THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

Economic History Student Working Papers No: 035

Intensive Growth in the 11th Century Byzantine Economy: Evidence from Southern Greece and Byzantine Italy

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Submitted as partial fulfilment of the MSc in Economic History 2023-24

December 2024

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Abstract

This paper approaches the discussion of the Byzantine economic revival of the 11th century using a qualitative comparative methodology (S Greece and S Italy) paired with descriptive statistics, and by including the heretofore under-discussed economy of Byzantine Italy. By doing so, it reveals and confirms the economic principles, associated with the Smithian growth framework, underlying said economic revival, namely, extensive economic growth followed by intensive economic growth brought on by demand-induced industrialisation and specialisation. This process was facilitated in the Byzantine empire by elite investment, monetisation and, in latter decades of the 11th century, trade liberalisation. This is evident with both southern Greece and southern Italy's experiences with agricultural (especially olive oil and wine) and sericultural specialisation, and with the development of the southern Greek textile (especially silk) and pottery industries. Thus, the Byzantine economy is confirmed as experiencing sustained Smithian growth in the 11th century.

Michael Psellos had a storied public service career in the imperial courts of Constantinople, the Queen of Cities. He served in many of the Byzantine administrations of the mid 11th century, and while this paper is not about him, it does begin with two anecdotes from his writings in the *Chronographia*. The first anecdote recounts that the empress Eudokia Makrembolitissa, wife of Konstantinos X Doukas (and later Romanos IV Diogenes), summoned the imperial official one evening, in tears. She was distressed at the state of the empire, saying: "You must be aware… of our loss in prestige and of the declining fortunes of our Empire, with wars constantly springing up and barbarian hordes ravaging the whole of the east…"[1] The second story is actually from several years prior to the description of Eudokia and Psellos' interaction, and notes the devotion of the

[1] Michael Psellos, *Fourteen Byzantine Rulers* (E. Sewter, Trans.) (London: Penguin Books, 1966) 348

empress Zoe in offering sacrifices to God. Psellos tells of sacrifices not of "praise, or of thanksgiving, or of penitence, but to the offering of spices and sweet herbs, products of India and Egypt."[2] Far reaching Byzantine exchange allowed the imperial court and elites to source luxury items from as far afield as India, as well as along frequently travelled routes to Egypt. While the second anecdote from Psellos' writings does not speak directly to an expansion of trade, the contextual dichotomy between these two stories is quite revelatory. We find an empire losing territory and experiencing political turmoil in the 11th century. And yet, it is also an empire with increasing economic prosperity, to be shown hereafter, and with established and increasingly vibrant trade. How could an empire facing such geopolitical difficulties also find itself richer than it had been in the recent past? Trade will be central to the answer to this question; it pervades each of the economic principles explored in this paper (italicised below).

The assertion by recent scholarship, such as Angeliki Laiou and her contemporaries,[3] that the economy was indeed growing at this time is taken as fact by this essay. This economic growth was evidently accompanied by, and strengthened by, growing trade, both foreign and domestic. The reasoning is that demographic growth produced extensive economic growth; intensive economic growth, and an accompanying flourishing of trade, followed thanks to increased secondary production responding to increased demand and specialisation, all facilitated by investment, monetisation and trade liberalisation.[4] This hypothesis is not revolutionary in and of itself; much of the aforementioned recent literature adopts these premises as explanatory factors in the Byzantines' economic revival in the 11th century.

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[2] Psellos, *Fourteen Byzantine Rulers*, 249

[3] Angeliki E Laiou and Cécile Morrisson, *The Byzantine Economy* (Cambridge, UK: Cambridge University Press, 2010) 91; David Jacoby, "Venetian commercial expansion in the eastern Mediterranean, 8th-11th centuries," In *Byzantine Trade 4th-12th centuries: The Archaeology of Local, Regional and International Exchange: Papers of the Thirty-Eighth Spring Symposium of Byzantine Studies, St John's College, Oxford, March 2004* (Surrey, UK: 2009) 628; Pamela Armstrong, "Greece in the Eleventh Century," In *Social Change in Town and Country in Eleventh-Century Byzantium*, 133-156. Edited by James Howard-Johnston (Oxford, UK: Oxford University Press, 2020), 133

[4] This intensive growth is otherwise known as Smithian Growth (see Morgan Kelly, "The Dynamics of Smithian Growth," *The Quarterly Journal of Economics* 112, 3 (1997): 939)

We compare here the economic characteristics of Byzantine southern Italy (defined broadly as present-day Puglia and Calabria) and southern Greece (defined as the themes[5] of Hellas and the Peloponnese) to determine likely patterns in the nature and extent of trade in these regions. In doing so, the economic principles which underlie the Byzantine economic expansion of the 11th century, and in particular the expansion of trade across the empire, are revealed or confirmed. These regions were chosen as one, Greece, was a core region of the Byzantine empire while the other, southern Italy, was a peripheral region. This allows for an exploration of the range of regional economic experience in the 11th century. Each principle will be explored in turn, with corresponding evidence from southern Italy and Greece. Structured in this way, this paper addresses two shortcomings in the literature on the Byzantine economy of the period. First, it brings southern Italy into the story of an expanding Byzantine economy rather than treating the region as inconsequential. Second, it takes the comparative approach, an approach that is uncommon in the literature. Before exploring the economic principles, however, a literature review, historical context and a discussion on the primary sources and the methodology of this paper must first be given.

Literature Review

The amount of research that has been carried out on the Byzantine economy of the 11th century is surprisingly vast. This literature can broadly be divided into two categories: empire-wide and geographically/topically specific. These two categories will be discussed in sequence.

Empire-wide

The literature in this category provides a broad overview of the Byzantine economy, though generally not specific to the 11th century. Byzantine economic

[5] "Themes" were administrative and military regions in the Byzantine empire, in use during the 11th century. Hellas corresponds to Attica, Boeotia and Euboea while the Peloponnese theme covers its namesake peninsula.

history heavyweights such as Angeliki Laiou and Cécile Morrisson have written numerous works which address the imperial economy; these are often syntheses of previous research, whether of their own or that of fellow academics. The seminal work by Laiou and Morrisson is aptly titled *The Byzantine Economy*. In it, Laiou and Morrisson dedicate a chapter to the revival of the Byzantine economy in the 10th and 11th centuries.[6] The chapter goes into detail on agriculture and sericulture, secondary production and trade and provides evidence of both extensive growth and intensive growth. Laiou and Morrisson argue that the growth experienced by the Byzantine economy in this period was due to increased demand, especially from the higher classes of society and foreign markets. This demand catalysed investment in secondary production, and subsequent specialisation, especially in southern Greece. In a prior work, Laiou argues that the difficult political situation of the 11th century (which will be described in more detail subsequently) was not particularly detrimental to the empire's economic performance, particularly in regards to trade. Laiou also reinforces the argument in favour of a strong contribution by increased and specialised agricultural output to the expansion of trade and the economy while also noting that trade was made possible in part due to the increased monetisation of the economy.[7]

Another fundamental, if recent, work is a chapter in Chris Wickham's *The Donkey and the Boat*. Wickham, while agreeing with Laiou and Morrisson's assertion that the Byzantine economy of the 11th century was indeed expanding, acknowledges that the written record (i.e. the primary sources) is notably weak and "does not lend itself to a single interpretation without question."[8] He notes that previous scholars were of the view that the Byzantine economy at this period was instead shrinking; this view was overturned by the generation of scholars contemporary to Laiou while using essentially the same written evidence.[9] Crucially, Wickham then argues that it is necessary to include the archaeological record to obtain a

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[6] Laiou & Morrisson, *The Byzantine Economy*, 90-165 (Ch on "Eleventh and twelfth centuries")

[7] Angeliki E Laiou, "Exchange and Trade, Seventh-Twelfth Centuries," In *The Economic History of Byzantium, volume 2*. Edited by Angeliki E Laiou (Washington DC, Dumbarton Oaks, 2001), 737, 739

[8] Chris Wickham, *The Donkey and the Boat* (Oxford, UK: Oxford University Press, 2023), 277.

[9] Wickham, *The Donkey and the Boat*, 277

clear picture of economic trends in the 11th century.[10] Key themes in Wickham's argument as to the sources of the empire's economic expansion are elite demand, investment and, particularly, specialisation. He also argues that the relative lack of concentration of land in the hands of large landowners provided an opportunity for Byzantine growth to be more broad-based. Notably, Wickham chose to specifically exclude southern Italy from his analysis of the Byzantine economy.[11]

Geographic/Topical

Much of the literature available on the 11th century Byzantine economy is of geographic or topical nature. Oftentimes, the literature is not specifically dedicated to an economic analysis; this is especially true of literature broaching individual regions or cities. The question of trade often makes an appearance, but is infrequently the main subject of the literature.

The literature on 11th century Byzantine Italy's economy is not particularly extensive. Generally, a few paragraphs at best are dedicated to the economy (and trade, if it is mentioned at all). One exception is the paper by Tedesco, which addresses the Byzantine Italian economy. It does not, however, provide extensive analysis for the 11th century, preferring to cover the broad strokes of several centuries worth of economic activity.[12] The important recent works on Calabria and Puglia include those by French academics Ghislaine Noyé and Jean-Marie Martin, as well as Paul Arthur.[13] Calabria's 11th century economic history, in terms of what was produced and likely traded, is clearer in the literature than that

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[10] Wickham, *The Donkey and the Boat*, 277

[11] Wickham, *The Donkey and the Boat*, 298

[12] Paolo Tedesco, "Exploring the Economy of Byzantine Italy," *The Journal of Economic History* 45, 2 (2016): 179-193

[13] Ghislaine Noyé, "Byzantine Calabria," In *A Companion to Byzantine Italy*, 434-452. Edited by Salvatore Cosentino (Leiden, Netherlands: Brill, 2021); Ghislaine Noyé, "New Light on the Society of Byzantine Italy," In *Social Change in Town and Country in Eleventh-Century Byzantium*, 157-195. Edited by James Howard-Johnston (Oxford, UK: Oxford University Press, 2020); Jean-Marie Martin, "Byzantine Apulia," In *Byzantium, Venice and the Medieval Adriatic*, 188-202. Edited by Magdalena Skoblar (Cambridge, UK, Cambridge University Press, 2021); Jean-Marie Martin, "Rural Economy: Organization, Exploitation and Resources," In *A Companion to Byzantine Italy*, 279-299. Edited by Salvatore Cosentino (Leiden, Netherlands: Brill, 2021); Paul Arthur, "Byzantine Apulia," In *A Companion to Byzantine Italy*, 453-471. Edited by Salvatore Cosentino (Leiden, Netherlands: Brill, 2021).

of Puglia. Each region had different economic characteristics, owing largely to their differing geographic features. What is clear from the sources is that secondary production was more limited in southern Italy. Southern Greece has a much richer economic history literature by comparison. It is based on both textual and archaeological evidence. The two-volume *The Economic History of Byzantium* contains several works about southern Greece or its cities. Corinth occupies a primordial place in any discussion about the 11th century Greek economy as it is mentioned frequently in texts and has been the subject of extensive archaeological efforts, with Guy Sanders making key contributions to the literature here.[14] Southern Greece's other large cities of the era, namely Thebes, Chalcis/Chalkidia (known as Euripos during Byzantine times, which will be used hereafter to designate this city) and Athens, are also the subject of some scholarly work.[15] Armstrong, Laiou and Ragkou respectively cover the broader southern Greek economic history of the 11th century.[16] Each points to a well integrated and connected economy, with flourishing local and intraregional trade and a strong export market to other regions of the empire and beyond. The texts agree that southern Greece had a high degree of specialisation and secondary production as well as a certain amount of local complementarity, especially as it relates to the silk industry.

[14] Guy D R Sanders, "Excavations at Sparta: The Roman Stoa, 1988-1991 Preliminary Report, Part 1 (c) Medieval Pottery," *The Annual of the British School at Athens* 88 (1993): 251-286; Guy D R Sanders, "Corinth," In *The Economic History of Byzantium, volume 2*, 647-654. Edited by Angeliki E Laiou (Washington DC, Dumbarton Oaks, 2001); Guy D R Sanders, "Recent Developments in the Chronology of Byzantine Corinth." *Corinth* 20 (2003): 385-399.

[15] Maria Kazanaki-Lappa, "Medieval Athens," In *The Economic History of Byzantium, volume 2*, 639-646. Edited by Angeliki E Laiou (Washington DC, Dumbarton Oaks, 2001); Stefania S Skartsis and Nikos D Kontogiannis, "Central Greece in the Middle Byzantine and Late Byzantine periods: Changing patterns of consumption in Thebes and Chalcis," In *Feeding the Byzantine City: The Archaeology of Consumption in the Eastern Mediterranean (ca. 500-1500)*, 195-222. Edited by Joanita Vroom (Turnhout, Belgium, Brepols Publishers, 2023); Joanita Vroom, Elli Tzavella and Giannis Vaxevanis. "Life, work and consumption in Byzantine Chalcis" In *Feeding the Byzantine City: The Archaeology of Consumption in the Eastern Mediterranean (ca. 500-1500)*, 223-260. Edited by Joanita Vroom (Turnhout, Belgium, Brepols Publishers, 2023).

[16] Armstrong, "Greece in the Eleventh Century," 133-156; Angeliki E Laiou, "Regional Networks in the Balkans in the Middle and Late Byzantine Periods," In *Trade and Markets in Byzantium*, 125-146. Edited by Cécile Morrisson (Washington DC, Dumbarton Oaks, 2012); Katerina Ragkou, "The Economic Centrality of Urban Centres in the Medieval Peloponnese: Late 11th–Mid 14th Centuries," *Land* 153, 7 (2018): 1-23.

The topical literature is dominated by Byzantine silk production and trade. David Jacoby's work is essential in this regard, especially as evidence of both specialisation and industry in the Byzantine Empire.[17] Other topical literature includes Lefort on the rural economy and the changes the empire underwent in terms of agriculture; Lefort discards technological progress as having a substantial impact on agricultural productivity, favouring instead extensive growth and elite demand as fuelling change.[18] Authors such as Michael Angold choose to focus instead on the role of Italian, particularly Venetian, merchants in the expansion of trade. Angold, like most who cover the Venetian influence on Byzantine trade expansion, discusses the imperial chrysobulls of 992 and 1082, elucidating on their pivotal nature in liberalising trade in the eastern Mediterranean and opening western European markets to Byzantine goods.[19]

Commentary

Some important themes are consistent throughout the literature on trade in 11th century Byzantine Greece and Italy and the expansion of the empire's economy. While the Byzantine economy remained largely agricultural, there was a significant increase in secondary production. There was also a much higher degree of specialisation than in previous eras in the Byzantine economy. Finally, trade liberalisation facilitated the exchange of Byzantine goods within the empire and in foreign markets. There is good evidence for these themes in southern Greece. The literature says less on the Byzantine Italian experience with these economic principles, something this paper promises to address.

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[17] David Jacoby, "Venetian commercial expansion in the eastern Mediterranean, 8th-11th centuries," 628; David Jacoby, "Byzantine Maritime Trade, 1025-1118," *The Mariner's Mirror* 84, 1 (1998): 3-28

[18] Jacques Lefort, "The Rural Economy, Seventh-Twelfth Centuries," In *The Economic History of Byzantium, volume 1*, 231-310. Edited by Angeliki E Laiou (Washington DC, Dumbarton Oaks, 2001), 236

[19] Michael Angold, "The Venetian Chronicles and Archives as Sources for the History of Byzantium and the Crusades (992-1204)," In *Byzantines and Crusaders in Non-Greek Sources 1025-1204*, 59-94. Edited by Mary Whitby (Oxford, Oxford University Press, 2007), 64, 77

Historical Context

The 11th century in the Byzantine empire began under the reign of Basil II. Basil II had been an effective emperor, expanding and protecting his realm. Figure 1 shows the extent of the empire in 1025, the year Basil II died, spanning much of Anatolia and the southern Balkans, as well as possessions in southern Italy and Crimea. Following Basil's death, the empire entered into a period of frequent political change. The reigns of the emperors (and empresses) were relatively brief, and rulers were often forcibly removed from office. The writings of Michael Psellos and his contemporaries clearly paint the picture of a state beset by its enemies on all sides. Psellos describes, in quite some detail, Romanos IV Diogenes' failings in Anatolia against the Turks. In 1071, Romanos IV was defeated at Manzikert in what later proved to be a significant blow to the Byzantine empire's fortunes.[20] Anna Komnene wrote of later Norman incursions under Robert Guiscard in Illyria while her father, Alexios I Komnenos was engaged against the Turks in Anatolia.[21] The Byzantines were thus fighting both in the Balkans and in Anatolia in the 11th century, oftentimes simultaneously.[22] Byzantine public servant and historian Michael Attaleiates, likely writing in the 1070s, spoke of a "state that, as a result of the malice of those in charge, had declined not a little and was teetering on the brink of a deep precipice of ruin."[23] Whether it was mismanaged or overwhelmed, by the end of the century, the Byzantine realm had been stripped of its holdings in Italy, Crimea and Dalmatia, as well as much of Anatolia. As this paper focuses on Byzantine Italy in the 11th century, it must be noted that the empire's hold on Calabria and Puglia ended in 1071, during the reign of Michael VII Doukas, with the loss of Bari.[24] Attaleiates mentions that raiding occurred "even in Hellas itself" during the reign of Konstantinos X Doukas, a testament to how far the empire had fallen by that time, as the theme of Hellas was a core Byzantine region.[25] Alexios

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[20] Psellos, *Fourteen Byzantine Rulers*, 351-366

[21] Anna Komnene, *The Alexiad* (E. Sewter, Trans.) (London: Penguin Books, 1969), 129

[22] Laiou, "Exchange and Trade, Seventh-Twelfth Centuries," 737

[23] Michael Attaleiates, *The History* (A. Kaldellis & D. Krallis, Trans.) (Cambridge, Mass.: Harvard University Press, 2012), 437

[24] Vera von Falkenhausen, "The South Italian Sources," In *Byzantines and Crusaders in Non-Greek Sources 1025-1204.* Edited by Mary Whitby. Oxford, Oxford University Press, 2007, 96

[25] Attaleiates, *The History*, 153

I, inheriting a much reduced empire, was able to stabilise the empire's condition and even regained some territory while dealing with the First Crusade of 1095.

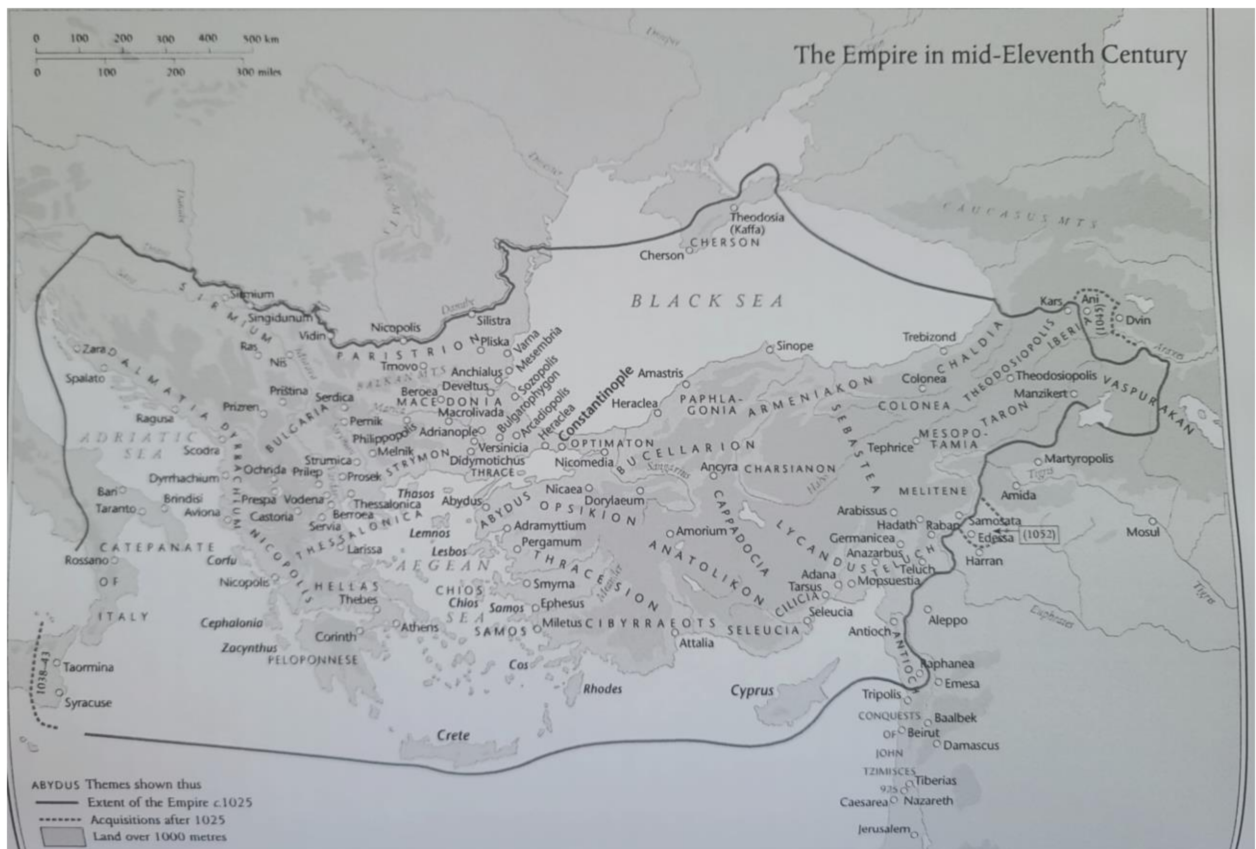
It has been argued that the Byzantine empire experienced significant demographic growth during the 11th century, particularly in its core regions, such as southern Greece. Accompanying this population growth was a marked expansion of the urban population, with Constantinople reaching ~400,000 and Thessaloniki probably around 150,000. In the areas of interest for the present paper, cities such as Corinth and Thebes likely had between 20 and 25,000 inhabitants.[26] Urbanisation was thus a key feature of the 11th century Byzantine empire, with repercussions for its economy and trade.

It is worth noting that, in addition to political and demographic change, the 11th century was also a period of environmental and climatic change in the eastern Mediterranean. Xoplaki et al and Weiberg et al both discuss the climatic conditions of the 11th century, noting that the eastern Mediterranean was warmer and wetter as a result of the Mediaeval Warm Period.[27] This change in climate likely affected agriculture, though the social and economic effects of said change have been understudied.

[26] Laiou & Morrisson, *The Byzantine Economy*, 131

[27] Erika Weiberg et al, "The socio-environmental history of the Peloponnese during the Holocene: Towards an integrated understanding of the past," *Quaternary Science Reviews* 136 (2016), 50; Elena Xoplaki et al, "The Medieval Climate Anomaly and Byzantium: A Review of the Evidence on Climatic Fluctuations, Economic Performance and Societal Change," *Quaternary Science Reviews* 136 (2016), 241

Figure 1: The Byzantine Empire in 1025[28]



Sources & Methodology

Byzantine documents, or documents relating to the empire, dating from the 11th century are rather scarce. Below is a list of the most relevant documents for an economic analysis. While many of these documents are not directly related to trade, they provide a glimpse into the economies of southern Greece and Byzantine Italy, proffering information from which it is possible to construct a narrative on the economic identities of these two regions.

Cadastre of Thebes[29]

This document, which is but a small portion of a much larger piece which has now been lost, contains a series of names and associated properties (45 to be precise),

[28] Paul Magdalino, "The Medieval Empire (780-1204)," In *The Oxford History of Byzantium*. Edited by Cyril Mango (Oxford, UK, Oxford University Press, 2002), 178

[29] Nicolas Svoronos, "Recherches sur le cadastre byzantin et la fiscalité aux XIe et XIIe siècles: le cadastre de Thèbes," *Bulletin de Correspondance Hellénique* 83, 1 (1959): 1-145

alongside a determination of the tax owed by private landowners to the Byzantine state.[30] While primarily a fiscal document, it helpfully provides some insight into the presence of vineyards, mills and other non-cropland characteristics. Many of the properties are located to the northwest of Thebes.[31]

Praktikon of Athens[32]

Similarly to the cadastre, the *praktikon* is an administrative document which enumerates the properties of individuals, the goods associated with those properties, the landowners and their tax rate.[33] This fragment of a praktikon from the region of Attica, likely written in the 11th century, lists pious donations to a convent.[34] The document outlines 69 properties and fortuitously includes the area of most of them. One property, that of Eleusis (Reumata), is excluded from analysis as it is a mix of mountainous terrain and bush, and is several times larger than all the other properties combined.

Inventory (Βρέβιον)[35] of the Metropolitan Church of Reggio[36] and Other Byzantine Italian Sources[37]

The inventory of the Church in Reggio offers the fullest accounting of property amongst the sources discussed in this paper, outlining 754 individual items. While it outlines tenancy, owners and some characteristics of the properties themselves,

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[30] Svoronos, "Recherches sur le cadastre," 8

[31] Svoronos, "Recherches sur le cadastre," 48

[32] Eugenie Granstream, Igor Medvedev & Denise Papachryssanthou, "Fragment d'un praktikon de la région d'Athènes (avant 1204)," *Revue des études byzantines* (1976): 5-44

[33] Granstream, Medvedev & Papachryssanthou, "Fragment d'un praktikon," 7

[34] Granstream, Medvedev & Papachryssanthou, "Fragment d'un praktikon," 8

[35] The term βρέβιον, or brebion, designated an inventory of tax or lands, starting in the 4th century (see Alexander Kazhdan, *The Oxford Dictionary of Byzantium*, online reference: https://www.oxfordreference.com/display/10.1093/acref/9780195046526.001.0001/acref-9780195046526-e-0824?rskey=u7ZhyS&result=822)

[36] Andre Guillou, *Le Brébion de la métropole byzantine de Région* (Citta del Vaticano: Biblioteca Apostolica Vaticana, 1974)

[37] Francesco Carabellese, *Codice Diplomatico Barese, vol 3: Le Pergamene della Cattedrale di Terlizzi (971-1300)* (Bari: Commissione Provinciale di Archeologia e Storia Patria, 1899); Andre Guillou, *Actes de Saint-Nicolas de Donnoso* (Citta del Vaticano: Biblioteca Apostolica Vaticana, 1967); Andre Guillou, *Actes de Saint-Nicodeme de Kellarana* (Citta del Vaticano: Biblioteca Apostolica Vaticana, 1968); Andre Guillou, *La Theotokos de Hagia-Agathe (Oppido) (1050-1064/5)* (Citta del Vaticano: Biblioteca Apostolica Vaticana, 1972); A Guillou, S G Mercati & C Giannelli, *Actes de Saint-Jean-Théristès (1054-1264)* (Citta del Vaticano: Biblioteca Apostolica Vaticana, 1980).

the document rarely includes areas. These properties are all located in Calabria. This source is complemented by documentation outlining donations made to the Church in Calabria: the *Theotokos of Hagia-Agathè* and the archives of Saint Nicholas of Donnoso, Saint Nicodemus of Kellarana and of Saint John Théristès. Of these, the Theotokos is the richest, adding a description of 54 items, 36 of which are relevant (donations and sales of properties). Puglia has significantly less documentation from the 11th century; the *Codice Diplomatico Barese* provides a limited number of entries, directly or indirectly mentioning only 16 properties in relevant documents.

Venetian Trade Documents[38]

Morozzo della Rocca and Lombardo compiled a selection of Venetian trade documents from the 11th to the 13th centuries; 10 of the 27 entries from the 11th century are regarding trade carried out in Byzantine territory, a testament to the importance of the empire to Venetian trade. Angold, Jacoby and Wickham mention these documents in their respective works.[39]

Byzantine Histories & Literature

Works by 11th century Byzantine writers, such as Michael Psellos' *Chronographia*[40] (i.e. Fourteen Byzantine Rulers), Michael Attaleiates' *History*,[41] or Anna Komnene's *Alexiad*[42] occasionally mention trade or the economic condition of the empire.[43] However, these sources are more valuable for the overview they provide of the institutional forces which contribute to economic change. The chrysobulls of 992 and 1082 are both instructive for the insights they glean on

[38] Raimondo Morozzo della Rocca, and Antonino Lombardo. *Documenti del commercio veneziano nei secoli XI-XIII* (Torino: Libraria Italiana, 1940).

[39] Angold, "The Venetian Chronicles," 77; Jacoby, "Venetian commercial expansion in the eastern Mediterranean, 8th-11th centuries," 376-7; Wickham, *The Donkey and the Boat*, 285

[40] Psellos, *Fourteen Byzantine Rulers*

[41] Attaleiates, *The History*

[42] Komnene, *The Alexiad*

[43] For instance, Psellos mentions that spices and sweet herbs were sourced from Egypt and as far away as India (Psellos, *Fourteen Byzantine Rulers*, 239) and Komnene notes that her father granted trade privileges to the Venetians in exchange for military assistance against the Normans in 1082 or 1084 (Komnene, *The Alexiad*, 191)

trade between the empire and Venice.[44] Other Byzantine literature which is of interest is the *Timarion*, a satirical story by an anonymous author of a man's journey to hell and back which alludes to economic activities, likely written in the early 12th century.[45]

Methodology

As mentioned previously, this paper will use a comparative approach, contrasting southern Greece and southern Italy. Descriptive statistics will be drawn from the sources above to determine the economic characteristics of the respective regions, particularly as they relate to agricultural production (these figures are included in Figures 2,3 and 4). The numbers for "Hellas & the Peloponnese" and "Byzantine Italy" are an amalgamation of the statistics for Boeotia and Attica and Calabria and Puglia respectively. The nature of secondary production in these regions will be largely gleaned from the archaeological record. The literature will be used to support the primary sources and the archaeological record.

Is it valid to analyse the Byzantine economy through the lens of modern economic thought? The Byzantine economy was largely agrarian. Not all of its economic activity is included in an organised market. However, while not all economic activity in the empire fell under an "organised market," Byzantine economic actors clearly responded to economic incentives; exchange and money had central functions in the economy. Thus, as stated by Laiou, Carrié and Termin, the Byzantine economy "can indeed be viewed in terms of modern macroeconomic theory."[46]

Theoretical Framework

It is undoubtedly valuable to explore the theories that underpin the foundations of Byzantine economic growth in the 11th century. Intensive growth naturally

[44] Guillaume Saint-Guillain, "Les Vénitiens et l'État byzantin avant le XIIe siècle." In *Économie et société à Byzance (VIIIe-XIIe siècle)*, 255-262. Edited by Sophie Métivier (Paris, Éditions de la Sorbonne, 2007).
[45] Barry Baldwin, *Timarion: Translated with Introduction and Commentary* (Detroit, US: Wayne State University Press, 1984).
[46] Ragkou, "Economic Centrality of Urban Centres," 5-6

implies that per capita incomes and economic production are increasing. This Smithian growth is a product of a widening market and of specialisation, and while subject to the limitations of land availability and fertility, is quite possible in an agrarian society. Under Smithian growth, diverse regions which produce different goods are brought together to form a larger market.[47] As these local markets integrate with each other, growth accelerates, which is complemented by decreasing transportation costs and a deepening and expansion of the transportation network.[48] This integration also cements specialisation and decreasing prices for goods.[49] Kelly argues that Smithian growth can only occur after local markets have reached a critical threshold in transportation links.[50] Interestingly, the Byzantines' fiscal network, which had been well maintained despite declining imperial fortunes, provided a preexisting network for commercial exchanges to flourish when the demographic expansion occurred.[51] This network was based heavily on maritime shipping; it was both effective and comparatively inexpensive.[52]

A few notes on the links between extensive growth, intensive growth and urbanisation are pertinent here. Sufficient levels of agricultural productivity, and certainly an extensive expansion of agricultural productivity, could support an increase in the urban population without detriment to nutritional levels in rural areas.[53] Urbanisation leads to an increase in income per capita (a central aspect of Smithian growth); Wrigley writes that these are intimately linked in an agrarian economy. Employment in the secondary and tertiary sectors will grow as the relative demand for the goods these sectors produce outstrips demand for primary goods. That employment is likely to be concentrated in urban centres.

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[47] Deepak Lal, "Institutional Development and Economic Growth," UCLA Economics Working Paper 782, UCLA Department of Economics, 1998, 10-11
[48] Kelly, "The Dynamics of Smithian Growth," 948-949
[49] Kelly, "The Dynamics of Smithian Growth," 941; While specialisation can be measured (and will be in this paper), Byzantine prices in this time period remain shrouded in mystery due to a lack of sources.
[50] Kelly, "The Dynamics of Smithian Growth," 939-940
[51] Wickham, *The Donkey and the Boat*, 351
[52] Magdalino, "The Medieval Empire (780-1204)," 197
[53] E Anthony Wrigley, "Urban Growth and Agricultural Change: England and the Continent in the Early Modern Period," *Journal of Interdisciplinary History* 15, 4 (1985), 684

This process is circular; urban centres invest in agriculture and specialisation, intensifying economic growth.[54] Urbanisation occurring in the empire has previously been noted in the Historical Context.

Considering the characteristics associated with the Smithian growth framework, it can be said with confidence that the 11th century Byzantine economy was indeed experiencing Smithian growth. It is thus through that framework which this paper examines the question of how an empire facing geopolitical difficulties could also find itself better off.

The Foundations of Growth

Basil II's efforts to stabilise and grow the empire resulted in an environment favourable to demographic and, consequently, economic growth.[55] While this was not maintained in all regions due to a worsening geopolitical situation, many regions did continue to benefit from at least a somewhat favourable environment for growth. Helpfully for demographic and economic growth, the empire retained its most fertile and urbanised territories (such as southern Greece) throughout the century.[56] The administrative division (theme) of Hellas offers the best evidence for demographic growth, with Harvey's analysis of the Cadastre of Thebes suggesting that increased population led to smaller property sizes and more intensive soil exploitation.[57] Many settlements were founded in the Peloponnese during the century, and marginal lands, often in non-habitation exploitation, began to be exploited as agricultural activity intensified in fertile areas.[58] Boeotia demonstrated similar increases.[59] Demographic growth was not limited to Greece, however, with Calabria and Puglia also experiencing an increase in population.

[54] Wrigley, "Urban Growth and Agricultural Change," 683; for the Peloponnese specifically: Ragkou, "Economic Centrality of Urban Centres," 6
[55] Cécile Morrisson, "'One Money for an Empire': Achievements and Limitations of Byzantium's Currency from Constantine the Great to the Fall of Constantinople," In *From the Athenian Tetradrachm to the Euro*, 24-41 (United Kingdom: Taylor & Francis Group, 2007), 35
[56] Laiou, "Exchange and Trade, Seventh-Twelfth Centuries," 737
[57] Lefort, "The Rural Economy, Seventh-Twelfth Centuries," 247
[58] Armstrong, "Greece in the Eleventh Century," 133, 138
[59] Armstrong, "Greece in the Eleventh Century," 139

This led to surplus production from these regions' estates, which increasingly benefitted from imperial tax privileges.[60] Laiou and Morrisson state that in a preindustrial economy, an increase in population is necessary for increased agricultural production. This argument is quite intuitive. In a preindustrial economy, land must be worked by people after all. They continued by explaining that this results in extensive growth, as more people work more land to produce more. Whether this extensive growth leads to increased productivity is reliant on additional factors.[61] The Byzantine demographic expansion of the 11th century was certainly accompanied by extensive economic growth, as land used for agriculture expanded and settlements followed suit. Irmen notes that extensive growth is a precursor to intensive growth, and that the two feed each other to produce sustained economic growth.[62] With the foundation of extensive growth in place, the Byzantine economy was ready for intensive growth.

There is significant evidence, both textual and especially archaeological, that the Byzantine economy was indeed experiencing intensive growth. For instance, in the 11th century, Athens witnessed the building of 40 churches, many from private funding, a significant amount of construction for the period, notable particularly for being privately funded. This itself is a testament to the growth and prosperity of Athens, and the urbanisation of southern Greece, between the reigns of Basil II and Alexios I.[63] With this urbanisation came an increase in the population not engaged in agriculture; a population that needed to be fed. This population was engaged in government, the aristocracy and the army, in ecclesiastical roles, and in industry and commerce.[64] The cities of the empire, and Constantinople in particular, seem to have had little problem in provisioning themselves. While likely written in the 12th century, the humorous poems of Ptochoprodromos suggest that Constantinople was awash with a variety of wine, meat and cheese

[60] Tedesco, "Exploring the Economy of Byzantine Italy," 190
[61] Laiou & Morrisson, *The Byzantine Economy*, 91
[62] Andreas Irmen, "Extensive and intensive economic growth in a neoclassical framework," *Journal of Economic Dynamics and Control* 29 (2005), 1428.
[63] Armstrong, "Greece in the Eleventh Century," 141; Kazanaki-Lappa, "Medieval Athens," 639
[64] Lefort, "The Rural Economy, Seventh-Twelfth Centuries, 271

from the empire's provinces.[65] In the cities, elite demand created a "considerable market for agricultural goods" such as wine, cheese, fish and manufactured goods such as silk.[66]

The broad consensus in Byzantine economic history literature (see Literature Review) is that this urban demand led to rural prosperity and demand for industrial goods. The evidence from the archaeological record (significant amounts of glazed ceramics found in rural areas, for instance) certainly confirms this, as will be shown later.[67] The combined urban and rural demand for agricultural and finished goods, the intensification of agriculture and an increase in the economy's monetisation all contributed to an increase in domestic trade. Laiou notes, quite rightly, that this relationship was far from linear; the different elements of growth supported each other to intensify the Byzantine economy's expansion and the expansion of trade activity.[68] Thus, the 11th century was a period of prosperity for the Byzantine empire as its agriculture, industries and artistic output flourished.[69] Indeed, in the second half of that century, it outperformed nearby Egypt. Wickham notes that the Byzantine economy's growth was "remarkably fast."[70] It is noteworthy that this increased prosperity was not equally distributed in all regions of the empire. The areas around the Aegean Sea, including Hellas and the Peloponnese, were particularly prosperous.[71] Per capita incomes in the empire were greater than two centuries prior, even for peasants.[72]

Specialisation

How was the Byzantine empire able to achieve such prosperity and intensive growth? Part of the answer lies in specialisation. The discussion on specialisation

[65] Laiou, "Exchange and Trade, Seventh-Twelfth Centuries," 739
[66] Laiou & Morrisson, *The Byzantine Economy,* 113-114
[67] Laiou, "Regional Networks in Late Byzantine Periods," 142-3
[68] Laiou, "Exchange and Trade, Seventh-Twelfth Centuries," 739
[69] Armstrong, "Greece in the Eleventh Century," 133
[70] Wickham, *The Donkey and the Boat*, 353
[71] Magdalino, "The Medieval Empire (780-1204)," 197-198
[72] Laiou & Morrisson, *The Byzantine Economy,* 111

will be divided into 3 separate sections: agriculture, industry and regional complementarity.

Agriculture

It is in our discussion on agricultural specialisation that the textual evidence is especially pertinent. These sources suffer from certain shortcomings, which are necessary to broach here prior to any discussion of the insights they reveal. The nature of the documents occasionally leads to misleading data. Two examples are of particular note in this regard. The first is the Cadastre of Thebes, which, as a tax document, is not as rich in information on land use as, say, the inventory of the Church in Calabria. In Figure 2, Boeotia (the region to which the data from the Cadastre corresponds) has no properties with olive trees. Considering the importance of olives and olive oil as an agricultural product, this is unlikely. Thus, the figure for Hellas and the Peloponnese is an underestimation of the presence of olive groves on Greek properties. This underestimation is compounded by the lack of documentary evidence from the olive-rich Peloponnese. The second issue with the available documents is their representativity. The Byzantine Italian sources are the best illustration of this issue. Puglia has 16 properties in the sources studied here, hardly a representative sample for an entire region. This is made worse by the fact that nearly all of these are donations to the Church. Vineyards, as Figure 3 shows, form part of 81% of properties in Puglia. This is most definitely an overestimation which finds its roots in the fact that many donations made to religious entities included the best lands, among which vineyards and olive groves figured prominently.[73] While the documentary sources are imperfect for the purposes of this analysis, they nevertheless provide valuable data on specialisation, data which is complemented by secondary research and archaeological evidence.

The coastal regions, which include a large portion of southern Greece and Italy, were the main drivers of the empire's growth in agricultural production. They were

[73] Alice-Mary Talbot, "An Introduction to Byzantine Monasticism," *Illinois Classical Studies* 12, 2 (1987), 230

fertile and easily accessible, which evidently favoured the strengthening of an integrated commercial market in agricultural goods.[74] The evidence from this region points strongly to crop specialisation, even when controlled for geographic and climatic conditions.[75] It should also be noted that Byzantine farms generally engaged in polyculture;[76] an analysis of the Calabrian, and even the Attican data shows this to be quite true, as properties are often noted as having variety in their productive capacity. Three crops stand out specifically for their commercial value and for the degree of regional specialisation: olive oil, wine and raw silk. These will be discussed in turn.

A staple for the Byzantine diet, olives and olive oil were grown in both southern Greece and Byzantine Italy. Olive oil was an especially important product in the Peloponnese, around Sparta and Lakonia.[77] Peloponnese olive oil most probably supplied Constantinople, but there is also significant evidence that it found its way on merchant ships to many other destinations within the empire and abroad.[78] The archaeological evidence points to olive oil presses, production and exportation in and from Corinth, Lakedaimon and Monemvasia, all on the Peloponnesian peninsula.[79] While olive oil production seems to have been concentrated in southern Greece, it was also produced in the southern Italian peninsula.[80] This dynamic is confirmed by an analysis of the documentary evidence. Figure 2 highlights that a significant minority (20%) of properties in Attica, the area in and around Athens, had olive trees. As noted previously, it is unlikely that the Boeotian properties listed in the Cadastre of Thebes had no olive trees, meaning that the 12% of properties in Hellas which have olive trees is a floor. Considering the non-documentary evidence, the Peloponnese likely had a significantly greater proportion of properties with an olive grove. All evidence,

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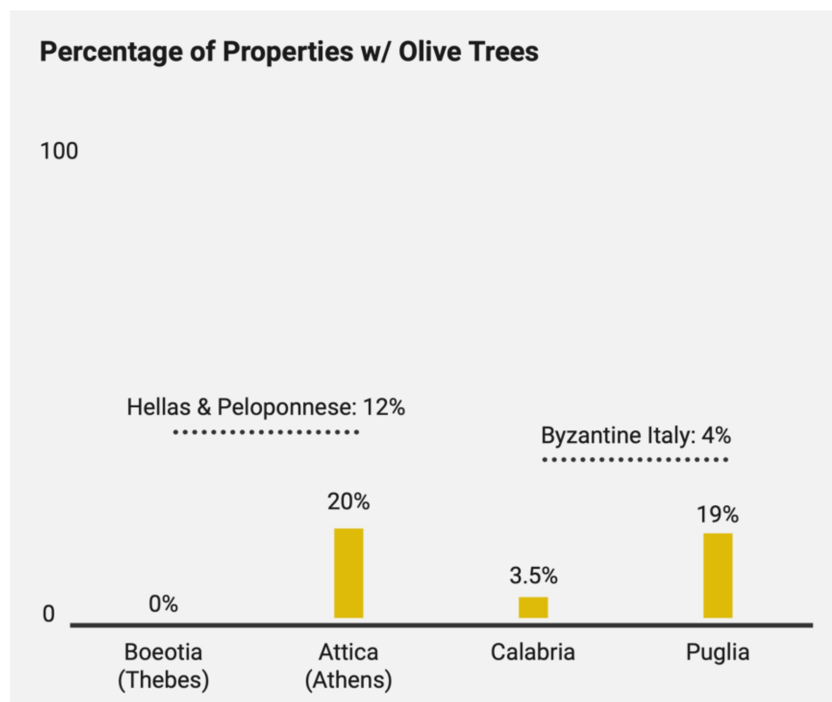
[74] Lefort, "Rural Economy, Seventh-Twelfth Centuries," 234
[75] Laiou & Morrisson, *The Byzantine Economy,* 97
[76] Laiou & Morrisson, *The Byzantine Economy,* 112
[77] Laiou, "Regional Networks in Late Byzantine Periods," 138; Lefort, "The Rural Economy, Seventh-Twelfth Centuries," 248
[78] Wickham, *The Donkey and the Boat*, 329
[79] Armstrong, "Greece in the Eleventh Century," 145; Ragkou, "The Economic Centrality of Urban Centres," 16
[80] Noyé, "Society of Byzantine Italy," 194

archaeological and documentary, point to specialisation in olive oil in southern Greece.

Even with the caveats described above, the data on Byzantine Italian olive tree presence, and by association, olive oil production, is probably fairly representative. The large sample size (802) and sample nature (ecclesiastical properties, which would be among those most likely to have olive trees) for Calabria gives us a high degree of confidence in the productive capacity of the region in the 11th century. Olive tree presence is limited in Calabria, at only 3.5%. Due to its limestone, soil quality and climate, Puglia is quite favourable to olive production;[81] this is borne out by the data, with 19% of properties having olive trees. Overall, however, southern Italy likely lagged behind southern Greece, with only 4% of Byzantine Italian church properties having olive trees compared to 12% of properties in Hellas.

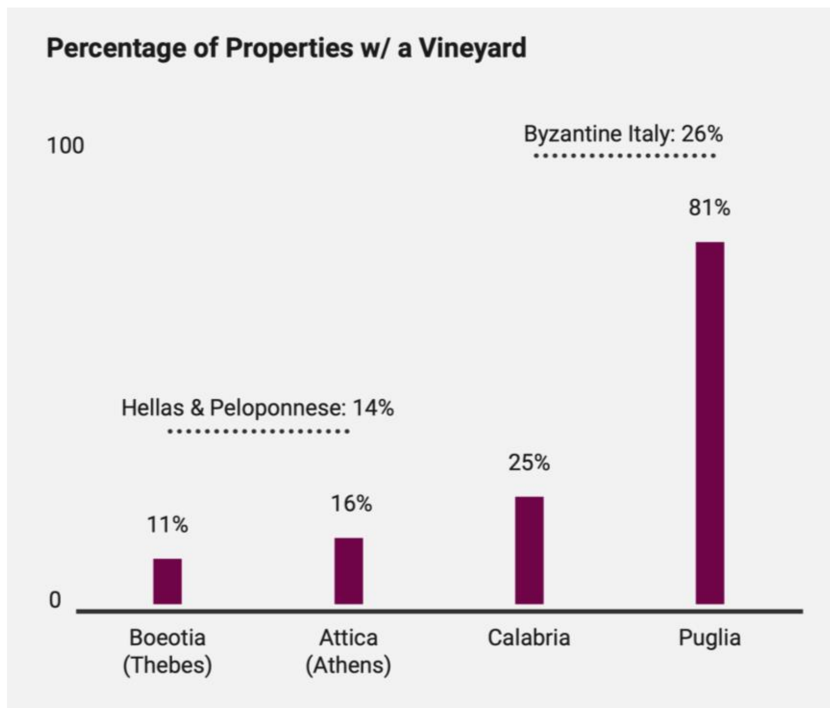
Figure 2: Percentage of Properties with Olive Trees, 11th Century



[81] Martin, "Rural Economy: Organization, Exploitation and Resources," 291

The tax and ecclesiastical property documents also provide good detail on the presence of vineyards in the regions they cover. While the Puglian data is most definitely an overestimation, it does point to the large estates, and especially ecclesiastical estates, having significant vineyards. These large estates are the most likely to produce an exportable surplus.[82] The Calabrian data essentially confirms this trend in southern Italy. For instance, property given to the church at Saint Nicodemus of Kellarana by Nikodemos Kondos in 1023 or 1024 contained a vineyard of 4,000 sq feet, and came with two large "barrels" for the production of wine.[83] It is acquisitions like this that most likely led to 25% of the Calabrian properties having a vineyard, as demonstrated in Figure 3.

Figure 3: Percentage of Properties with a Vineyard, 11th Century



While a significant proportion of properties had vineyards, these tended to be rather small.[84] Indeed, while the Praktikon of Athens lists 16% of properties as having a vineyard, they only represented 7% of land use as a proportion of area.[85]

[82] Tedesco, "Exploring the Economy of Byzantine Italy," 190
[83] Guillou, *Actes de Saint-Nicodème de Kellarana*, 20
[84] Lefort, "Rural Economy, Seventh-Twelfth Centuries," 254
[85] Author's calculations

Despite this, these vineyards played an important role in the peasant economy.[86] Laiou and Morrisson note that the high degree of commercialisation of wine, and the profitability of making wine, was only possible thanks to the presence of an integrated market.[87] The archaeological record is quite revelatory in regards to wine production. A significant number of amphorae have been found in Boeotia, pointing to a well integrated and developed regional market for goods such as wine, honey and olive oil with Thebes and Euripos at its heart.[88] Gunsenin 3 amphorae of the type produced in Hellas have been found in large quantities near Euripos and Euboea and in shipwrecks across the Aegean. It is thus evident that Euboea was producing wine for export.[89] By the 12th century, the region had built a reputation for excellent wine, with cleric and writer Michael Choniates extolling the virtues of Euboean wine.[90] Euripos and Euboea were not the only places exporting wine. Corinth also acted as a commercial centre for its region's wine production; evidence of wine presses have been found for this time period in the city as well as in Athens.[91]

The archaeological evidence, especially the presence and distribution of Gunsenin 3 amphorae, speak to the prosperity and specialisation of Hellas and the Peloponnese. These two regions produced wine and olive oil for export within the Byzantine empire and without. This prosperity was not limited to urban areas or the upper classes. As agricultural production, including in cash-crops such as grapes (for wine) and olives for oil, intensified, Byzantine farmers in rural areas also prospered.[92]

Mulberry leaves are used to feed the silkworms which produce raw silk. The presence of mulberry trees would thus suggest production of raw silk. Byzantine

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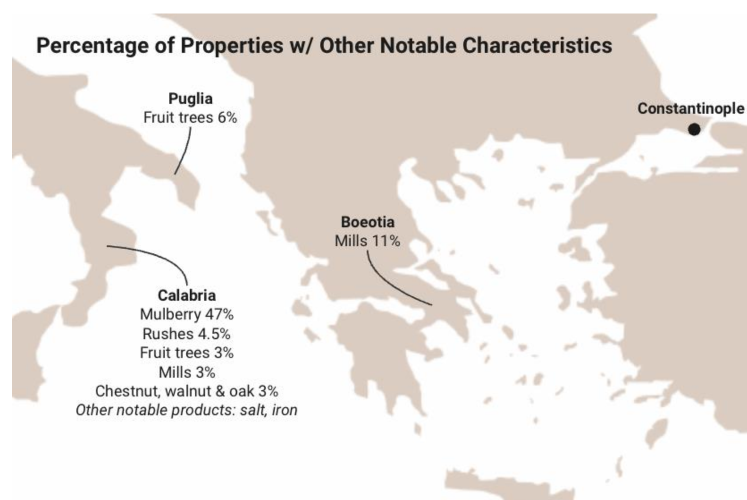
[86] Lefort, "Rural Economy, Seventh-Twelfth Centuries," 255
[87] Laiou & Morrisson, *The Byzantine Economy*, 110
[88] Skartsis & Kontogiannis, "Central Greece in Byzantine Periods," 197
[89] Vroom, Tzavella & Vaxevanis, "Life, work and consumption in Byzantine Chalcis," 232
[90] Lefort, "Rural Economy, Seventh-Twelfth Centuries," 249
[91] Armstrong, "Greece in the Eleventh Century," 145; Wickham, *The Donkey and the Boat*, 330
[92] Laiou, "Regional Networks in Late Byzantine Periods," 138; Wickham, *The Donkey and the Boat*, 330

Italy, and Calabria specifically, was a major centre of raw silk production. While southern Greece also produced raw silk, it acted more as an industrial centre for the production of silk garments, which will be discussed hereafter. The production of raw silk was quite a lucrative, if labour-intensive, activity for peasant households and large estates alike.[93] The βρέβιον of Reggio and some of the donations listed in the various acts clearly demonstrate that Calabria was indeed a centre of raw silk production. The aggregate of the ecclesiastical properties of Calabria suggest that 47% had mulberry trees (see Figure 4). Just the monastic properties listed in the surviving documents had over 8,000 mulberry trees, which Martin posits is "comparatively important."[94] The region's growing conditions were ideal for these trees, and the Byzantines fully exploited that fact.

Wine, olive oil and raw silk were evidently not the only things growing in the empire's Greek and Italian provinces. The documentary evidence (see Figure 4 for other significant primary production items) shows that quite a variety of products were grown and produced in both southern Greece and Italy.

<ins>Figure 4: Percentage of Properties with Other Notable Characteristics, 11th Century</ins>



[93] Durak, "Commercial Constantinople," 173; Laiou & Morrisson, *The Byzantine Economy*, 110; Lefort, "Rural Economy, Seventh-Twelfth Centuries," 249; Maria Mundell Mango, "Commerce," In *The Oxford History of Byzantium*, 163-168. Edited by Cyril Mango (Oxford, UK, Oxford University Press, 2002), 168

[94] Martin, "Rural Economy: Organization, Exploitation and Resources," 292

Byzantine peasants and large estates grew fruit trees and had gardens to supplement their main crops such as wheat and barley. Southern Italy in particular is noted as livestock-growing area;[95] Calabria is singled out as ideal for chestnuts (interestingly, mulberry trees and chestnut trees have rather similar climatic and soil needs).[96] Perhaps due to the nature of the sources available, the Calabrian economy's diversity is quite apparent. The region's resource wealth is, however, often overlooked when its economy is discussed. Calabria had, in addition to wine, grain and raw silk, significant mineral deposits and timber.[97] Salt is attested to in the βρέβιον, as is (likely) iron. Indeed, one of the areas specifically mentioned in the documentary sources, Stilo, has iron ore deposits. The use of the word καμινια in the records for the monastery of Agios-Petros of Saltoi suggests that it possessed an iron furnace.[98] Rushes (4.5% of properties) and flax are also among the products of Byzantine Calabria. Rushes could be used in weaving various items such as baskets and mats, while flax could be used to make linen, used to make clothing.[99]

Armstrong notes the significance of the increase in agricultural production and of specialisation for the intensification of economic activity in the Byzantine empire, specifically for southern Greece:

> "The eleventh century was the time when the cities of Greece sustained growth in their urban fabric through an upsurge in trade of agricultural commodities such as wine, oil and silk, which in turn fed light industry."[100]

It is thus to industry that this paper now turns.

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[95] Laiou & Morrisson, *The Byzantine Economy*, 97
[96] Lefort, "Rural Economy, Seventh-Twelfth Centuries," 249; Martin, "Rural Economy: Organization, Exploitation and Resources," 291-292
[97] Noyé, "Byzantine Calabria," 434, 449; Noyé, "Society in Byzantine Italy," 194
[98] Guillou, *Brébion de Région*, 22
[99] Martin, "Rural Economy: Organization, Exploitation and Resources," 292; Talbot, "An Introduction to Byzantine Monasticism," 231, 235
[100] Armstrong, "Greece in the Eleventh Century," 143

Industry

With the intensification of Byzantine economic activity, the cities of southern Greece began to witness industrialisation on a commercial scale.[101] Two industrial products in particular provide both ample evidence and insight into the industrialisation occurring in Byzantine cities in the 11th century: textiles (especially silk) and pottery.

Textiles from Hellas and the Peloponnese had already built a good reputation when the 12th century came around.

In the satirical work *Timarion*, the namesake character goes to the fair of St Demetrios in Thessaloniki, a place where goods from all over the empire could be bought and sold. The protagonist notes particularly that "there were all kinds of men's and women's clothes both woven and spun [...] from Boeotia and the Peloponnese."[102] Another story from Ptochoprodromos (also 12th century) tells of a wife who chidded her husband for not buying her silk clothing. The story suggests that the family was sufficiently well off to afford occasional expenses such as this one, but that silk garments were not particularly accessible items. By the early 12th century, silk was thus a semi-luxury product as opposed to being a purely luxury item as it had been in the past.[103] The reputation and semi-accessibility apparent in these stories did not appear overnight. Instead, they were the product of an increasingly prosperous and productive textile industry in the cities of southern Greece (Thebes and Corinth especially, as well as Athens and Euripos).[104]

Wickham suggests that the lucrative silk industry that would flourish in southern Greece starting in the 11th century found its roots in linen production. Linen was, after all, quite a common material for clothing and would have provided the necessary knowhow for Theban and Corinthian textile workers to be successful in

[101] Armstrong, "Greece in the Eleventh Century," 152
[102] Baldwin, "Timarion," 46
[103] Wickham, *The Donkey and the Boat*, 325
[104] Skartsis & Kontogiannis, "Central Greece in Byzantine Periods," 201

transitioning to silk. He notes that the same centres of linen production also became centres of silk production.[105]

While accepting Wickham's position that focusing too closely on the silk industry is misguided, as it likely only formed a small part of the Byzantine economy (even for the regions this paper is analysing),[106] the silk industry provides valuable insight into the industrialisation and specialisation of the 11th century economy. We have already noted that demand was increasing in the Byzantine economy of this period. Urban and even rural elites and the middle-class were able to engage in more conspicuous consumption, consumption that included the purchase of silk products. With the liberalisation of silk exports, Venetian and Byzantine merchants were able to carry silks from this region to western Europe, Egypt and even Muslim Anatolia. Demand, foreign and domestic, stimulated silk production in southern Greek cities.[107] Of these cities, Thebes was the most prominent in silk production, producing the high quality purple silk, and, most probably, silks of lower value. The Venetian documentation points to trade connected with Thebes a decade before the 1082 chrysobull. Would silk have been on the ships coming back to Venice from Thebes in 1071? Very possibly.[108] Helpfully, Thebes was located near to a significant concentration of shellfish, from which the murex used to dye silk was obtained, and is within a short distance of Athens, which also had a significant murex industry.[109] It was also located amid a fertile valley in which mulberry trees could grow; consequently, the area also produced raw silk.[110] The Cadastre of Thebes does not capture this reality, for much the same reason it fails to accurately depict olive tree presence in Boeotia. Theban factories employed both men and women, a rare mention of women in the workplace from this time period.[111] Silk production was labour intensive, and provided good quality

[105] Wickham, *The Donkey and the Boat*, 326, 328
[106] Wickham, *The Donkey and the Boat*, 325
[107] Laiou, "Exchange and Trade, Seventh-Twelfth Centuries," 739; Laiou & Morrisson, *The Byzantine Economy*, 126
[108] Laiou, "Regional Networks in Late Byzantine Periods," 139
[109] Skartsis & Kontogiannis, "Central Greece in Byzantine Periods," 201; Laiou & Morrisson, *The Byzantine Economy*, 127
[110] Laiou & Morrisson, *The Byzantine Economy*, 127
[111] Laiou & Morrisson, *The Byzantine Economy*, 127

employment to a growing urban population. It also required infrastructure development, spurring investment in Byzantine cities (this will further be discussed in a subsequent section).[112] Demand for silk from an increasingly wealthy aristocracy and middle-class, proximity to key inputs and investment in infrastructure made southern Greece a region highly specialised in silk production, so much so that in the 11th and 12th centuries, it was Europe's primary centre of silk production.[113]

The growth in wealth that has already been attested to in previous sections allowed for increased demand for pottery items, demand which evolved to more closely resemble the consumption patterns of the upper classes amongst all segments of the population.[114] The archaeological record of amphorae and glazed pottery certainly suggests that pottery was being manufactured at a much greater scale for use not only in transporting agricultural products such as wine and olive oil, but that luxury manufactures (i.e. glazed pottery) were becoming more plentiful and accessible.[115] This phenomena seems to have been generalised across our area of study. Red-bodied ware was produced in Corinth in the 11th century; shipwrecks attest that it was sufficiently popular to be exported from the city.[116] The city's potters had been producing simpler wares for some time prior, accumulating the necessary skills and network to ensure their success once demand for higher-quality wares increased. Corinth was also a centre of glass production, with two archaeological finds dating to the 11th and 12th centuries.[117] The Corinthian ceramic industry was thus primed for a dominant position in the trade of luxury and semi-luxury items in the Aegean (see Figure 5 for distribution of measles ware).[118] Indeed, the quantity and quality of items manufactured in the city grew significantly in the 11th century; it also displayed quite a variety.[119] In

[112] Armstrong, "Greece in the Eleventh Century," 150
[113] Laiou, "Exchange and Trade, Seventh-Twelfth Centuries," 739; Magdalino, "The Medieval Empire (780-1204)," 198
[114] Sanders, "Corinth," 651
[115] Skartsis & Kontogiannis, "Central Greece in Byzantine Periods," 197
[116] Mundell Mango, "Commerce," 165
[117] Laiou & Morrisson, *The Byzantine Economy*, 123
[118] Wickham, *The Donkey and the Boat*, 311
[119] Laiou & Morrisson, *The Byzantine Economy*, 117

this, Corinth was joined by Euripos, southern Greece's second important centre for pottery production. There was some degree of specialisation between these two major production centres; measles ware was more of a Corinthian product while sgraffito was more common in Euripos.[120]

Figure 5: Distribution of Measles Ware[121]

Euripos was definitely a provider for its region, Boeotia, as attested by the number of amphorae finds (Gunsenin 3 especially) which can trace their manufacture back to the city. The city was also well integrated into the wider inter-regional and empire-wide trade in pottery and possessed what Vroom, Tzavella and Vaxevanis call a "capacity [for] cross-craft production," meaning that glass and metal ware, among others, were also produced there.[122] Thebes, and the region surrounding it, provides ample evidence for increased demand in pottery, increased quality, and

[120] Wickham, *The Donkey and the Boat*, 312
[121] Ragkou, "The Economic Centrality of Urban Centres," 8
[122] Armstrong, "Greece in the Eleventh Century," 146; Laiou, "Regional Networks in Late Byzantine Periods," 138; Vroom, Tzavella & Vaxevanis, "Life, work and consumption in Byzantine Chalcis," 238

differentiation consistent with specialisation.[123] Rural areas, with their newfound prosperity had little trouble provisioning themselves with amphorae to export their agricultural products. Ceramic finds highlight the fact that wealthy and middle-class peasants had ready access to pottery items.[124] Whether traded to, or manufactured there, the area around Sparta also has Gunsenin 3 finds. This seems natural considering that the region was a significant exporter of olive oil.[125] The evidence (i.e. presence of kilns and wasters) points to at least small-scale ceramic production here as well as in Athens.[126] Thus, the story told by the ceramics industry in 11th century Hellas and the Peloponnese is one of a growing market of "relatively discriminating buyers" who wanted higher-quality wares, leading to product differentiation, specialisation, and the widespread diffusion of ceramics across the increasingly prosperous region.[127]

What of Calabria and Puglia? This section has, up to this point, exclusively detailed industry in southern Greece. It is perhaps telling that the Byzantine Italian regions are relatively absent from the "industry" narrative. Laiou and Morrisson highlight the fact that Puglia was a centre of production for pottery,[128] and we have already highlighted Calabria's iron furnace(s). Is it possible that Calabria and Puglia specialised in primary production rather than secondary production? That is the position this paper takes. Byzantine Italy acted mostly as a supplier of primary goods for the empire and for its foreign neighbours.

Regional Complementarity & Concluding Commentary on Specialisation

Southern Greece was a particularly well integrated market. The different areas of the region displayed a significant level of complementarity.[129] Thebes acted as the administrative centre for Hellas, and anchored the silk industry. Euripos produced

[123] Laiou, "Regional Networks in Late Byzantine Periods," 142-3
[124] Laiou, "Regional Networks in Late Byzantine Periods," 138; Wickham, *The Donkey and the Boat*, 330
[125] Laiou, "Regional Networks in Late Byzantine Periods," 138
[126] Laiou & Morrisson, *The Byzantine Economy*, 118
[127] Laiou & Morrisson, *The Byzantine Economy*, 121
[128] Laiou & Morrisson, *The Byzantine Economy*, 118
[129] Laiou, "Regional Networks in Late Byzantine Periods," 141

ceramics and acted as a focal point for the region's agricultural exports.[130] Corinth, as has been shown, acted as both a centre for industrial production and agricultural export. Athens was particularly important in providing inputs for the silk industry, with purple dye from murex shellfish as well as the soap used to clean the silk during the production process.[131] This complementarity, and the specialisation of different cities and their hinterlands, resulted in significant volumes of trade within the region, and the intensive growth southern Greece experienced in the 11th century.

It is thus amply evident that both Hellas & the Peloponnese and Byzantine Italy displayed significant levels of agricultural and industrial specialisation. This was fostered by growing demand from a growing and urbanising population with more wealth than in previous decades. Specialisation in turn fed the Byzantine economy's intensive growth, a growth that defied declining geopolitical fortunes.

Investment & Monetisation

The archaeological and documentary record paint a picture of an increasingly monetised economy. This is true of both regions studied in this paper. In Puglia, there are significant coin finds dating from this period. Whether this was from trade or imperial salaries is up for debate, but that monetisation was occurring is evident.[132] In southern Greece, coins frequently accompany 11th century archaeological finds and are a testament to increased commercial activity.[133] This is especially true as a large proportion of these coins are low-denomination.[134] Morrisson credits Basil II's geopolitical achievements in creating a good environment for increased state expenditures as the source of the Byzantine economy's increased monetisation and trade as liquidity was injected into the

[130] Skartsis & Kontogiannis, "Central Greece in Byzantine Periods," 204
[131] Kazanaki-Lappa, "Medieval Athens," 644-645; Laiou, "Regional Networks in Late Byzantine Periods," 140
[132] Martin, "Byzantine Apulia," 198
[133] Armstrong, "Greece in the Eleventh-Century," 145
[134] Sanders, "Chronology of Byzantine Corinth," 397

market.[135] While that is perhaps too narrow of a view for this paper, it is certainly true that the increased monetisation of the economy would have made trade far easier. Of note is that trade and manufacturing probably produced as much as 40% of the empire's monetised GNP. Trade thus visibly became a key driver of the economy's growth, giving it additional complexity as it integrated Byzantium's regional markets into an empire-wide market, and as it connected Byzantine production with expanding foreign demand.[136]

In addition to monetisation, investment played an important role in stimulating the Byzantine economy, both for its industrialisation and specialisation, and for trade. The myth has long been that the Byzantine upper classes disregarded commercial activity. This is a misguided view. While it is true that much of the aristocracy was composed of landowners, the Byzantine elite was not above investing in commercial enterprise. The life of Michael Attaleiates, and those of his contemporaries, confirms this. While not within the region of study, Attaleiates' properties in Constantinople and cities near it show an aristocrat heavily invested in shops and workshops.[137] The available documentary sources also point to capital investment in agriculture, specifically in labour-saving mills. While these investments were mainly made by the landowning elite, peasants too invested in mills.[138] Figure 4 illustrates how Boeotia had a greater percentage of properties with a mill (11%) than Calabria (3%). While just a theory, it perhaps indicates that either more capital was available to the Boeotian landowners who may have been better off than the Calabrian ecclesiastical landowners considering the region's industrialisation or that Boeotia's industrialisation and consequent shift in labour concentration by sector meant that landowners had more interest in investing in labour-saving mills. In any event, there is demonstrable investment in the 11th century by Byzantine landowners into productivity-enhancing agricultural infrastructure.

[135] Morrisson, "One Money for an Empire," 37
[136] Laiou & Morrisson, *The Byzantine Economy*, 136
[137] Wickham, *The Donkey and the Boat*, 320
[138] Laiou & Morrisson, *The Byzantine Economy*, 99

The silk industry is another example of investment in the 11th century Byzantine empire. Local landowners in southern Greece were initially involved in the production of raw silk. Their increasing wealth was channelled into expanding the region's silk manufacturing industry, which, as we have already seen, was quite successful.[139] The silk industry even attracted investment from the Byzantine elite. Kalopetros Xanthos was not only a senior imperial official in the court of Alexios I, but was also a silk merchant. Interestingly, in the early 12th century, he provided a loan to a Venetian merchant for a voyage to Egypt to sell silk.[140] While dating from the early 12th century, Xanthos' story nonetheless provides valuable information on investment in the Byzantine economy. The elite were clearly willing to front the capital for commercial and industrial activity, and to do so for trade as well.

The Venetians & Trade Liberalisation

As the empire faced Robert Gusicard's Normans, emperor Alexios I Komnenos felt compelled to call upon the Venetians for naval assistance in 1082.[141] The principal reward for their assistance would be the elimination of customs duties or taxes on trade done by Venetian merchants in the empire's territory.[142] Venice's trade privileges do not originate here, however, as Basil II had granted Venetian merchants certain concessions back in 992. Basil's administration reduced the customs duties and taxes payable by Venetian merchants to 17 solidi, down from 30.[143] This, it seems, was insufficient to stimulate a significant increase in trade by the Venetians.[144] That the 1082 chrysobull promulgated by Alexios I had an effect is more apparent, especially when considering Figure 6, which shows a marked increase in Venetian activity, as measured by the number and frequency of contracts.

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[139] Armstrong, "Greece in the Eleventh-Century," 149; Laiou & Morrisson, *The Byzantine Economy*, 129-130

[140] Wickham, *The Donkey and the Boat*, 321-322

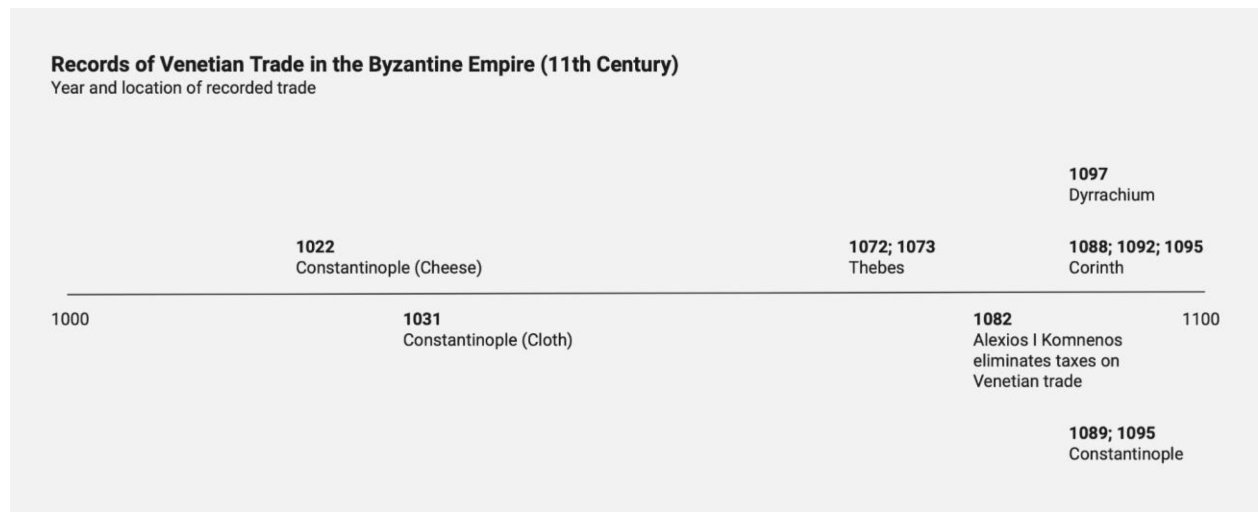
[141] Angold, "The Venetian Chronicles", 64

[142] Komnene, *The Alexiad*, 191

[143] Saint-Guillain, "Les Vénitiens et l'Etat byzantin," 258

[144] Laiou & Morrison, *The Byzantine Economy*, 144

Figure 6: Records of Venetian Trade in the Byzantine Empire (11th Century)[145]



From 1082, the Venetians no longer had to pay the *kommerikon* (10% customs tax) or any other tax,[146] and obtained the right to settle in Constantinople and other important trading centres without limits on the time they could reside there or where they could do business. Additionally, trade restrictions on heretofore prohibited items (high quality silks, salt, iron, war materials, gold and silver) were lifted at around this time.[147] The Byzantine government had, up to this point, strictly regulated trade within the empire through the *kommerikiaroi*; the administrative capacity of this institution weakened as the empire's geopolitical and fiscal fortunes declined.[148] Overall, a much more liberal trade environment prevailed in the late 11th century.

Laiou posits that if the Venetians negotiated specifically for certain cities to be included in the 1082 chrysobull they must have been of some importance to them.[149] In the themes of Hellas and the Peloponnese, the Venetians specifically mentioned Athens, Corinth, Euripos, Koroni, Methoni, Nafplio and Thebes.[150]

[145] Constructed from contracts included in Morozzo della Rocca & Lombardo, *Documenti del commercio veneziano nei secoli XI-XIII*
[146] These are listed in the 1082 chrysobull as the *pakton, xylokalamon, limeniatikon, poriatikon, kaniskion, exaphollon* and *archonitikion*. Saint-Guillain, "Les Vénitiens et l'Etat byzantin," 261.
[147] Angold, "The Venetian Chronicles", 64; Laiou & Morrison, *The Byzantine Economy*, 144
[148] Angold, "The Venetian Chronicles", 66
[149] Laiou, "Regional Networks in Late Byzantine Periods," 134
[150] Saint-Guillain, "Les Vénitiens et l'Etat byzantin," 261

Together, these account for just over a fifth of cities specifically named. Byzantine Italy is evidently not mentioned here due to its take over by the Normans just ten years prior. The documents confirm the importance of this region to Venetian trade, as both Thebes and Corinth are mentioned during the 11th century, with half of documents being about these two cities.[151] What attracted the Venetians to Hellas and the Peloponnese? While neither the treaties nor the documents shed any light on what was traded, it can be assumed that the major products of these two regions, already described previously, are what Venetian ships carried. Laiou points specifically to silk from Thebes as being a particularly good candidate for export.[152]

Can Venetian trading be credited with the expansion of economic activity and trade in the 11th century? The story from Figure 6 suggests that the Venetians were latecomers to this economic expansion. While they figured prominently in trade between the empire and the Italian peninsula even prior to the trade liberalisation of the 1080s, this trade was not particularly voluminous due to a lack of western capital. Furthermore, their participation in intra-imperial trade was negligible prior to the 1082 chrysobull. They only began to make inroads into that market after 1082, when the Byzantine economy was already in expansion mode.[153] Even with these inroads, the Venetians likely still favoured the main trading corridors and centres.[154] The Latin word "taxegio", designating a convoy, is used on multiple occasions in the documents. These convoys were often instructed specifically to only stop for food and water provisions as they ran the major trading routes.[155] In domestic trade, the Venetians transported silk from Thebes or olive oil from the Peloponnese to Constantinople, confirming a predilection for the major routes.[156] Their trade helped to distribute the Byzantines' growing agricultural and industrial wealth, especially contributing to

[151] Morozzo della Rocca & Lombardo, *Documenti del commercio veneziano nei secoli XI-XIII*
[152] Laiou, "Regional Networks in Late Byzantine Periods," 139
[153] Angold, "The Venetian Chronicles", 64
[154] Wickham, *The Donkey and the Boat*, 336
[155] Wickham, *The Donkey and the Boat*, 333, 335
[156] Durak, "Commercial Constantinople," 173

the prosperity of southern Greek urban centres.[157] The surviving documents are indicative of this, with one contract being for cheese (1022) and the other for cloth (1031) from Constantinople. It must be noted that the Venetians' commerce was spurred on by increasing demand for luxury and semi-luxury items in western Europe, of which the Byzantines were major producers.[158] Traditionally strong trade routes in the eastern Mediterranean (with Egypt for instance), were maintained during this period.[159]

It is difficult to gauge the exact level of Venetian participation in, or indeed the Byzantine share of, both domestic and foreign trade in the Byzantine Empire. There are two principal reasons for this: a lack of Byzantine and/or Greek language documentation on trade, and the incertitude regarding the ownership of shipwrecks. While the documentation available from Venice reveals that the Venetians traded amongst themselves,[160] they must have also traded with Byzantine merchants. There are, unfortunately, no surviving documents to support this. Angold suggests that this is due to a lack of incentive to preserve documents written in Greek by the Venetian authorities.[161] The location of shipwrecks sheds some light on trade routes , but by no means represent the full extent of trading networks in the empire (see Appendix 1). They unfortunately also cannot provide any information on the relative importance of Venetian or Byzantine shipping in trading activity in the empire. Jacoby cautions against using Byzantine ceramics and/or artefacts as proxies for shares in trade as these may have been carried by foreign merchants or reused as containers (this is especially true for amphorae).[162]

Thus, trade liberalisation cannot take significant credit for catalysing the expansion in Byzantine trade, and indeed, the expansion of the Byzantine economy, in the 11th century. Trade liberalisation certainly allowed the Venetians

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[157] Angold, "The Venetian Chronicles", 65; Magdalino, "The Medieval Empire (780-1204)," 198
[158] Ragkou, "Economic Centrality of Urban Centres," 1
[159] Laiou & Morrisson, *The Byzantine Economy*, 142-3
[160] Morozzo della Rocca & Lombardo, *Documenti del commercio veneziano nei secoli XI-XIII*
[161] Angold, "The Venetian Chronicles", 77
[162] Jacoby, "Byzantine Maritime Trade, 1025-1118," 628

to increase their participation in Byzantine commerce, a commerce which had already been benefiting from internal expansion.[163] While it has been noted that the privileges afforded the Venetians may have undermined Byzantine merchants' share of trade within the empire, the present paper concurs with Wickham in concluding that this is exaggerated.[164] As has been mentioned, the Venetians, at least in the 11th century, largely stuck to major domestic and international shipping routes. A testament to the importance of southern Greece to the empire's economic growth is that the Venetians numbered the cities of this region among the major centres for both domestic and foreign trade. Ultimately, the likely story is that trade liberalisation cemented an expansion in trade that was already underway, providing additional evidence that the Byzantine economy was experiencing sustained growth in the 11th century.

Conclusion

Writing in the late 18th century about the fall of the Roman Empire, and extending his overview of history to include some Byzantine history, Edward Gibbon dismissed the Byzantine empire and its history as a "tale of weakness and misery."[165] The alleged words of empress Eudokia Makrembolitissa cited at the beginning of this work, of the empire's "loss of prestige and… declining fortunes"[166] would, at face value, suggest that perhaps some credence should be lent to Gibbon's assessment of the empire. For some time, Byzantinists studying the economy of the 11th century certainly took this view.[167] This paper joins with the voices of other recent scholars[168] to correct that misguided opinion. In reality, the Byzantine economy of the 11th century was vibrant, growing and increasingly prosperous. This paper has elucidated on the economic principles behind this economic revival. Trade is intricately linked with each of these economic principles and was crucial in enabling intensive growth.

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[163] Laiou & Morrisson, *The Byzantine Economy*, 146
[164] Wickham, *The Donkey and the Boat*, 332
[165] Steven Runciman, "Gibbon and Byzantium," *Daedalus* 105, 3 (1976), 103
[166] Psellos, *Fourteen Byzantine Rulers*, 348
[167] See Literature Review
[168] See Literature Review

The present work adds to the study of Byzantine economic history in a few ways. The first is methodological: comparison, especially between regions of the empire, is rarely used to glean insights on the economic performance of the empire. This methodology should be replicated to tell a fuller story of the empire's economy in this time period, with the theme of Makedonia (i.e. northern Greece) being of particular interest.[169] The second is the inclusion of Byzantine Italy as important to the understanding of the Byzantine economy. The region has generally not been the focus of much attention from economic historians, an unfortunate reality this paper has sought to correct. Noyé chides scholars for viewing the relationship between southern Italy and the empire from a centre versus periphery point of view.[170] It is then perhaps ironic that a paper that has treated Calabria and Puglia as important to the understanding of the Byzantine economy takes the opposite view to Noyé; it acknowledges southern Italy's peripheral role in the empire's economy and political history. However, using this region is still useful in revealing the key economic principles, and, interestingly, confirms Laiou's assertion that the loss of peripheral regions may not have been particularly detrimental to the imperial economy.[171] Furthermore, the paper confirms the importance of Smithian growth to the dynamics of mediaeval European economies by using the Byzantine context.

We return to a question that has come up multiple times in this paper: how was the Byzantine empire, an empire facing geopolitical reversals for much of the 11th century, able to experience an economic revival? How to reconcile political reversal with economic revival? The half-century reign of Basil II (976-1025) provided the security and stability necessary for demographic growth, and thus, extensive growth. While this continued in the empire's core regions around the Aegean Sea (such as southern Greece) after his reign and through the turmoil of the mid-11th century, archaeological evidence points to this continuing in peripheral regions such as southern Italy as well. With extensive growth, and as per the Smithian

[169] Laiou, "Regional Networks in Late Byzantine Periods," 145-146
[170] Noyé, "Society of Byzantine Italy," 157
[171] Laiou, "Exchange and Trade, Seventh-Twelfth Centuries," 737

growth framework, there came increased demand for secondary goods of higher quality. Byzantine cities grew as their industry and secondary production flourished on the back of this demand, which came not only from the urban population and the elite, but even came from significant numbers of the rural peasantry. Areas increasingly specialised in the production of certain goods: Thebes had a large silk industry while Calabria produced raw silk for export, Corinth and Euripos specialised in pottery and the trade of agricultural goods and the Peloponnese found its advantage in olive oil… The Byzantine elite was able and willing to invest capital allowing for increased production and trade. The trade of all these products was facilitated by the greater level of monetisation in the economy as well as, in the latter decades of the century, a freer trading environment brought on by changes in regulations and trade liberalisation, with Venetian merchants benefitting from this in particular.

Hellas, the Peloponnese, Calabria and Puglia formed part of a highly integrated Byzantine domestic market, with trade in a variety of manufactured and agricultural products. The nature of the economies of these regions, their development and the goods they produced and traded, as evidenced by both the documentary and archaeological record, all point to an economy experiencing sustained Smithian growth. The story they tell is crucial to understanding the dynamics of intensive growth in a mediaeval context. Ultimately, that is the value in studying 11th century Byzantine economic history: it makes bare the underlying economic principles behind sustained growth in a pre-industrial and agrarian society.

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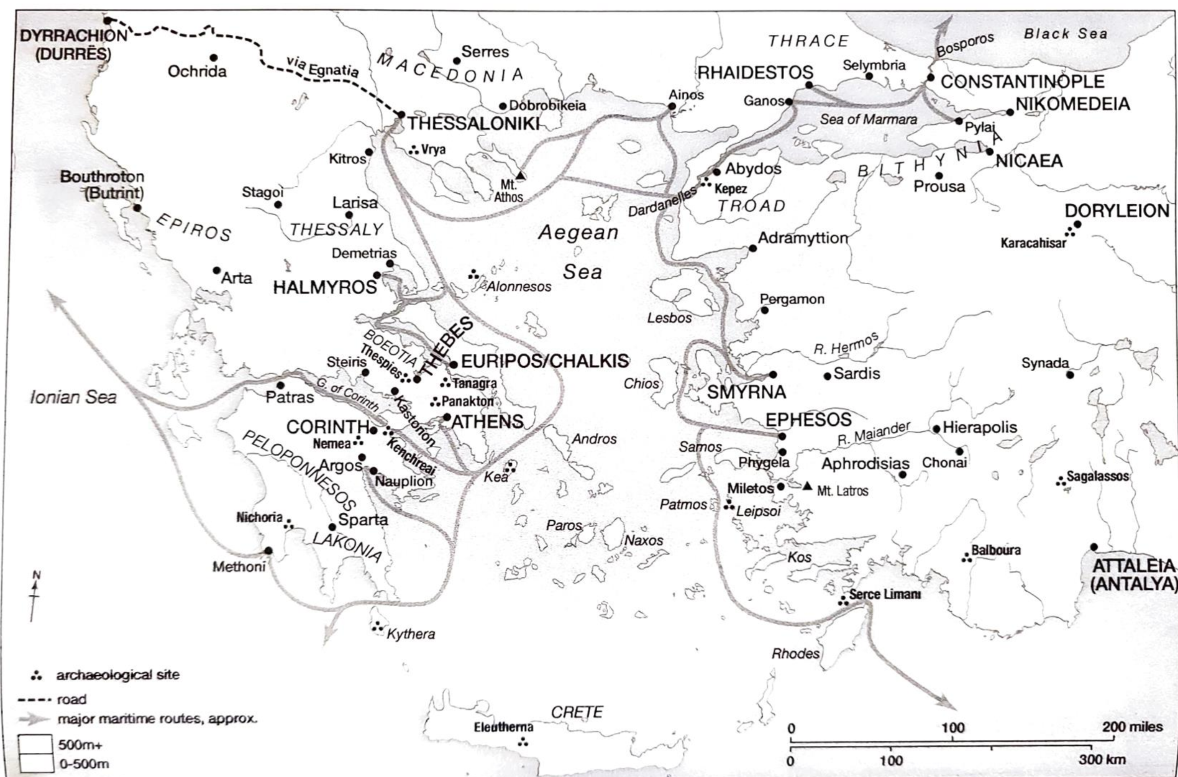
Appendix

Appendix 1: Trading Routes

Major Trading Routes in the Byzantine Aegean:[172]



Map 14. The Aegean Sea: Trade routes, 1000

Southern Greece, while acting as a major centre of production, also imported quite a bit. The evidence regarding imported pottery from Constantinople is ample.[173] It should also be noted that Byzantine Italy, especially Calabria, had extensive trading with Muslim Sicily, which accounts for the use of the *tari* as a unit of account in the inventory of the Metropolitan Church of Reggio.[174] Amphorae from Ganos, near Constantinople, has been found in Otranto, a major Puglian port of the 11th century.[175] It is thus possible to conclude that the Byzantines' trading network was complex and well integrated.

[172] Wickham, *The Donkey and the Boat*, xxviii
[173] Sanders, "Excavations at Sparta," 268; Sanders, "Chronology of Byzantine Corinth," 390-391
[174] Guillou, *Brébion de Région*, 17; Noyé, "Society in Byzantine Italy," 194
[175] Vroom, "Thinking of Linking," 62