

# Material Evidence and Narrative Sources

*Interdisciplinary Studies of the History  
of the Muslim Middle East*

*Edited by*

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# How to Measure Economic Growth in the Middle East?

*A Framework of Inquiry for the Middle Islamic Period*

*Stefan Heidemann*

## 1 Introduction<sup>1</sup>

How can one measure economic growth in the Middle Islamic period, and especially in the tenth and twelfth centuries? For the period prior to the fifteenth century, historians researching Islamic societies have few primary documents or archives at hand. In contrast to the scarcity of primary documents, secondary sources—namely, literary and historical accounts written after the events—are abundant. The situation is the reverse of that of the European Middle Ages, for which a comparatively rich body of archival material is available but few chronicles. Archaeology in Europe and knowledge about medieval material culture there is more developed than in the Middle East due to nationwide systems of archaeological services and a centuries-old tradition of antiquarianism and museums in Europe, whereas archaeology in the Middle East, excepting Israel, is still largely comprised of various—almost random—joint missions by Western institutions, though with specific research questions but not necessarily a systematic state-wide approach. This difference in the nature of the sources and approaches has led scholars of economic history in Europe and the Middle East to ask different sets of questions. Many such questions, however, are of mutual and common interest, such as those that seek to investigate and define the economic and cultural relations between the Islamic world and Europe, or, from studies that have taken a more comparative perspective, what are the pre-conditions for economic growth and decline

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<sup>1</sup> This contribution presents the preliminary results of the project, ‘The new economic dynamics of the Zangid and Ayyübid period’, supported by the German Research Foundation (DFG), with research carried out in the period 2004–2008, and outlines its methodological framework. The manuscript of this contribution was concluded 2010 and only few literature added since then.

within and across different societies?<sup>2</sup> Medieval chronicles and biographical dictionaries in the Middle East rarely showed interest in such questions.

Eliyahu Ashtor, the pioneering economic historian, attempted to take a systematic approach to the measurement of economic change and prosperity. He drew extensively on Northern Italian archives as his main source for economic information on the Middle East, but such archives were prolific only from the late thirteenth century on. Ashtor and his disciples extracted as much economic data as possible from them and compared the information with medieval Arabic chronicles. They compiled extensive lists of prices and other economic information; however, their works include little in the way of reflections on the legal, economic, and terminological constraints underlying those figures. Given the state of scholarship examining Islamic numismatics at the time, for example, they were not able to define the coins precisely denoted on certain price tags in the archival and literary sources.<sup>3</sup>

In 1971, Maurice Lombard tried to establish a theoretical framework that was able to explain the economic dynamics at work in the medieval Middle East, and especially that was able to account for urban expansion. He compared the development of a monetary economy with the growth of urban centres from the second/eighth through the fifth/eleventh centuries. From an elevated historical vantage point, Lombard considered economic interaction between Europe, Asia, and Africa, all of which was connected via the trade routes of the Mediterranean Sea and the water ways along the Volga River. He drew up a persuasive picture in which immense monetary flows effectively created 'urbanity', at least according to his theoretical considerations. The factual basis on which he made such claims, however, was rather slim and highly contingent on an idiosyncratic reading. He tried to resolve the problems he encountered when defining his economic factors, such as precious metal flows, as well as

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2 One early such attempt is H. Pirenne, *Mohammed and Charlemagne* (New York, 1959), first published in 1939, which stimulated a tremendous amount of discussion in general, and about Viking Age trade between the Middle East and Northern Europe, in particular. See also: A. L. Lieber, "Did a 'Silver crisis' in Central Asia affect the flow of Islamic coins into Scandinavia and Eastern Europe?" in *Sigtuna Papers: Proceedings of the Sigtuna Symposium on Viking-Age Coinage, 1-4 June 1989 Stockholm*, ed. K. Jonsson and B. Malmer (Commentationes de nummis saeculorum IX-XI in Suecia repertis, nova series 6), (Stockholm, 1990), 207-212.

3 See, e.g., E. Ashtor, *Histoire des prix et des salaires dans l'Orient médiéval (Monnaie, prix, conjoncture VIII)*, (Paris, 1969); and, *idem*, *Les métaux précieux et la balance des paiements du Proche-Orient à la basse époque* (Paris, 1971). For an accounting of the increased interest in the scholarship of Islamic numismatics that occurred beginning in the 1990s, see S. Heidemann, "Islamische Numismatik in Deutschland," in *Islamische Numismatik in Deutschland: eine Bestandsaufnahme*, ed. S. Heidemann (Wiesbaden, 2000), 1-16.

the numerous gaps in our knowledge, by offering multiple hypotheses, making silent *ad hoc* presumptions and offering only selective, supporting evidence. Ashtor's and Lombard's approaches build almost solely upon textual evidence.<sup>4</sup>

In a recent study, Richard Bulliet approached the question of economic growth in early Islamic Iran from quite a different angle. With a focus on agriculture as the key to understanding historical economic development, his emphasis is comparable to the model proposed here for the western part of the Middle East. Bulliet attempted to connect economic growth with the rise of irrigation—and of a cotton-based economy—in early Islamic Iran, in general, and in the hinterland of the city of Qumm (Qom) in Western Iran, in particular. His main evidence is the analysis of historical place names, names in biographical dictionaries linking to occupations, and evidence for climatic changes.<sup>5</sup>

The study of Bethany Walker on Mamlūk Jordan applies a different approach, in a context where more archival material is available (*waqfiyyāt*). Driven by research questions about Mamlūk decline, she systematically studies the rural areas of today's northern Jordan through an archaeological excavation in Ḥisbān, a survey of the region, chronicles and archival material. This method allows her to reconstruct the agricultural development of the region, connecting it to the regional administration, to the political center in Cairo and to the World economy at large.<sup>6</sup>

## 2 A 'Model' for the Study of Economic Growth

To measure, explain, and understand economic growth in the pre-modern period in the Middle East, it is necessary to take a systematic and multidisciplinary approach. Economic growth can be assumed to have occurred as the result of a dynamic 'equation' or 'model',<sup>7</sup> most often with multiple interdependent variables, not all of which can be precisely defined. Some variable can only be acknowledged to exist despite the fact that its impact can hardly

4 M. Lombard, *L'Islam dans sa première grandeur, VIII<sup>e</sup>–XI<sup>e</sup> siècle* (Paris, 1971); *The Golden Age of Islam*, trans. J. Spencer (Amsterdam, 1975), esp. 118–121.

5 R. W. Bulliet, *Cotton, Climate, and Camels in Early Islamic Iran: A moment in world history* (New York, 2009).

6 See Walker's paper in this volume, and B. J. Walker, *Jordan in the Late Middle Ages. Transformation of the Mamluk Frontier* (Chicago, 2011).

7 The term 'equation' or 'model' is meant here to denote a way of thinking about a problem, and not to imply the taking of a mathematics-oriented approach.

be measured, while other variables are able to be defined but only relative to other factors. Indicators for such variables have to be identified in order to place them into such a model. Soundings must be made into different types of evidence, material and literary. Measurable indicators and appropriate sources for the study of economic growth and decline have to be identified in: agriculture; urban industry; fiscal, legal and monetary systems; and, how they might influence economic development. The variables will then be interconnected in a dynamic relationship, wherein a development in one field will be expected to impact another.

There are six main aspects of economic growth that will be considered here; the research of which requires different sources and skills. First, the direction of development—namely, growth or decline—has to be determined. Narrative sources often compare past and present as a way of indicating change: living conditions have improved or deteriorated, prices went up or down from one year, ruler, or dynasty, to another. Also extant architecture, monumental inscriptions and descriptions of non-extant buildings give evidence of periods of prosperity.<sup>8</sup>

Second, medium-sized cities are assumed to be significant indicators of economic development. Their economic position lies in between that of the major metropolises such as Baghdad, Aleppo, and Damascus, whose economic life depended on various, largely exogenous factors, on the one hand, and mostly anonymous rural sites without any trace in the literary sources, on the other hand.

Third, economic growth in pre-modern societies is mainly a result of agricultural expansion or decline. This is often overlooked in discussions of pre-modern economies, however, perhaps because little information is provided by literary sources. In the absence of archival evidence before 1400/1500, agricultural growth can be measured only indirectly. Relatedly, the role of nomads within the economy is even more difficult to assess because of the scant archaeological remains their life style leaves to be discovered.

Fourth, the development of the urban industrial and trade sector—meaning primarily economic activities that took place within the market, or *sūq*—have to be defined. These activities often manifest themselves as architectural complexes such as workshops, *khāns*, markets, or similar spaces where goods were produced and traded. Ceramics and textiles are the most common and important such industries. Ceramics—both whole vessels and archaeological sherds—provide information about production sites, distribution,

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8 For Mamlūk building activity as a measure of economic growth, see M. Meinecke, *Die mam-lukische Architektur in Ägypten und Syrien (648/1250 bis 923/1517)* (Glückstadt, 1992).



technological innovations and their refinement. Ceramic and glass sherds are used to date both settlements in the agricultural hinterlands, medium-sized cities and metropolises and give hints on the social background of their users.<sup>9</sup> Textiles and related products such as dyestuff, in contrast, are perishable and their contribution to the economy is even harder to assess; however, because there was a universal need for textiles it can be assumed that the related industry would have formed the backbone of many urban economies. Other factors also must be assessed in any effort at describing the industrial sector, including: construction activities, financing, legal prescriptions, and information about trade routes.

Two further aspects are proposed for inclusion into the ‘model’, which serve to connect those already outlined: the fiscal cycle, meaning the state’s income received as a result of taxes levied, dues assessed, and extortions; and, the monetary system. The state’s income was largely dependent on taxes levied on agricultural land and its production and on dues paid for urban economic activity. Material evidence such as stamps on storage jars, tax seals, epigraphic inscriptions concerning taxes, and even the emergence of *dār al-wakālas*, can support or contradict literary evidence. The mode of exchange—meaning the development of monetary systems, the extent to which money penetrated economic activities, and the degree to which money was integrated into the fiscal cycle—is a further indicator of the development of the economy.

### 3 Direction of Growth

While direct measurement of growth is hardly possible in the absence of statistics figures or a sequence of tax lists, growth and decline are often indicated by the direct comparison, by contemporary or near-contemporary authors, to preceding periods, or by their mentions of urban expansion or decline. For example, in the period prior to the Seljūq conquest, some large and medium-sized cities in Syria and northern Mesopotamia are described as being in dilapidated and ruinous condition. Narrative sources tell us that the Seljūq ruler of Damascus, Ṭughtaġīn (r. 497–522/1104–1128), pursued an active policy of repopulation and agricultural rehabilitation of the Ghūṭa, the lush orchards of Damascus, and that Riḏwān (r. 488–507/1095–1113), in Aleppo, sold real estate

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9 B. J. Walker, “From ceramics to social history: Reflections on Mamluk archaeology today.” *Mamluk Studies Review* 14 (2000): 1–45.

in dilapidated parts of the city for the benefit of the state's coffers.<sup>10</sup> While decline is difficult to measure across time, the scale of economic growth can be determined with a greater degree of confidence when building activities of public and semi-public institutions are used as proxy indicators. Nūr al-Dīn Maḥmūd ibn Zangī (r. 541–569/1146–1174), for instance, initiated a vast building and reconstruction program and looked for new forms of financing to support it. In this case the information provided by the narrative sources is corroborated by existing buildings and extant inscriptions.<sup>11</sup>

Prices, price changes and fluctuating exchange rates are often used to indicate economic directions. However, prices in money are just abstractions of an economic situation with many variables. Understanding them requires detailed knowledge on the monetary system, as well as circumstantial evidence, which the modern reader is rarely able to establish. Does the price tag indicate high or low, wholesale or retail prices, and where? Is the context that of a famine, a siege, or the abundance after harvest? In pre-modern times, the annual price-cycle showed much larger latitudes than in modern connected economies. Unless an annual price cycle for a give commodity at a specific market can be established, price tags remain undecipherable. Furthermore, often only a generic name is provided, *dīnār* or *dirham*, and the actual coin, with its intrinsic value, remains difficult to determine or subject to change over time. While isolated and scattered data on prices is difficult to compare and to use for economic history, if the medieval chronicler made a comparative statement by himself, the modern historian is probably on firm grounds, even when he could not retrieve all the circumstantial evidence.

#### 4 Medium-sized Cities as Paradigm

Urban growth, especially that of medium-sized cities, serves as the main paradigm and proxy indicator not only for agricultural development of the hinterland but also for changes to the urban economy, despite the fact that

10 S. Heidemann, *Die Renaissance der Städte in Nordsyrien und Nordmesopotamien: Städtische Entwicklung und wirtschaftliche Bedingungen in ar-Raqqa und Ḥarrān von der Zeit der beduinischen Vorherrschaft bis zu den Seldschuken* (Leiden, 2002), 315–318.

11 S. Heidemann, "Charity and piety for the transformation of the cities. The new direction in taxation and *waqf* policy in mid-twelfth-century Syria and Northern Mesopotamia," in *Charity and giving in Monotheistic Religions*, ed. M. Frenkel and Y. Lev (Berlin, 2009), 149–195; Y. A. al-Tabbaa, *The Architectural Patronage of Nūr al-Dīn (1146–1174)*, (Ph.D. diss., New York University, 1982).

urban centers are estimated to account only for ten percent or less of the entire population in pre-modern societies—which is roughly in proportion to their economic contribution.<sup>12</sup> More specifically, the history of medium-sized cities such as Ḥarrān, al-Raqqa, or Qal‘at Ja‘bar, all in Syria and northern Mesopotamia, reflects agricultural—and thus, economic—growth and decline more accurately than do the fortunes of larger metropolises, such as Damascus, Aleppo, Samarrā’ or Baghdad. External factors—such as long-distance trade in the case of Aleppo, or military financial transfers in the case of Fāṭimid-era Damascus, and ‘Abbāsīd Samarrā’—are usually an important if not decisive factor for their economic growth.<sup>13</sup> The growth of medium-sized cities reflects more often the increased agricultural productivity of their rural hinterlands. This can be corroborated by settlement surveys.<sup>14</sup> Information about medium-sized cities also can be sifted from contemporary narrative sources even though they were not the main point of emphasis of the chroniclers. At the same time, however, it is important to consider that large transfers of tax monies, for instance to maintain garrisons or administrative centers—as in early Islamic Baghdad, al-Raqqa and Sāmarrā’—stimulate agricultural growth in the hinterland by their strong and well-funded demand for food-stuffs that would be required to feed a growing urban population.<sup>15</sup>

## 5 Agriculture

In pre-modern times, approximately eighty to ninety percent or more of the wealth generated was the result of primary production. As more land was put under the plough and more people could be fed, larger urban populations were freed up to engage in industry, trade, and provisioning services. Various factors influencing agriculture have to be considered, such as land tenure, rural taxes, climatic changes and the introduction of new crops.<sup>16</sup> A small number of tax lists for *kharāj* are available as documents and within narrative sources

12 P. Crone, *Pre-Industrial Societies: Anatomy of the pre-modern world* (Oxford, 2009), 15–16.

13 For example A. Northedge, “Remarks on Samarra and archaeology of large cities.” *Antiquity* 79 (2005): 119–129.

14 Heidemann, *Renaissance*, esp. 16–22.

15 S. Heidemann, “The Agricultural Hinterland of Baghdād, al-Raqqa and Sāmarrā’—Settlement Patterns in the Diyār Muḍar,” in *Le Proche-Orient de Justinien aux Abbasides*, (Bibliothèque de l’antiquité tardive 19), ed. A. Borrut, A. Papaconstantinou, D. Pieri, J.-P. Sodini (Tunhout, 2011), 43–58.

16 See A. M. Watson, *Agricultural Innovation in the Early Islamic World: The diffusion of crops and farming techniques, 700–1100* (Cambridge, 1983).

for the early Islamic period.<sup>17</sup> For the period spanning the eleventh through thirteenth centuries there exist almost no documents pertaining to agriculture, land tenure or even agricultural tax yields for the lands of the Middle East, measuring their economic prosperity. Legal texts are concerned with *kharāj* and *ʿushr* but, as with most other legal texts, they largely reflect the situation at the height of the ʿAbbāsīd Empire and rarely touch upon later practices, such as the *iqṭāʿ*. Agricultural taxation tended to follow regional practices and was always adapted to the practical necessities of the time.<sup>18</sup> In the eleventh century, the immediate claim on land tax (*kharāj*) as regular remuneration for military service without its redistribution through the state's fiscal authorities, the *iqṭāʿ*, had an enormous impact on land tenure and agricultural production. The *iqṭāʿ* and its regulations never entered the handbooks of Islamic law, despite the body of legal scholarship that flourished in twelfth- and thirteenth-century Bilād al-Shām. It was most likely considered to be outside the boundaries of the *sharīʿa*. Little information on the legal and economic constitution of the *iqṭāʿ* in this time and its actual application can be extracted from the extant narrative sources.<sup>19</sup>

The growth and decline of agricultural production can best be measured by the number of villages and rural estates able to be archaeologically surveyed in an agricultural region and associated with a given period. The identification, however, of such small, rural towns, villages, and estates on the ground with names as they appear in the literary sources faces immense methodological and evidentiary challenges. Medieval geographical literature is only of secondary help because either it sheds only a selective spotlight on a certain period (e.g., al-Muqaddasī, *Aḥṣan*),<sup>20</sup> or it compiles information in an almost completely non-discriminatory fashion, often from sources authored during different periods (e.g., al-Yāqūt [d. 626/1229], *Muʿjam al-buldān*). One exceptional source is the *Taʾrīkh-i Qumm* (written prior to 379/990), which provides 1,271 rural place names in the hinterland of Qumm in the third/ninth century.

17 The Middle Islamic period is defined by the second economic and cultural blossoming of the Islamic world, and can be broadly described as spanning the Seljūq to Mamlūk periods, or between the 1050s and 1500.

18 For a discussion of the continuous development of Islamic legal systems concerning land tenure and taxes, see B. Johansen, *The Islamic Law on Land Tax and Rent: The peasant's loss of property rights as interpreted in the Hanafite legal literature of the Mamluk and Ottoman periods* (London, 1988). Most changes are reflected in *fatwas*.

19 S. Tsugitaka, *State and Rural Society in Medieval Islam: Sultans, Muqta's, and Fallahun* (Leiden, 1997); see also, Heidemann, *Renaissance*, 307–315.

20 P. Wheatley, *The Places Where Men Pray Together: Cities in Islamic lands, seventh through the tenth centuries* (Chicago, 2001), 62–67.

Bulliet analyzed this atypically large body of historical names and found that the structure of the names, and what the names themselves could reveal about the settlement history in the region, was of more importance than the precise geographic identification of a given site. He defined a specific group of place names (those using the convention: Arab personal name + *abād*) as settlements which represent, in their majority, early Arab investments in irrigation (*qanāt*). The foundation of new villages outside the belt in which traditional rain-fed agriculture was practicable might be related to the increased production of a high-value crop—cotton. Agricultural growth stimulated the urban industrial textile sector and made it possible for cities to expand. Bulliet concluded that the subsequent boom in cotton production instigated an almost unprecedented period of growth in ‘Abbāsīd Irān.<sup>21</sup>

Archaeological surveys aimed at understanding regional settlement patterns and land use serve as one reliable source with which to measure agricultural growth. In the past thirty years, many parts of the central lands of the caliphate—namely, Bilād al-Shām,<sup>22</sup> the Jazīra,<sup>23</sup> and Iraq<sup>24</sup>—have been the subjects of archaeological surveys, with many of those projects placing increasing focus on the Islamic-era remains.<sup>25</sup> Ancient settlements can be identified by comparing and analyzing colonial maps, aerial photography or satellite images, or by considering certain features on the ground. Surface finds, usually pottery, are collected during an archaeological survey to establish a ceramic sequence for the site and the region. All settlement surveys conducted in Syria and northern Mesopotamia have consistently indicated a steep decline in the numbers of rural settlements in the tenth century and an increase in the twelfth to thirteenth centuries, although not one sufficient to attain the previous density of settlement as was attained in the heyday of the ‘Abbāsīd Empire.

21 Bulliet, *Cotton*, 1–41.

22 For example, J. Magness, *The Archaeology of Early Islamic Settlement in Palestine* (Winona Lake, 2003); for a settlement survey based mainly on literary evidence, see C. P. Haase, “Untersuchungen zur Landschaftsgeschichte Nordsyriens in der Umayyadenzeit,” (Ph.D. diss., Kiel University, 1975).

23 For example, K. Bartl, *Frühislamische Besiedlung im Balīḥ-Tal/Nordsyrien* (Berlin, 1994); *idem*, “Balīḥ Valley Survey. Settlements of the late Roman/Early Byzantine and Islamic Period,” in *Continuity and Change in Northern Mesopotamia from the Hellenistic to the Early Islamic Period*, ed. K. Bartl and S. R. Hauser (Berlin, 1996), 333–348.

24 For example, R. McAdams, *Land behind Baghdad: A history of settlement on the Diyala Plains* (Chicago, 1965).

25 G. Lehmann, *Bibliographie der archäologischen Fundstellen und Surveys in Syrien und Libanon* (Rahden, 2002).

Jodi Magness analyzed problems connected with such surveys in her case study of historical Palestine. Settlement surveys are limited by systemic idiosyncrasies in the historical interpretation of archaeological evidence, such as the counting of sites by historical period, the often continuous use and persistence of certain significant pottery types over time, the interpretation of facilities meant for communal use, the survival of architecture—both building types and individual buildings—without alteration, and finally, misleading preconceptions borne out of an incomplete understanding of the historical realities of the region and era.<sup>26</sup> While settlement surveys establish some broad lines for the historical development of a region, archaeological excavation of rural sites in the same region can supplement the general findings with more detailed evidence. Case studies also refine both relative and absolute chronologies. Architectural remains of smaller settlements or estates are rarely conclusive on their own. In general, the history of such smaller, unnamed rural sites can be successfully reconstructed by undertaking a critical reading of the sequence of Islamic coin finds together with a comparison of the general development of the region, as established by settlement surveys and historical chronicles.<sup>27</sup>

Historical narratives sometimes point to changes in the ruling elite's attitude toward agriculture. Al-Muqaddasī described the expulsion of settled populations at the beginning of the second Arab migration, in the early tenth century, as follows:

Tribes of the Rabī'a and Muḍar live in it [the Jazīra, northern Mesopotamia]. They are breeders of horses, sheep and few camels. Most of them are connected with villages and their inhabitants. They are settled nomads (*bādiya ḥāḍira*). At that time groups of the Qays 'Aylān tribes, many of the Bānū Qushayr, 'Uqayl, and Banū Numayr and Banū Kilāb moved to them. *They expelled them [the settled nomads and probably also the settled population] from their lands, in fact from most of them*

26 Magness, *Archaeology*, esp. 72–74, 195–199.

27 S. Heidemann, "Settlement Patterns, Economic Development and Archaeological Coin Finds in Bilād al-Shām: The case of the Diyār Muḍar—The process of transformation from the 6th to the 10th Century A.D.," in *Residences, Castles, Settlements. Transformation processes from Late Antiquity to Early Islam in Bilād al-Shām. Proceedings of the International Conference held at Damascus, 5–9 November 2006*, ed. K. Bartl and 'A. R. Moaz (Rahden, 2009), 493–516; *idem*, "Tall Rifa'at and other Syrian sites—Some remarks," in *Annals of the Nārpstek Museum* 24 (2003): 91–95; *idem*, "Die Fundmünzen von Ḥarāb Sayyār im Verhältnis zur lokalen Geschichte," *Mitteilungen der Deutschen Orient-Gesellschaft* 135 (2003): 103–112.

[emphasis SH].<sup>28</sup> They appropriated several towns (*balad*) and regions (*iqlīm*), among them locations such as Ḥarrān, Jisr Manbij,<sup>29</sup> al-Khābūr,<sup>30</sup> al-Khānūqa,<sup>31</sup> ‘Arabān,<sup>32</sup> Qarqīsiyā<sup>33</sup> and al-Raḥba.<sup>34</sup> They commanded their protection and protection money (*khafā’iruhā*<sup>35</sup> *wa-marāfiquhā*).<sup>36</sup>

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- 28 Emphasis added.
- 29 Jisr Manbij is located at the Euphrates, between Aleppo, Sarūj and Ḥarrān. Ibn Ḥawqal (d. after 378/988), *Kitāb Ṣūrat al-arḍ*, ed. J. H. Kramers (Leiden, 1938; reprint: Leiden, 1967), 227; Yāqūt, *Kitāb Mu’jam al-Buldān*, ed. F. Wüstenfeld, *Jacut’s geographisches Wörterbuch aus den Handschriften aus Berlin, St. Petersburg und Paris*, 6 vols. (Leipzig, 1866–1870), 6: 165; D. Sourdel, “Kal’at Nadīm,” *EI*<sup>2</sup> 4: 482.
- 30 Here referencing the al-Khābūr River valley, which flows into the Euphrates close to al-Raḥba; Yāqūt, *Buldān*, 2: 383–384.
- 31 A city (*madīna*) on the eastern bank of the Euphrates, approximately halfway between al-Raqqā and Qarqīsiyā; Ibn Ḥawqal, *Ṣūrat al-arḍ*, 209, trans. G. Wiet, *Configuration de la Terre* (Beirut, 1964), 204; Yāqūt, *Buldān*, 2: 394. Compare Ibn al-‘Adīm (d. 660/1262), *Zubdat al-ḥalab min ta’rīkh Ḥalab*, ed. S. al-Dahhān, *Histoire d’Alep*, 3 vols. (Damascus, 1951–1968), 1: 273 (rendered as *al-Ḥānūta*); F. Sarre and E. Herzfeld, *Archäologische Reise im Euphrat- und Tigris-gebiet*, 4 vols. (Berlin, 1911–1920), 1: 164–166; T. Bianquis, *Damas et la Syrie sous la domination fatimide (359–468/969–1076). Essai d’interprétation de chroniques arabes médiévales*, 2 vols. (Damascus, 1986, 1989), 573.
- 32 A small town on the banks of the Khābūr, at present-day Tall ‘Ajaja; Yāqūt, *Buldān*, 3: 632; Ibn Shaddād (d. 684/1285), *Al-‘lāq al-khaṭīra fi dhikr umarā’ al-Shām wal-Jazīra* (al-Jazīra), ed. Y. ‘Ibbāra (Damascus, 1978), 151; H. Gaube, “Mittelalterliche Münz- und Keramikfunde aus dem Unteren Ḥābūr-Tal (Nordsyrien),” in *Litterae numismatae Vindobonenses 1. Roberto Göbl dedicatae*, ed. W. Szaivert (Wien, 1979), 179.
- 33 A small town on the Khābūr, close to al-Raḥba, at present day Busayra. Ibn Ḥawqal, *Ṣūrat al-arḍ*, 227, describes Qarqīsiyā’ as a pleasant place: “[...] even though damages had spoiled it ([...] *wa-in kāna ikhtilālu qad shābahā*);” Yāqūt, *Buldān*, 4: 65; Ibn Shaddād, *‘lāq*, 3: 151–3; M. Streck, “Qarqīsiyā,” *EI*<sup>2</sup> 4: 654; Gaube, “Mittelalterliche Münz- und Keramikfunde,” 179.
- 34 A city and citadel at the mouth of the Khābūr, where it empties into the Euphrates; Yāqūt, *Buldān* 4: 65–66; E. Honigmann and T. Bianquis, “al-Raḥba,” *EI*<sup>2</sup> 8: 393–396. For a contemporary description from the year 440/1048–9, by Ibn Buṭlān, see Ibn al-Qiftī (d. 646/1248), *Ta’rīkh al-ḥukamā*, ed. J. Lippert (Leipzig, 1903), 295.
- 35 C. Cahen, “Khafāra,” *EI*<sup>2</sup> 4: 913.
- 36 Ibn Ḥawqal, *Ṣūra*, 228; trans. Wiet, 222; G. Degener, “Das Emirat der Banū ‘Uqail, eine Untersuchung zum Zerfall des ‘abbāsīdischen Kalifats und zur Beduinisierung des Fruchtbaren Halbmonds,” (Ph.D. diss., University of Göttingen, 1987), 24. Compare with R. J. Bikhazi, “The Ḥamdānid Dynasty of Mesopotamia and North Syria 254–404/868–1014,” (Ph.D. diss., University of Wisconsin, 1981), 136.



This passage not only reports on the declining agricultural production but also on the inability of the urban-based political structure to defend its agricultural base. The author of the *Ta'rikh Ḥarrān* later expressed appreciation for and praised the opposite attitude toward agriculture common among the Seljūq military elite as compared with previous nomad rulers:<sup>37</sup>

My father told me (...): When the Atābak Zangī ibn Qasīm al-Dawla Āqsunqur (r. 521–541/1127–1146), God may have mercy with him, mounted a horse, the army tramped behind him, as if they were walking between walls, fearing that the army may trample down some of the crop. And nobody dared in respect for it [the crop] to trample on the sweat of the crop, and [also] no horse stepped over it. And nobody of his soldiers (*ajnād*) allowed himself to take the forage from a peasant (*fallāḥ*) except for its price (*thamanuhā*) or for written bills by the treasury (*bi-khaṭṭ min al-dīwān*) to the *ra'īs* of the village. And if someone assaulted someone then he was crucified for that. *And if he [Zangī] heard that a soldier (jundī) attacked a peasant, he withheld his remuneration (qaṭa'a khubzahū) and chased him away. Finally the land came back to life after its decline [emphasis SH].* And he achieved good things for the population of his kingdom (*ahl mamlakatihī*). And he allowed no evil. And he entrusted the population of Ḥarrān to his governors (*wulātuhū*) and tax collectors (*'ummāluhū*). He prohibited the compulsory levy (*kulaf*), extorted dues (*maghārim*), corvée (*su'ar*) and [other unreasonable] burdens on his subjects. He straightened up the limits of law (*hudūd*) in his country.<sup>38</sup>

The assessment of the role and contribution of nomads to the economic development of the region is faced with additional methodological challenges. An indirect approach allows us to define their position within the model—that is, their relation to the urban-based political power structure that controlled the means of agricultural production. Taking nomad groups into military service

37 The *Ta'rikh Ḥarrān* is a lost text. It was authored by Abū 'l-Maḥāsīn ibn Salāma ibn Khalifa al-Ḥarrānī (d. after 624/1226–7). As a *takmila*, the book continued or incorporated another lost chronicle of Ḥarrān authored by the legal scholar Abū 'l-Thana' Ḥammād ibn Hibat Allāh ibn Ḥammād al-Ḥarrānī (d. 598/1202). This book served as Ibn al-'Adīm's main source.

38 *Ta'rikh Ḥarrān*, quoted in Ibn al-'Adīm (d. 660/1262), *Bughyat al-ṭalab fī ta'rikh Ḥalab*, ed. Suhayl Zakkār, 12 vols. (Damascus, 1988), 7: 3850–3852. Similarly, Ibn al-'Adīm, *Zubda* 2: 280, 283–284.



by urban based-rulers, a low-budget military force, financed by tribute and expectation of loot, stands in a reverse relation to professional armies, which were financed by rural or urban taxation. The stronger the economic base of rulers and their professional armies, the weaker the autonomy of nomadic tribes. At the end of the twelfth century, nomad tribes were integrated into the formal fabric of the Ayyūbid state as *imārat al-‘arab* and had to pay tribute, called *‘idād*, probably assessed on the count of heads of livestock in their flocks.<sup>39</sup>

## 6 The Urban Industrial and Market Sector

The agricultural output feeds the populations of urban centers, occupied in industry, long-distance trade, retail activity in the market district (sing. *sūq*, pl. *aswāq*), as well as a range of services. The urban economic sector, with its industry, trade and capital distribution, with a few brief exceptions, is not mapped in legal or narrative sources. For the period spanning the eleventh to the thirteenth centuries, there exist hardly any written sources that report even common industries such as pottery,<sup>40</sup> metal industry, glass manufacturing, textile production and dye making, or even that mention the trade of such items within the Middle East. These industries were outside of the scope of the chroniclers. Rare glimpses of the economic behavior of individuals can be gleaned from the Geniza documents discovered in Fuṣṭāṭ; a small number of additional European archival sources relate trade with the northern Italian mercantile republics, but that beginning almost only as late as the late thirteenth century. For northern Mesopotamia, even the identification of certain types of ceramics and their relative chronological sequence in the sixth/eleventh century remains open to debate.<sup>41</sup> Al-Raqqā, a city on the Euphrates, illustrates this case well. In the ‘Abbāsīd period the city hosted an entire quarter given over to industry, al-Raqqā al-Muḥṭariqa, or ‘the burning al-Raqqā’.<sup>42</sup>

39 S. Heidemann, “Arab Nomads and Seljūq Military,” in *Shifts and Drifts in Nomad-Sedentary Relations*, ed. S. Leder and B. Streck (Wiesbaden, 2005), 289–305.

40 Compare M. Milwright, “Pottery in the written sources of the Ayyūbid–Mamlūk period (c. 567–923/1171–1517),” *BSOAS* 62 (1999): 504–518.

41 C. Tonghini, “A new Islamic pottery phase in Syria: Tell Shāhīn,” *Levant* 27 (1995): 197–207; C. Tonghini and J. Henderson, “An eleventh-century pottery production workshop at al-Raqqā. Preliminary report,” *Levant* 30 (1998): 113–127.

42 S. Heidemann, “The history of the industrial and commercial area of ‘Abbāsīd al-Raqqā, called al-Raqqā al-Muḥṭariqa,” *BSOAS* 69 (2006): 32–52.

The name might be an allusion to the thick industrial smoke that might have polluted the local environment. Excavations by the German Archaeological Institute<sup>43</sup> and the University of Nottingham<sup>44</sup> discovered an array of pottery kilns and glass furnaces, as well as mounds of industrial waste. These flourishing industries in al-Raqqā, however, were not noted in any contemporary narrative source.

Ceramic production seems to follow main economic trends. For the period between the late ‘Abbāsīd and the Seljūq dynasties, characterized as a period of urban decline, only a few pieces of luxury ceramics have been recovered across Bilād al-Shām, Northern Mesopotamia and Iraq. In the first half of the tenth century at the latest, the decline of the luxury ceramics industry in Iraq became evident at production centers such as al-Baṣra—where potters produced both blue-and-white, and lustre-painted wares—Baghdad, Samarrā’, al-Raqqā, and elsewhere. The same period first saw the rise in production of Fāṭimid luxury pottery, and especially of lustre-painted wares. The twelfth century witnessed the decline of that industry in Egypt, and the enormous growth of the luxury ceramic industry in Syria and northern Mesopotamia—a growth that is connected with the so called ‘Tall Minis’ ware and followed by ‘Raqqā wares’ that appear in large quantities in many of today’s museums of Islamic art. Despite this rich body of material evidence, there is not a single reference to this industry in any extant narrative source. Although recent studies have shown that ‘Raqqā ware’ was produced at many centers across Syria, al-Raqqā was nevertheless the major production site and probably the only site at which lustre-painted wares were produced in Syria and northern Mesopotamia during the Ayyūbid period.<sup>45</sup> This allows the conclusion that, more customers were able to afford such items than there had been previously. Many such customers might have been associated with Syrian and northern Mesopotamian courts, or have belonged to that class that benefitted from the growth in agriculture and industry. But these glazed wares were too widely spread, to serve only an elite. Turquoise-glazed sherds of Raqqā ware have even been recovered in substantial quantities at rural sites, proving the existence of a flourishing agricultural sector. At the same time, such material evidence serves as an

43 P. A. Miglus (ed.), *Ar-Raqqā I: Die frühislamische Keramik von Tall Aswad* (Mainz, 1999).

44 J. Henderson, K. Challis, S. O’Hara, S. McLoughlin, A. Gardner and G. Priestnall, “Experiment and innovation: Early Islamic industry at al-Raqqā, Syria,” *Antiquity* 79 (2005): 130–145.

45 M. Jenkins-Madina, *Raqqā revisited: Ceramics of Ayyubid Syria* (New York, 2006), esp. 176–177; O. Watson, *Ceramics from Islamic Lands: The Al-Sabah Collection* (London, 2004), 56–57, 289; J. Sauvaget, “Tessons de Rakka,” *Ars Islamica* 13 (1948): 31–45.

important indicator for efforts at dating a site. In different ways, similar observations can be made for metal objects, textiles, and other industrial products, such as dyestuffs.

The economic role of the *waqf* within the cities is well established for the late Mamlūk and Ottoman periods. Its role in the Zangīd, Ayyūbid and early Mamlūk periods, however, is less well known because *waqf* charters are almost entirely lacking for those periods. Nevertheless, for the twelfth and thirteenth centuries, the economic role of newly-founded endowments (*waqf*) and of old, large, patrimonies in the cities—for instance, the patrimony of the Umayyad mosque in Damascus—can hardly be overestimated. Such entities could control a considerable share of a city's commercial, industrial, and housing real estate. Investments made in *waqfs*, and the *waqf*'s own later investments, had a tremendous effect on the urban economy. Nūr al-Dīn Maḥmūd seems to be the first to have initiated a conscious, active policy of endowing urban *waqfs* as an economic and fiscal measure to ensure urban growth.<sup>46</sup>

Safe travel between regions and cities was vital for trade and commerce. The improvements made in internal security lowered the costs and risks associated with transportation and the movement of goods, and established incentives for long-distance trade which could be fiscally skimmed by tolls and excises (*mukūs*). In the tenth to eleventh centuries, nomads and unemployed military groups consistently menaced and harassed trade routes and disrupted agriculture. Seljūq policy showed a clear awareness of this reality. For example, the Seljūq governor of Aleppo, Āqsunqur (r. 479–487/1087–1094), took an interest in overland security according to the historian Ibn al-ʿAdīm (d. 660/1262), who mentions that as a consequence of Āqsunqur's care and interest long-distance trade was able to blossom: “merchants (*tujjār*) and importers (*jallabūn*) came to Aleppo from all over.”<sup>47</sup>

## 7 The Fiscal Cycle of State Income and Expenditure

The fiscal cycle links agriculture and the urban economic sector with the government's economic policy. Fiscal policy is a government's primary means of influencing the economy and boosting the state's income. The rulers and their administrations were probably aware of the economic consequences of their fiscal measures. Fiscal extraction also had to be legitimized by the legal system and is in part a reflection of it. Modern scholars have a good understanding of the workings of the early Islamic tax system in Egypt that is based on papyri

46 Heidemann, “Charity and Piety.”

47 Ibn al-ʿAdīm, *Zubda*, 2: 104; Heidemann, *Renaissance*, 332.

and legal literature.<sup>48</sup> Similar sources, however, are missing for the Middle Islamic period for all regions. For Syria and northern Mesopotamia, in particular, we have only a few lists of mostly urban tax yields, as related by Ibn Shaddād (d. 684/1285) on the eve of the Mongol invasion; these can be compared with each other but not with information for the preceding or following years or decades.<sup>49</sup>

Not only the ruler's attention and justice fostered change in agriculture, but also the link to rural taxation. The system of taxation underwent dramatic change, from a mainly cash-based system under the early Islamic Empire to a system based mainly on dues levied in kind in the early part of the Middle Islamic Period, reflecting a retracting monetary system within the economy at large. With regard to Iraq, Northern Mesopotamia, and Syria, the chronicler al-Kātib al-Iṣfahānī (d. 597/1201) witnessed first-hand the beneficial effects of the Seljūq system of *iqṭāʿ* at the end of the sixth/twelfth century:

[In the old 'Abbāsīd days] It was common practice to levy money<sup>50</sup> (*jibāyat al-amwāl*) in the country and then to pay the troops. An *iqṭāʿ* [in this sense] was not known before. Now Nizām al-Mulk [408–485/1018–1092] saw that the money (*amwāl*) did not come from the lands (*bilād*) because they were in a devastated condition (*li-khtilālīhā*) and the levy (*irtifāʿ*) from them was insufficient because of their defectiveness. *Therefore he [Nizām al-Mulk] distributed them [the lands] to the troops as iqṭāʿ and assigned them as source of income (ḥāṣīlan) and as tax yield (irtifāʿan). Their stimulus to cultivate them ('imāratuhā) increased and in the shortest time they were in the best condition of their embellishment [emphasis SH].*<sup>51</sup>

Generally speaking, the Seljūq form of *iqṭāʿ* in western Asia confined the military commander and *muqṭāʿ* to a certain tax district, which he could not exchange for another in a different region, as still seems to have been possible in the Būyid period. In order to increase his influence and importance within

48 For example, see J. B. Simonson, *Studies in the Genesis and Early Development of the Caliphal Taxation System: With special references to circumstances in the Arab peninsula, Egypt and Palestine* (Copenhagen, 1988).

49 Heidemann, *Renaissance*, 319; A.-M. Eddé, *La principauté Ayyoubide d'Alep (579/1183–658/1250)*, (Stuttgart, 1999), 598–600.

50 The term *amwāl* can here be translated as money because it was used in opposition to *iqṭāʿ*, the fiscal return coming mostly in kind, as direct remuneration.

51 Al-Iṣfahānī ibn Bundārī (ca. 7th/13th c.), *Sanā al-Barq al-Shāmī: Ikhtisār al-Faḥḥ ibn 'Alī al-Bundārī min kitāb al-Barq al-Shāmī lil-Imād al-Dīn al-Iṣfahānī*, ed. F. al-Nabarāwī (Cairo, 1979), 58; C. H. Becker, "Steuerpacht und Lehnswesen," in *Islamstudien: Vom Werden und Wesen der islamischen Welt*, vol. 1., ed. C. H. Becker (Leipzig, 1932), 243.

the hierarchy, expressed in terms of military power, he had to increase the agricultural productivity of his tax district, which would allow him to extract a higher tax yield and thus to support more troops.

For the eleventh and twelfth centuries, Baber Johansen argued that Ḥanafī legal scholars denied the state almost all legitimate means of levying of taxes in the urban centers, and that the actual taxation system in place must have been quite different from the one described in legal handbooks, and is best studied through analysis of the narrative sources.<sup>52</sup> Religious and legal scholars and chroniclers, however, have always been keen to criticize imposed taxes and dues that they saw as illegitimate according to *sharīʿa* law.

According to the proposed model of a pre-modern economy, other forms of market-skimming activities on the part of the ruling authority also ought to be taken into account, especially the *waqf* and the monetary system. In the Early Islamic period, institutions that served the Muslim community and the public—such as mosques or urban water supplies—were paid for by tax monies. In the Middle Islamic Period, the urban *waqf* served a similar function to that of taxes; its expenditure often being used as a means of supporting communal institutions. Nūr al-Dīn Maḥmūd and his successors established *waqfs* as an economic policy tool. They invested in and endowed urban commercial real estate from their private property. The proceeds usually went into building projects and to support institutions that served the public, such as *madrāsas*, mosques, water supplies and the maintenance of city walls.

Information on fiscal and economic policies is not explicit but can be found in the narrative sources, for instance:

- Eulogies of rulers relate certain of their economic measures in the guise of acts of piety (*waqfs*) and the exercise of justice (i.e., the abrogation of taxes and dues);<sup>53</sup>
- Reports on tax levies and abrogation, as well as urban conflicts involving these measures. Market taxes (*ḍarāʿib*, *rusūm*, *ḥuqūq al-bayʿ*) and excises (*mukūs*) are not dealt within the compendia of Islamic law and were deemed illegitimate, and subject to criticism and opposition. The frequency of references to the abrogation of certain taxes can be seen as a measure of the frequency of their application.

52 B. Johansen, “*Amwāl Zāhira* and *Amwāl Bāṭina*: Town and countryside as reflected in the tax system of the Ḥanafite school,” in *Studia Arabica et Islamica: Festschrift for Iḥsān ʿAbbās on his sixtieth birthday*, ed. W. al-Qāḍī (Beirut, 1981), 247–263.

53 Y. Lev, “The Social and Economic Policies of Nūr al-Dīn (1146–1174): The Sultan of Syria,” *Der Islam* 81 (2004): 218–242; Heidemann, “Charity and Piety.”

The dynamic effect of taxes and dues within the ‘model’ is difficult to assess from the vantage point of the available narrative sources. The collection of dues and taxes made the authorities aware of the conditions that influenced their yield: if they fostered agriculture, provided safe trade routes, and invested in urban commercial real estate (*waqf*), they received more income through dues and taxes, excises, and tolls. Intra-urban market taxes required a more sophisticated administration than did, for instance, excises (*mukūs*) collected at city gates or district borders. A shift from excises to market dues might indicate the state’s growing ability to penetrate the urban economy as well as the maturity of economic growth. Many intra-urban taxes were levied as *ḍamān*, a ‘guaranteed payment’ to fiscal authorities by those individuals who collected the taxes—in other words, tax-farming. The identity of the tax farmers was rarely made explicit, but analogies to past systems would imply that these tended to be sourced from among the rich merchants of the city or from among the group of respected peers among the taxed group of shopkeepers, artisans and business men.

The overall economic impact of market taxes can be seen as positive even though, as with taxes in general, they were largely unpopular based on their mention in contemporary narrative sources. Excises and tolls prevented long-distance merchants from supplying the city and purchasing its products, whereas market taxes had little effect on demand, and thus little effect on urban economic activity. Specific instances show that some rulers—Nūr al-Dīn Maḥmūd being a prime example—were probably aware of the different economic effects of market dues and excises.<sup>54</sup>

## 8 The Monetary Economy

### 8.1 *Pre-Modern Concepts of Money*

The implementation of a monetary system as the preferred mode of exchange has the ability to link almost all previously mentioned economic fields. Money as a means of coordinating human decisions and economic exchange is a complex social invention. It must always be adjusted to the prevailing economic, political and legal conditions. Seen from another perspective, a monetary system’s design and evolution reveals much about the societies and conditions that create it. Money in the pre-modern world was based on different concepts from today. Today an all-embracing paradigm, within pre-modern societies the use of money as a mode of exchange was far more restricted, being largely

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<sup>54</sup> Heidemann, *Renaissance*, 333.

confined to certain economic sectors. The supply of coins, the physical instrument necessary to facilitate the exchange of goods and services, was usually scarce and formed a bottleneck for economic growth. The absence of coins increased the cost of transactions and thus prevented the economy from growing. In pre-modern times, two distinct currencies always existed side by side to serve the distinct needs of different social classes: high-value money, usually gold (*dīnār*) or almost-pure silver coins (e.g., *dirham sharʿī*, *dirham nuqra*), and petty coinage, usually debased silver billon (e.g., *dirham aswad*) or copper coins (e.g., *fals*, *qirtās*). The first type was usually more stable in its intrinsic value over a long period of time. It was the money of long-distance merchants, state expenditures and hoarding. For measuring economic growth in past societies such high-value coins are less important. Even in a reduced monetary economy such as the Frankish Merovingian state of late antiquity and the early medieval period, gold coins were used and struck.

The second type of money fulfilled the needs for daily purchases and was vital to urban economic growth and, in turn, can be used as an indicator for said growth. Petty coinage was the money of small dealers, artisans, workers (*sūqa* and *bāʿa*) in the urban market (*sūq*) and, of course, the rest of the urban population. Different kinds of sources have to be applied to explore the monetary system, its workings, its reach within society, and its contribution to economic development. The legal function of coinages in circulation has to be analyzed through legal texts. The sequence of petty coins has to be reconstructed by means of numismatics: coin types, overstrikes, and metrology. The reach of a monetary economy within a society, the use of petty coinage in the cities and in rural areas, and the zones of circulation for specific coinage can be determined by coin yields of archaeological excavations from multiple sites in a given region.<sup>55</sup> In addition to the physical means of exchange, the role of the paper-based money substitutes (*khaṭṭ min al-dīwān*, *ḥawāla*, *suftaja*) also must be taken into consideration. No such bills have survived for the period before 1500 but there are hints at the use of such money derivatives in the Geniza documents from Fuṣṭāṭ and other narrative sources. The paper economy eased the bottleneck that the scarce supply of petty coins created.

55 For a discussion of the concept of pre-modern money, and especially of petty coinage in relation to high-value money, see C. M. Cipolla, *Money, Prices and Civilization in the Mediterranean World: Fifth to seventeenth century* (Princeton, 1956). For a discussion of the relation between economic growth and currency, see the case study in S. Heidemann, "Economic Growth and Currency in Ayyūbid Palestine," in *Ayyūbid Jerusalem: The Holy City in context, 1187–1250*, ed. R. Hillenbrand and S. Auld (London, 2009), 276–300.



## 8.2 Legal Sources

The legal system provided the framework that enabled money to function as a means of exchange. Most of the legal literature, however, reflected the well-ordered early Islamic monetary system that resulted from successive reforms enacted through the end of the first/seventh century. The rich legal literature of the sixth/twelfth through seventh/thirteenth centuries provides only a few glimpses of the problems with the monetary system of the time.<sup>56</sup> The legal concept of *ribā*—illegitimate gain, according to *sharī'a* law—is important for the understanding of monetary systems in the Islamic world. The terminology of the legal sources, however, differs from that of the narrative sources. For example, legal texts speak about the *dirham maghshūsh*, the ‘alloyed dirham’—which is likely to cause *ribā*—rather than of the ‘*dirham aswad*’, the ‘black dirham’, which is the vernacular term for the same coin in narrative sources.<sup>57</sup>

## 8.3 Narrative Sources

The identification of coins mentioned in the narrative sources with real coins existing in the trays of numismatic cabinets is a further obstacle. The generic expressions for gold, silver and copper coins are *dīnār*, *dirham* and *fals*. We sometimes find specific expressions in the literary sources and documents, such as *qirṭās* or *dīnār ṣūrī* or the *dīnārs maghribīyya muthaqqaba*, which are difficult to associate with actual coins. From the tenth century onward, many regional coinages and currencies evolved, but the sources still use the above mentioned generic expressions. Only a close observation of archaeological finds from the relevant regions and a thorough knowledge of the sequence of coins of a given mint’s production in the numismatic cabinets can correlate a specific term with an actual coin.

The narrative sources sometimes provide interesting pre-scientific insights into the monetary and economic phenomena of their time. For example: bad coinage was assumed to cause inflation. Such observations should be used with caution, however; as in our times, they just as often might reflect the economic wisdom of the street and not necessarily scholarly inquiries into the matter. The religious scholar Abū Shāma condemned the Frankish *dirham bāqī* as alloyed money causing inflation in his time, while the *dirham bāqī* was actually minted of almost pure silver. Hence, other causes for inflation in the time of Abū Shāma should be considered, such as circulation velocity and a high

56 See R. Brunschvig, “Conceptions monétaires chez les juristes musulmanes (VIII<sup>e</sup>–XIII<sup>e</sup> siècles),” *Arabica* 14 (1967): 113–143; Heidemann, *Renaissance*, 365–369, 375–377, 412–413.

57 Al-Kāsānī (d. 587/1191), *Kitāb al-Badā’i’ al-Ṣanā’i’ fi Ṭarīb al-Sharā’i’*, 7 vols. (Cairo, n.d.; reprint: Beirut, 1986), 5: 196–198.



demand for goods in a wartime situation, rather than resorting to a reflexive condemnation of Frankish money.<sup>58</sup>

#### 8.4 *Reconstructing the Coinage System*

Knowledge of the actual coinage system allows us to draw conclusions about the development of the monetary economy, and provides information needed to evaluate prices and payments mentioned in literary and epigraphic sources.

Typological sequences of coins struck at each mint have to be reconstructed. Petty coin systems developed differently from region to region. The rulers—for example, in Mosul, Mārdīn, and Aleppo—began to recall circulating petty coinage at irregular intervals and issued new copper coins. In doing so, the issuing authorities were able to skim shopkeepers, artisans and others active in the urban markets, whom they would have otherwise found difficult to tax. Wholesalers and merchants engaged in long-distance trade, who dealt mainly in gold and good silver coinage, were not affected by these manipulations of the petty coin system. In places that were remote from major urban centers—such as Maşyāf, in the Ismāʿīlī Mountains—the petty coinage situation is even more difficult to assess due to the scarce supply of coins in the outlying regions. Imitations, the importing of foreign petty coins, coin like pieces of metal and the continued use of elsewhere devalued coins redeemed the shortage in rural areas.<sup>59</sup>

The actual circulation of coins is best reconstructed through observation and analysis of archaeological coin finds from the region under study. Only since the 1980s and 1990s, however, has a thorough observation and publication of archaeological coin finds of the Islamic period begun in the Middle East. Some coins were struck in large quantities, serving as the workhorses for market exchange, while others were rarely seen in circulation and left almost no record in the finds of controlled archaeological excavations. Rare coins in turn are usually overrepresented in numismatic cabinets, while the ubiquitous coins are disproportionally neglected by modern collecting efforts. Economically significant coins can thus be distinguished from comparatively rare and sporadic issues, which had almost no influence on the circulation. Especially the circulation of imported coins has to be taken into account, as

58 Abū Shāma (d. 665/1267), *Tarājim Rijāl al-Qarnayn al-Sādīs wa-l-Sābiʿ*, [*al-Dhayl ʿalā al-Rawḍatayn*], ed. ʿI. al-ʿAṭṭār al-Ḥusaynī (Cairo, 1947; reprint: Beirut, 1974), 211; S. Heidemann, *Das Aleppiner Kalifat (A.D. 1261): vom Ende des Kalifates in Bagdad über Aleppo zu den Restaurationen in Kairo*, (Leiden, 1994), 247–251.

59 S. Heidemann, “Münzfunde aus der Zitadelle von Masyaf/Syrien,” *Numismatisches Nachrichtenblatt* 55 (2006): 74–75.

well as the longevity of certain coinages within one currency zone as compared to another. In the later twelfth century, for instance, a period of economic growth, copper coins—and, for the Crusader states, billon coins—re-emerged at rural sites. This allows for the hypothesis that taxes on agricultural productivity were at that time probably not only levied in kind but also partly in cash and that rural market places were thriving.<sup>60</sup>

### 8.5 *Barter and Paper Economy*

The role and extent of the barter and paper economy is difficult to assess. We can approach these variables by first defining the potential effects they would have on the economic model. A barter economy has in many cases higher information costs than a monetary economy, and is in many respects less efficient. Under certain economic conditions, especially in periods of a shortage of coins in circulation, rural taxation levied in kind would likely be more efficient because it would deny the proprietors of coins an extra profit in the market. Agricultural products could go directly to the army for consumption, instead of being sold on the market by farmers who then would be taxed in cash money, which would then be given to the army for the purchasing of the same provisions.

For transfers of large sums of money, Islamic law provides instruments such as *hawālas* and *suftajas* that mainly serve the needs of long-distance trade. Legal provisions for these instruments are found already in the legal handbooks of the ninth century. Similarly, signed money orders—*tawqī's*—could be drawn by a *muqtā'* on one of his *iqṭā'*-possessions. Orders of payment were called *ruq'ā*, a 'paper note'. In a more general way, Islamic law also provided the possibility to avoid the obstacles inherent to a cash-based economy in a situation in which there was a scarce supply of coins through the *salam* contract.<sup>61</sup> *Ḥawālās*, *suftajas*, *ruq'ās* and *tawqī's* each were important means of exchange that had many distinct advantages; their use, however, was restricted to people who were acquainted with each other, most often small networks of long-distance merchants. Within their social class, precious metal and paper notes could easily be substituted for each other.<sup>62</sup> We can assume that the overall effects of these money substitutes exchanged within small mercantile networks had almost no significant effect on the overall trajectory of the economy.

60 R. Kool, "Coin Circulation in the *villeneuve*s of the Latin Kingdom of Jerusalem: The cases of Parva Mahumeria and Bethgibelin," in *Archaeology and the Crusades*, ed. P. Edbury and S. Kalopissi-Verti (Athens, 2007), 133–156; Heidemann, "Settlement Patterns."

61 B. Johansen, "Le contrat *salam*. Droit et formation du capital dans l'Empire abbasside (XI<sup>e</sup>–XII<sup>e</sup> siècle)," *Annales* 61 (2006): 863–899.

62 Heidemann, *Renaissance*, 359–360.

The importance of small forms of debt certificates, however, is a different case. We know from the Geniza documents—which date to the eleventh and twelfth centuries—that notes for small amounts of credit were used by shop owners and their customers.<sup>63</sup> The Zangīd army passing through a village, handed out handwritten notes to the *raʿīs*, the village chief, that were payable by the treasury (*bi-khaṭṭ min al-dīwān*) for their forage.<sup>64</sup>

Such credit notes must be assumed to have been in widespread use in the *sūq*. This type of a paper-based economy was necessary because the amount of petty coinage in circulation had receded tremendously in comparison to preceding centuries and created a bottleneck for the economy. The growth of urban markets however, with their retail shops, crafts and services, was far more dependent on the ready availability of petty coinage than was long-distance trade or wholesale transactions, in which the costs of transfer, information, and trust were balanced against the value of the goods exchanged. Small-scale credit resulted in transaction costs, such as the need for information about ones customers, the establishing of trust, etc. These costs were high in relation to the value of the goods being moved. A flourishing urban market economy needs to lower the transaction costs for daily purchases if it is to grow beyond certain limits. Lower costs enable a greater number of viable commercial exchanges. The use of anonymous small cash is usually much more cost effective, and thus allows more businesses to be conducted at the same time, even among parties unacquainted with each other. The solutions adopted for the petty coinage problem are important indicators for the growth of urban markets.

## 9 Conclusion: Measuring Decline and Growth—The Dynamic Aspect

Soundings into various scholarly fields and types of literary evidence and material culture have been suggested as a way to probe for and determine factors and variables of a ‘model’ or ‘equation’ of economic growth during the sixth/twelfth through seventh/thirteenth centuries in the Middle East. The growth of cities, especially of medium-sized cities, is assumed as a paradigm indicating economic growth and decline at large.

Primary production—i.e., agriculture—had been the basis of all economic activities in the pre-modern period. The direction of urban economic and agricultural growth can be discerned from the observations of contemporary

63 Goitein, *Med. Soc.*, 1: 240–266.

64 Al-Ṣṣafahānī, in Bundārī, *Tawārīkh*, 58.

or near-contemporary authors who sought to compare current conditions to previous ones. Hard evidence can be seen in expensive and extensive building programs, such as that of Nūr al-Dīn Maḥmūd, and can be documented via archaeological settlement surveys and the number of villages and rural sites. These findings can be corroborated by case studies and excavation of small rural settlements and medium-sized rural towns. Archaeological evidence, narrative sources, and coin finds complement one another. The evolution of the tax system, and the fiscal cycle more broadly, have to be studied carefully, as these were the main levers available to authorities to influence the economy and their own income. The extent and sophistication of the monetary economy and the monetary system can be used as an indicator for the economic development of the urban society that had created it. Legal texts and other narrative sources, the sequences of coin types produced at individual mints, and archaeological coin finds serve as main sources for the urban monetary system.

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