, and risky even on well-established desert routes. Furthermore, this part of the enterprise remained under the control of the desert nomads, who were able to maintain a stranglehold over the whole Saharan transport system.<sup>44</sup>

Over the 11 or so centuries during which [slave] trade flourished in the Sahara it was impossible to make improvements in the technology of camel transport that would have allowed or encouraged merchants to treat this part of their enterprise as a fixed capital investment over which it might be worthwhile to exercise fuller control. Instead, the camels and the land through which they travelled always 'belonged' to the Bedouin inhabitants of the Sahara, who made a series of short-term arrangements with merchants for services and protection.<sup>45</sup>

41 Louis Frank, 'Mémoire sur le commerce des nègres au Kaire, et sur les maladies auxquelles ils sont sujets en y arrivant [Memoir on the traffic of negroes in Cairo and on the illnesses to which they are subject upon arrival there]', trans. M. Le Gall, in Shaun E. Marmon, ed., *Slavery in the Islamic Middle East*, Princeton: Markus Wiener, 1999, p. 73.

42 Shabeeny, *An account*, p. 14.

43 Hopkins, *Economic history*, p. 81.

44 John L. Wright, "'Nothing else but slaves": Britain and the Central Saharan slave trade in the nineteenth century', PhD Thesis, University of London, 1998, p. 59.

45 Austen, 'The trans-Saharan slave trade', p. 28.

The frequency with which caravans perished of hunger or thirst and the appalling conditions of slaves during the crossing suggest that traders sought to economize on costly provisions as most other expenses were outside their control.

The absence of large corporations was thus not a failure to develop suitable economic institutions, but due to insurmountable exogenous constraints. Moreover, unlike maritime trade, caravan trade suffered from dis-economies of scale. These became apparent during the colonial period, when greater security of routes and markets allowed for smaller caravans with lower overheads and greater flexibility.<sup>46</sup> Prior to this period, these advantages were outweighed by the economies of scale in protection, as the threat from brigands did not grow in proportion to caravan size.

The principal reason for the formation of caravans in the trans-Saharan trade was defence against the threat of violence by human agents in an environment of political instability. S. D. Goitein used the Geniza documents to emphasize this function. He showed that the threat of violence was so pervasive that caravans were formed not only for the desert crossing but also for shorter journeys in densely populated areas.<sup>47</sup> Caravans were usually well armed and adopted a variety of tactics to discourage attacks. Heinrich Barth, however, observed on various occasions that open attack was not the preferred tactic of desert brigands; rather, they tended to exploit the Islamic precept of hospitality to infiltrate the caravan at resting places and take advantage of tensions within the heterogeneous group. Barth, to his personal cost, witnessed that this strategy 'usually accomplished its purpose'.<sup>48</sup> Of all moving communities, slave caravans had the greatest internal tension, that between captors and captives, and were therefore especially vulnerable to tactics of infiltration. Nevertheless, almost all sources relate the particularly miserable conditions of slaves retained within the desert by nomadic tribes, which may have motivated slaves to cooperate with their 'legitimate' owners against brigands. In fact, slave traders trusted so much in this imposed cooperation that they even armed slaves with crossbows and later firearms on dangerous routes.<sup>49</sup> Captain Riley and his remaining crew were faced with this situation on several occasions, and always allied themselves with the professional slave traders in the hope of reaching the northern desert edge where slaves could generally expect better conditions and a greater chance of escape.

Occasionally, direct attacks on even the largest caravans were carried out by what Riley described as bands of 'well-prepared wandering Arabs' specializing in brigandage.<sup>50</sup> Such incidents notwithstanding, his philosophical conclusion that the wandering Arab's 'hand is against every man, and consequently every man's hand is against him', is an oversimplification of the complex interplay of threat and protection exercised by desert tribes.<sup>51</sup>

46 Hopkins, *Economic history*, p. 63; Lydon, 'Writing trans-Saharan history', p. 297.

47 Goitein, *A Mediterranean society 1*, p. 276.

48 Barth, *Reisen*, vol. 1, p. 312.

49 Leo Africanus, *History*, vol. 3, pp. 828–9.

50 Riley, *Sufferings*, pp. 290–1. Caillié suggests that the fearsome reputation these tribes acquired meant that many caravans surrendered even to inferior forces: René-Auguste Caillié, *Travels through Central Africa to Timbuctoo; and across the Great Desert, to Morocco, performed in the years 1824–1828*, 2 vols., London: Colburn and Bentley, 1830, vol. 2, p. 90.

51 Riley, *Sufferings*, p. 316.

McDougall and others suggest that arrangements for the hire rather than purchase of camels was an expression of the complex system of taxation that regulated flows of commerce across the desert.<sup>52</sup> The price paid for Saharan guides and camels included a premium for the provision of protection, an arrangement concurrent with theoretical observations about the economics of violence: ‘the production of protection depends on the control of violence; the use of violence is only one among a number of possible means to that end’.<sup>53</sup>

These arrangements were based on a system of tribute and competition between different desert tribes and politico-military authorities. Leo Africanus reports frequent skirmishes between nomads and those who refused tribute payments, often resulting in captives being sold as slaves to the markets in Timbuktu.<sup>54</sup> The demand for tribute was possible as ‘no king or prince can subdue [the nomads] in the desert’, which gave them a military monopoly over the vital desert routes.<sup>55</sup> Barth made similar observations for the Tuareg around Ghat and their tribute system, which exempted tribes related by blood and demanded the highest rates from those regarded as commercial rivals.<sup>56</sup>

Barth noted that the competition between tribes often resulted in immense detours for caravans and reduced market efficiency in the region.<sup>57</sup> As the demand for slaves could only be met by supplies from across the desert, all Saharan tribes would have benefited from a cooperative oligopoly that exacted the highest possible rates of tribute short of making the trade altogether unprofitable. Because their military superiority in the desert was unchallengeable until the late nineteenth century, this should have been their dominant strategy if cooperation could be coordinated and enforced. However, as a number of routes and entrepôts were in use, not all tribes would have benefited equally from an economically optimal situation in which all caravans took the shortest or preferred routes. Unless all associated costs and gains could be shared uniformly across the desert, opportunism and free-rider problems would occur, exacerbated by costly communication.

Hence, a variety of competitive equilibria occurred in which different tribes at different times sought to monopolize traffic by creating conditions favourable to commerce on their routes and unfavourable on others. On his return from Mali, Ibn Battuta observed the different methods of extortion by the tribes whose territories his caravan crossed on the route from Timbuktu to Sijilmasa. While the *Bardāma* Berbers, who had to be hired as guards, are described in almost admiring tones, the *Hakkār* (Hoggar) Berbers who stopped the caravan and also insisted on their share of its goods are portrayed as plain ‘scoundrels’.<sup>58</sup> However, Ibn Battuta did not reflect on the alternative to a *Bardāma* protection monopoly: once

52 McDougall, ‘Camel caravans of the Saharan salt trade’, p. 118.

53 Frederic C. Lane, ‘Economic consequences of organized violence’, *Journal of Economic History*, 18, 4, 1958, p. 402 fn.

54 Leo Africanus, *History*, vol. 3, p. 825.

55 *Ibid.*, vol. 3, p. 939.

56 H. Barth, *Reisen*, vol. 1, p. 194.

57 *Ibid.*, vol. 1, p. 194.

58 Ibn Battūta, *The Travels A.D. 1325–1354. Translated with revisions and notes from the Arabic text edited by C. Dufrémery and B. R. Sanguinetti*, 5 vols., trans. H. A. R. Gibb, later C. F. Beckingham, ed. H. A. R. Gibb, later C. F. Beckingham, latterly A. D. H. Bivar, Cambridge: Hakluyt Society, 1958–2000, vol. 4, pp. 972 and 976.

a violence-controlling enterprise eliminates all competitors from a territory, it could reduce the cost it incurred in producing and selling protection. As a monopoly it would not have to reduce its charges in line with falling costs, but could even raise them until it discouraged trade or attracted the entrance of new competitors. Thus, the competition between the *Bardāma* and the *Hakkār* was in the interests of caravan traders, especially when conducted without actual resort to violence which would delay commerce, destroy goods, and raise insurance costs. In this context, the problem of cooperation between the suppliers of violence was desirable from the standpoint of traders, as it prevented the creation of cartels that could act as protection monopolies.

Political authority on a larger scale was, at times, able to resolve these problems, as is evident between 1490 and 1590 when the stability imposed by the Songhay and Borno empires coincided with a peak in the trans-Saharan commercial traffic.<sup>59</sup> The failure of the Moroccans to establish control after their overthrow of the Songhay empire in 1591 saw the immediate deterioration of security along the western route, which never fully recovered. Similarly, Ibn Khaldun reports for the fourteenth century that the town of Buda had been abandoned and the route shifted to Tamanlit as Bedouin Arabs took to brigandage.<sup>60</sup> During the seventeenth and eighteenth centuries, rivalries over the western route led to it being used only by large annual caravans and this period is associated with the decline of both Timbuktu and Gao.<sup>61</sup> In the nineteenth century, by contrast, the Ghadames-Air-Kano route flourished as its Saharan part was controlled by two of the most powerful Tuareg branches who guaranteed security and honesty.<sup>62</sup> This enabled the more frequent and flexible traffic of small caravans to use this route: Richardson, for instance, was surprised to meet between Agades and Ghat a caravan of 'only two owners, three or four servants, and some forty or fifty slaves, and all without arms, or perhaps with only a couple of swords'.<sup>63</sup> Likewise, the eastern route linking Benghazi with Abécher became an important avenue of trade in the second half of the nineteenth century, as it was spanned in its entirety by a single powerful organization, the Sanūsīya brotherhood. Their easing of tribal conflicts and eventual exercise of direct control over the route stimulated trade, facilitated coordination, and promoted cooperation as the dominant strategy.<sup>64</sup>

Whereas this overview treats Saharan tribes as homogeneous actors, cooperation problems also occurred within the highly stratified tribes. 'Tuareg society, constructed in a pyramidal fashion with nobles on top and various levels of dependents and servile groups below, was dominated by a few aristocratic leaders who in effect acted as managers of large

59 Boahen, 'The caravan trade', pp. 349–50.

60 Ibn Khaldun, 'Kitab al-'ibar [The Book of Examples]', trans. J. F. P. Hopkins, in Nehemia Levtzion and J. F. P. Hopkins, eds., *Corpus of early Arabic sources for West African history*, Cambridge: Cambridge University Press, 1981, p. 339.

61 Boahen, 'The caravan trade', p. 350.

62 *Ibid.*, p. 352.

63 James Richardson, *Narrative of a mission to Central Africa, performed in the years 1850–51 under the orders and at the expense of Her Majesty's Government*, 2 vols., London: Chapman and Hall, 1853, vol. 1, p. 325.

64 Dennis D. Cordell, 'Eastern Libya, Wadai and the Sanūsīya: a ṭarīqa and a trade route', *Journal of African History*, 18, 1, 1977, pp. 31–6.

firms.<sup>65</sup> The existence of principal-agent problems within tribes is described by both Nachtigal's travelogue and the Geniza documents, which indicate that Bedouin escorts were themselves a possible threat to their employers.<sup>66</sup> In addition, Richardson frequently complained that his guards used every chance to renegotiate the terms of their agreement ('making a new favour of an old bargain').<sup>67</sup> Such opportunistic behaviour of individual groups could undermine the overall profitability of tribute exaction on a particular route by making it less attractive to caravans.

## Sedentary slave merchants: persistent coalitions

Leo Africanus' portrayal of the splendour he witnessed in sixteenth-century Timbuktu, at the time the most important southern entrepôt for the trans-Saharan trade, contains a striking observation: 'The inhabitants, & especially strangers there residing, are exceedingly rich, insomuch that the king that now [1526] is, married both his daughters unto two rich merchants.'<sup>68</sup> In this passage Leo describes exceptionally wealthy, non-native resident merchants who were the manifestation of a thriving trading diaspora. The success of Maghribi merchants in diaspora was an expression of the asymmetric relationship between the economies north and south of the Sahara, most clearly reflected in the exchange of Sudanese human capital for Mediterranean manufactured goods. This economic polarization is also testament to the superiority of diaspora organization in resolving some of the problems inherent to pre-industrial long-distance trade such as regular communication, the creation and maintenance of bonds of trust (especially for the provision of credit), and the adjudication of business disputes.<sup>69</sup>

Abner Cohen first described spatially dispersed but otherwise integrated trading communities as diasporas.<sup>70</sup> This concept has since been applied to a number of historical case studies.<sup>71</sup> These show that, under conditions of imperfect contract enforcement and fragmented political authority, the trading diaspora 'remained the most efficient way of organizing commerce across much of Afro-Eurasia until the nineteenth century'.<sup>72</sup> This

65 Paul E. Lovejoy and Stephen Baier, 'The desert-side economy of the Central Sudan', *International Journal of African Historical Studies*, 8, 4, 1975, p. 554.

66 Gustav Nachtigal, *Sahârâ und Sûdân. Ergebnisse sechsjähriger Reisen in Afrika* [Sahara and Sudan. Results of six years of travels in Africa], 3 vols., vol. 3, ed. E. Roddeck, Berlin, later Leipzig: Wiegandt, Hempel & Parey, later F. A. Brockhaus, 1879–89, vol. 2, pp. 239–40, and Goitein, *A mediterranean society* 1, p. 280.

67 Richardson, *Narrative*, vol. 1, p. 163.

68 Leo Africanus, *History*, vol. 3, p. 824. Citations from this edition have been adjusted to current orthographical practice.

69 Abner Cohen, 'Cultural strategies in the organization of trading diasporas', in Claude Meillassoux, ed., *The development of indigenous trade and markets in West Africa*, London: Oxford University Press, 1971, p. 266.

70 For his original definition see Cohen, 'Cultural strategies', p. 267.

71 For a number of such case studies see for instance Philip D. Curtin, *Cross-cultural trade in world history*, Cambridge: Cambridge University Press, 1984, *passim*.

72 Kenneth Pomeranz and Steven Topik, *The world that trade created: society, culture, and the world economy, 1400 to the present*, Armonk, NY, and London: M. E. Sharpe, 1999, p. 7.

efficiency was largely due to its ability to resolve principal-agent problems through a combination of cultural and economic strategies. Cohen emphasizes the former by describing a diaspora as 'a moral community which constrains the behaviour of the individual and ensures a large measure of conformity with common values and principles'.<sup>73</sup> Hopkins, on the other hand, stresses the diaspora's economic organization, which was characterized not by direct control over production (in this case raiding) but by a degree of horizontal integration through the use of agents to staff a network of branches along trade routes.<sup>74</sup> Shabeeny describes this business model, in which merchants residing at Timbuktu had agents or correspondents in other countries and, in turn, themselves acted as agents.<sup>75</sup>

While distinct from their host communities and dispersed across distant commercial centres, merchants in diaspora maintained their unity through the bond of a common creed. Islam promoted literacy and adherence to a defined legal system, both essential to the provision of credit. It carried with it a profound commercial legacy of acceptable practice, a system of weights and measures, and recognized arbitration procedures.<sup>76</sup> And while it did not provide a formal pattern for the organization of trade, it did afford certain business models such as proprietary and contractual partnerships, which were designed to take advantage of economies of scale in commercial services. Moreover, Islamic teaching accommodated the Arabic practice of slavery and institutionalized it as a means of converting those considered infidels.<sup>77</sup> This finds expression in guidelines for the treatment of slaves, customary manumission, and their assimilation into the master's kinship group.

Markets are, of course, not only locations where goods and services are traded but also a place 'where identities could be negotiated, where moral values could be contested, where ideas could be exchanged'.<sup>78</sup> Caravans across the Sahara carried 'the message of the Prophet along with Mediterranean and European wares in exchange for gold and slaves'.<sup>79</sup> It is thus not surprising that the earliest converts were nomadic tribes, the most practised and persistent slave traders.<sup>80</sup> On the southern desert edge, it was the politico-commercial classes who professed to Islam first and, as a result, entered more readily into relationships of trust with Muslim traders. The interaction of these groups generated over time a world of shared practices and assumptions that facilitated the trans-Saharan slave trade: 'ethno-economic segmentation was counterbalanced by the trans-ethnic occupational and religious identity provided by Islam, which both facilitated cooperation and reinforced their

73 Cohen, 'Cultural strategies', p. 267.

74 Hopkins, *Economic history*, p. 61.

75 Shabeeny, *An account*, p. 22.

76 Cf. Paul E. Lovejoy, *Transformations in slavery: a history of slavery in Africa*, Cambridge: Cambridge University Press, 2nd edn, 2000, p. 93.

77 Bernard Lewis, *Race and slavery in the Middle East: an historical enquiry*, Oxford: Oxford University Press, 1990, ch. 1.

78 David P. Gutelius, 'Research notes: market growth and social change in the western Maghrib, 1640–1830', *Saharan Studies Association Newsletter*, 5, 1, 1997, p. 9.

79 Gordon, *Slavery*, p. 131.

80 See, for instance, Norris, *The Arab conquest*, *passim*.

specialized occupational role'.<sup>81</sup> Whilst the minority religion of the commercial class polarized between insiders and outsiders, Sufi sects and brotherhoods within the Muslim community served 'as an exclusive possession of a particular ethnic or commercial group, helping to further its sense of internal solidarity'.<sup>82</sup>

The chief function of the members of a trading diaspora resident in foreign markets was to represent the business interests of their partnerships and to act as brokers for itinerant traders. The Geniza documents show that in the twelfth century such agents received between 2% and 7% commission.<sup>83</sup> It is known that representatives were often stakeholders through familial or diaspora relations. In the fourteenth century, Ibn al-Khatib recorded an account by Abu 'Abd Allah Muhammad al-Maqqari, whose ancestors had established a familial partnership with branches in Tlemcen, the Saharan oasis of Sijilmasa, and Walata in the southern Sahel.

The Sijilmāsi [branch of the enterprise] was like the tongue of a balance, indicating to them the extent of rise or fall in the markets and writing to them about the affairs of merchants and countries and so their wealth expanded and their status grew.<sup>84</sup>

The competitive advantage of having reliable information at comparatively low cost enjoyed by these dispersed enterprises was of particular significance in the trans-Saharan trade with its far-flung markets. Barth suggests that the major markets were in regular contact and, to an extent, integrated, although the infrequency of caravans still allowed for arbitrage profits.<sup>85</sup> The slave trade was particularly exposed to price fluctuations on the supply side, as most slaves were captured during the annual warring season and sellers had incentives to dispose of their slaves swiftly. Griga recounts how buyers in the slave market of Timimoun would use the cost of feeding slaves, which within the desert was considerable, as leverage in negotiations: 'No buyer came that day, hoping that it would lower [the slave trader's] prices, since he had to feed these slaves and it constituted a heavy burden.'<sup>86</sup>

While partnerships were able to draw on the whole range of services proffered by their representatives, ranging from legal representation to the monitoring of other agents, it was also possible for traders from outside the partnership to access the most essential services: protection, storage, and brokerage. Shabeeny relates how foreign traders were able to lodge and deposit their goods in the *funduq*, a specialized residence with attached warehouses, of a resident merchant.<sup>87</sup> Ibn Battuta describes how prior to their arrival in Walata, the traders

81 Katherine P. Moseley, 'Caravel and caravan: West Africa and the world-economies, ca. 900–1900 AD', *Review*, 15, 3, 1992, pp. 531–2.

82 Curtin, *Cross-cultural trade*, p. 49. Also see David P. Gutelius, 'The path is easy and the benefits large: the Nāsiriyya, social networks and economic change in Morocco, 1640–1830', *Journal of African History*, 43, 2002, pp. 27–49.

83 Goitein, *A Mediterranean society* 1, pp. 183–6.

84 Ibn al-Khatib, 'Al-lhāta fī tārikh Gharnāta [The encompassment, on the history of Granada]', trans. J. F. P. Hopkins, in Levtzion and Hopkins, eds., *Corpus*, p. 307.

85 Barth, *Reisen*, vol. 1, pp. 522ff.

86 F. J. G. Mercadier, 'L'esclave de Timimoun', unpaginated.

87 Shabeeny, *An account*, pp. 10–11. For a recent study of the institutional development of the *funduq* see Olivia R. Constable, *Housing the stranger in the Mediterranean world: lodging, trade, and travel in late Antiquity and the Middle Ages*, Cambridge: University Press, 2003, chs. 2–3.

of his caravan made arrangements with resident merchants of their partnerships or coalitions and how traders without such a connection were able to procure their services.

*Takshīf* is the name given to any man of the Massūfa [Tuat Berbers] whom the people of the caravan hire to go ahead of them to Īwālātan [Walata] with letters from them to their friends there asking them to let houses to them and come four days' journey to meet them with water. Anyone who has no friend in Īwālātan writes to a merchant there known for his benevolent character who then enters into the same relationship with him.<sup>88</sup>

The operators of *funduqs*, in a West African context usually described as landlord-brokers, provided physical security for itinerant traders and mediated between them and local authorities. Curtin suggests that resident brokers were able to make credible assurances of the traders' good conduct, as the brokers would remain even after the caravan had departed.<sup>89</sup> Similarly, the caravan's *amīr* had an incentive to ensure the commercial probity of the moving traders: while the latter might never return to a particular market, specialized caravan leaders were likely to operate on the same route season after season.

Trading diasporas highlight the advantages of shared ethnicity and creed in ensuring the cooperation of its agents. However, history also abounds with instances of rulers deliberately surrounding themselves with foreigners out of distrust of their own people and their ambitions. Muslim potentates in particular allowed slaves, captured on the Islamic frontiers and purchased at a young age, to rise to positions of great responsibility and influence. Out of this constellation arose the 'ultimate paradox' of slave kings who ruled in Cairo, Delhi, and elsewhere.<sup>90</sup> According to Goitein, a similar situation on a smaller scale was evident in the life of the Maghribi bourgeoisie, with the slaves of rulers constituting a prototype for the use of slave agents by the commercial classes.

The acquisition of a male slave was a great affair, on which a man was congratulated almost as if a son had been born to him. No wonder, for a slave fulfilled tasks similar to those of a son. He managed the affairs of his master, he traveled with him or for him, or he was in charge of his master's business, when the latter himself was out of town.<sup>91</sup>

The Geniza documents further reveal that the movements of a slave agent would be reported in the same way as that of other important merchants, and that business letters were often addressed to both.<sup>92</sup> Correspondingly, almost all the sources consulted for the trans-Saharan slave trade refer to slaves acting as business agents for their masters. Shabeeny, for instance, relates how itinerant traders after exchanging their goods for gold-dust would immediately send it off with their slave agents.<sup>93</sup> This confidence in the honesty

88 Ibn Battūta, *Travels*, vol. 4, p. 948.

89 Curtin, *Cross-cultural trade*, p. 55.

90 Lewis, *Race and Slavery*, p. 64. For a study of the origins of the use of slave soldiers in Muslim societies see Daniel Pipes, *Slave soldiers and Islam: the genesis of a military system*, New Haven, London: Yale University Press, 1981.

91 Goitein, *A Mediterranean society 1*, p. 132.

92 *Ibid.*, p. 132.

93 Shabeeny, *An account*, p. 22. This practice is confirmed for early nineteenth-century Timbuktu by Caillié, *Travels*, vol. 1, p. 457.

of slave agents also struck Nachtigal, who noted that masters used their slaves without scruple for trading missions even to their native lands.<sup>94</sup> This peculiar form of principal–agent relation between master and slave prompts the question of how the fundamental problem of exchange was overcome between such disparate actors. The surveyed literature does not engage with this problem. Studies of the principal–agent problem in European colonial companies conclude that economic incentives played a crucial role in ensuring the good conduct of overseas agents. Consequently, it is necessary to test whether similar incentives motivated slave agents to remain loyal to their principals rather than escape to freedom.

It is important to note that slaves acting as agents are over-represented in the sources, firstly because they were more likely to be visible to and interact with outsiders than other slaves, and secondly because European observers were intrigued by their elevated social status. Slaves employed as agents usually came into their masters' service at a particularly young age and received a methodical education in Islamic norms as well as business practice. George La Rue argues in his study of Bagirmi, that although some slaves maintained a corporate identity depending on their origins, many assumed the cultural identities of their masters to advance themselves in trade.<sup>95</sup>

Slave agents, therefore, occupied a privileged position within the spectrum of slave occupations and could expect treatment according to their station. Furthermore, they were able to make business contacts and often had the opportunity to trade on their own behalf. Humphrey Fisher suggests that not only slave agents, but also slaves employed as caravan workers 'often combined private trade, and even private trade in slaves, with their group responsibilities'.<sup>96</sup> This assessment is supported by Richardson, who at Ghadames encountered a slave trading 'as if a regular free merchant' who told him, perhaps apologetically, that he was selling only 'few slaves, and mostly goods'.<sup>97</sup>

Slave agents were not only privileged compared to other slaves but also frequently enjoyed greater economic opportunities than many free men. Furthermore, the institutionalized practice of manumission meant that they could expect to one day use the knowledge and contacts they had acquired to trade on their own account. It is, perhaps, not surprising that under such conditions many slave agents maintained a commercial bond with their former owners even after their manumission. J. G. Jackson, the nineteenth-century editor of Shabeeny's narrative, annotated the text with his own experience of this practice:

I have known instances of a slave being liberated after a few years of servitude; and his master's confidence has been such that he had advanced him money to trade with, and has allowed him to cross the desert to Timbuctoo, waiting for repayment of his money

94 G. Nachtigal, *Sabārā und Sūdān*, vol. 1, p. 133.

95 George Michael La Rue, 'The frontiers of enslavement: Bagirmi and the trans-Saharan slave routes', in Paul E. Lovejoy, ed., *Slavery on the frontiers of Islam*, Princeton: Markus Wiener, 2004, p. 32. Also see Timothy Cleaveland, *Becoming Walāta: a history of Saharan social formation and transformation*, Portsmouth, NH: Heinemann, 2002.

96 Humphrey J. Fisher, *Slavery in the history of Muslim Black Africa*, London: Hurst & Co., 2001, p. 226.

97 James Richardson, *Travels in the Great Desert of Sahara, in 1845 and 1846; including a description of the oases and cities of Ghat, Ghadames and Mourzuk*, 2 vols., London: Bentley, 1848, vol. 1, p. 188; cf. Fisher, *Slavery in the history*, p. 225.

till his return. This is often the treatment of Muhamadans to slaves! how different from that practised by the Planters in the West India Islands!<sup>98</sup>

Commercial partnerships and coalitions sustained reputation mechanisms through the credible threat of exclusion from future transactions in what was a closely interconnected network with a limited number of entrepôts. This economic institution acted in addition to, but independently of, social institutions. While the merchant enjoyed a high social prestige in Islam, it was also acknowledged that his profession required a special type of cooperative behaviour as expressed in a saying attributed to Caliph Umar: 'Trading is the true test of a man where his worth becomes known.'<sup>99</sup>

A central function of the reputation mechanism, in addition to facilitating commercial contracts *per se*, was to provide an institutional framework for credit and finance arrangements without which the long-distance trade in slaves could not have operated. Credit was frequently used between different traders and between traders and suppliers. Leo Africanus' account provides a fascinating description of a credit arrangement between trans-Saharan slave traders and the king of Borno in the early sixteenth century. Desiring horses for his cavalry, the king offered fifteen to twenty slaves per horse but only set out to obtain them after taking possession of the horses. His creditors, who had sold him those horses, were maintained at his palace at his expense, but had to wait for up to three months before the king returned from his campaigns (conducted, presumably, with his newly acquired horses). If the merchants were not satisfied with the captured slaves, they had to wait for up to a year for further campaigns with consequentially high opportunity costs.

Yea I myself met with sundry merchants here, who despairing of the kings payment, because they had trusted him a whole year, determined never to come thither with horses again. [...] Howbeit this king is extremely covetous for he had much rather pay his debts in slaves than in gold.<sup>100</sup>

Similar credit systems have been identified in Dar Fur, where traders advanced goods to slave raiders and transactions were confirmed in writing.<sup>101</sup> These traders were almost certainly part of the trans-Saharan network, as is suggested by the large credit (up to six hundred slaves' worth) they were able to advance.

Shabeeny, with the knowledge of an insider, describes the provision of credit in the form of slaves and gold-dust as the principal source of wealth for sedentary merchants.<sup>102</sup> He adds that such transactions were often private and characterized by high interest repayable in goods.<sup>103</sup> The repayment of loans in a different currency than originally borrowed was a widely employed method of circumventing the Islamic proscription of usury known as

98 In Shabeeny, *An account*, p. 18 fn.

99 As cited in Edward W. Bovill, *The golden trade of the Moors*, London: Oxford University Press, 2nd edn, 1968, p. 236.

100 Leo Africanus, *History*, vol. 3, p. 834.

101 Rex S. O'Fahey, 'Slavery and the slave trade in Dār Fūr', *Journal of African History*, 14, 1, 1973, p. 33.

102 Shabeeny, *An account*, p. 22.

103 *Ibid.*, p. 22.

*mudāf* (literally multiplied).<sup>104</sup> Fisher suggests that traders with a steady supply of slaves were better credit risks and able to obtain loans at lower rates of interest.<sup>105</sup>

As the majority of transactions were conducted on a credit basis, the distinction between the provision of credit for a trader's enterprise and a direct investment in it remains ambiguous. While the merchants of Shabeeny's account specialized in loans, others appear to have used their command over capital to participate in ventures as investors or stakeholders. The latter form often reflected an imbalance of economic power between the parties, typically with sedentary merchants investing into the commerce of itinerant traders. The Tuareg in particular displayed a complete disregard of ethnic boundaries in such investments and turned their transport monopoly into a source of capital for the entire region.<sup>106</sup>

Similar power relations can be identified for the wider patterns of the trans-Saharan trade, with the largest shares of the profit accruing to Maghribi merchants for the provision of credit and sophisticated commercial services and, to a lesser degree, the Saharan tribes who controlled the routes and transport livestock. While the latter invested in the commerce, its organization remained in the hands of Northerners with their superior knowledge of market conditions and better financial connections.<sup>107</sup> 'All evidence indicates that the profit earned by [...] Sudanic merchants was far below that realized by trans-Saharan traders and it was the latter who controlled the relationship by means of credit advances.'<sup>108</sup> As seen above, the use of trading diasporas meant that interests and allegiances of merchants were with the northern trading houses, and not with local elites. The legacy of this imbalance can still be observed in the Sudan in the many important merchants of North African descent.<sup>109</sup> Even during periods of increased demand within both the Atlantic and the trans-Saharan trade circuits, the suppliers were not able to raise their share of the trade's economic benefits. This is explained by the nature of slave acquisition. Enslavement occurred mostly as a result of wars and raids, so that the suppliers stood in constant competition over what was essentially an open-access resource. In addition, an armed caravan always had the option of conducting its own slave *razzia* if its cost fell below the expense of purchasing slaves.

## Conclusions

This article presented the conditions that defined the organization of the trans-Saharan slave trade. Itinerant traders formed caravans for protection and imposed their economic power as cartels on the suppliers of slaves. They encouraged cooperation within the

104 Webb, Jr, *Desert frontier*, p. 63.

105 Fisher, *Slavery in the history*, pp. 316ff.

106 Baier and Lovejoy, 'The Tuareg of the Central Sudan', p. 396.

107 Cf. Lovejoy and Baier, 'The desert-side economy', p. 558.

108 R. A. Austen, *African economic history: internal development and external dependency*, London: James Currey, 1987, p. 42.

109 Lovejoy and Baier, 'The desert-side economy', p. 567. Caillié corroborates this for Jenne in Songhay, the principal trade of which he describes as being controlled by resident Moorish merchants and their partnership companies: Caillié, *Travels*, vol. 1, p. 458.

caravan through a mixture of social and economic institutions. Partnerships between sedentary merchants also relied on similar institutions to overcome obstacles to economic cooperation. This article focused in particular on the function of trading diasporas in resolving principal-agent problems and the ways in which representatives, brokers, and slave agents facilitated commercial exchange. Finally, how these structures enabled Maghribi merchants to control the trade via the provision of capital and credit was examined. The need of principals to ensure their agents' cooperation has been identified as the fundamental problem of exchange, as it was integral to maintaining the trade over centuries on an ever-increasing scale. Social institutions of kin, tribe and religion created in combination with the economic institutions of partnerships and coalitions a superstructure conducive to cooperation. To return to the opening metaphor, the background of social institutions that made cooperation possible can be likened to the 'trust in God', and the economic institutions that made it predictable and enforceable to 'tying your camel'.

The longevity of the trans-Saharan slave trade is evidence of the high degree of flexibility and adaptability these structures allowed for. However, the absence of large corporations, found in other parts of the Islamic world and especially in European overseas trade, suggests that just as caravans had reached their efficiency ceiling early on, so the overall organization of the trade had reached its limit. It could not expand further without a system of external contract enforcement. The unchallengeable position of desert tribes and the political fragmentation of the whole region prevented the development of such formal institutions. Future research may further elucidate this issue by examining the interplay between private-order institutions and the various formal institutions that impinged on the trade in different places at different times.

In his comparison of long-distance trade in medieval Europe and Africa, Oliver Pétré-Grenouilleau laments that most of the existing literature focuses 'more on the structures of African merchant capitalism than on the actors'.<sup>110</sup> The focus on the microeconomic foundations of the trans-Saharan slave trade that guided this study has demonstrated that it is rewardingly analysed assuming individual utility-maximizing behaviour. In this way it has been shown that the trade was not restricted by social institutions as the traditional Substantivist interpretation claims, but versatile in adapting its economic institutions from native practices and Islamic commercial paradigms to best suit the unique requirements of trading an ever-growing number of slaves across the vast Saharan desert. The test of recent economic models has confirmed this economic rationality, and demonstrated that the behaviour of its actors can be analysed in terms of cooperative and non-cooperative strategies. Their application is therefore more useful in explaining the economic behaviour of those involved in the trade than conventional neoclassical economics.

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110 Olivier Pétré-Grenouilleau, 'Long-distance trade and economic development in Europe and Black Africa (mid-fifteenth century to nineteenth century)', *African Economic History*, 29, 2001, p. 170 fn.