

ECONOMIC FOUNDATIONS IN ANTIQUITY: A HISTORICAL EXPLORATION OF ANCIENT EGYPT

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Abstract: This exhaustive investigation thoroughly explores the complex economic history of ancient Egypt, providing insights into key components such as agriculture, trade, and inflation. The study illuminates the significant roles played by the state system in molding the economic landscape of this ancient civilization. The economic structure of ancient Egypt demonstrated a profound interdependence with its imperial dynastic structure and advanced technological capabilities.

Agriculture, serving as the foundational element, prospered through the annual Nile inundation, yielding crucial surpluses essential for trade and taxation. Trade, predominantly conducted through barter, played a substantial role in the economic framework, with documented instances of both state-controlled and private enterprises. A central focus of the article entails a thorough exploration of the widespread social and economic ramifications resulting from inflation, particularly the noteworthy Ptolemaic copper inflation.

This nuanced analysis significantly contributes to a deeper comprehension of the intricacies inherent in the economic history of ancient Egypt. Precisely, the article conscientiously recognizes the significance of surplus generation and the assessment of labor value. It underscores the pivotal roles undertaken by both governmental and private entities in molding the economic dynamics of ancient Egypt.

Keywords: Economic history, ancient Egypt, ancient civilization, agricultural history, trade, ancient inflation.

INTRODUCTION

The economic structure of ancient Egypt represented a sophisticated and multifaceted system, exerting a pivotal influence on the cultural and political fabric of the civilization. The economic system of ancient Egypt, distinguished for its meticulous planning and execution, played a pivotal role in advancing the civilization to extraordinary heights. Rooted in the adept utilization of natural elements, this economic structure operated within the framework of a highly organized bureaucracy. This administrative system not only supervised but also intricately regulated every facet of economic activities with unparalleled precision, significantly contributing to the overall success and grandeur of the ancient Egyptian civilization. The adeptness of the ancient Egyptian economy stood as a pinnacle achievement, ultimately contributing to the ascent

of one of the greatest civilizations in the ancient world. Various factors played essential roles in shaping the economy of Ancient Egypt, including population dynamics, efficient management of diverse sources of wealth, agricultural practices, trade activities, monetary systems, and a taxation framework. The financial stability of the nation hinged significantly on the revenues generated through a combination of paid taxes and labor contributions. The ancient Egyptian state held a central position in economic affairs, actively participating in resource allocation, economic planning, and the redistribution of wealth. These activities were conducted within the framework of pharaonic authority, emphasizing the significant role of the ruling authority in shaping economic policies.

The inaugural systematic exploration of Ancient Egyptian history is credited to Sir Flinders Petrie, an English Egyptologist. Widely recognized as a trailblazer in archaeology, he pioneered systematic methodologies and advocated for the preservation of artifacts, significantly shaping the discipline [Britannica (1998)]. In his book, Petrie (1894) emerged as one of the pioneering figures to extensively examine the wealth of ancient Egyptian history, contributing valuable insights to the understanding of this ancient civilization. Exploring the cultural legacy of Ancient Egypt, which left extensive written, pictorial, and archaeological records spanning fields such as medicine, mathematics, and astronomy, is a captivating endeavor that necessitates a willingness to transcend modern perspectives and embrace the conceptual frameworks of a civilization that flourished over 3000 years ago [Imhausen (2024)].

In tandem with Mesopotamia, Egypt represents one of the earliest and consequential focal points in economic history. Hasanov's (2023a) scholarly investigation explores the genesis of the economy in Sumer, while the ancient Egyptian economic system stands out as a prominent and methodically organized illustration of classical antiquity, flourishing during a concurrent timeframe. The historical trajectory of ancient Egyptian civilization extends over an extensive span of approximately four thousand years, encompassing the inception of the initial structured state apparatus and continuing through periods marked by the diffusion of Christianity and Islam. Undoubtedly, the existence and development of a history, statehood, and global empire of such magnitude necessitate foundational economic factors that underpin advancements in science, technology, engineering, culture, and art. Muhs's (2016a) notable contribution to the study of the ancient Egyptian economy is evident in his comprehensive examination of its economic history, spanning the entire pharaonic period and employing a New Institutional Economics approach. This work stands as a pivotal contribution within the scientific exploration of the subject and the argument asserts that the ancient Egyptian state actively promoted an increasingly widespread and sophisticated use of writing throughout time, primarily for the purpose of more effectively documenting and controlling economic exchanges. In his book, he asserts that a thorough examination of the ancient Egyptian economy, spanning approximately from 3000 BCE to 30 BCE, reveals notable correlations between the evolution of social and legal institutions and concurrent shifts in the economic domain. The widespread adoption of writing for the documentation and enforcement of revenue collection and property transfers, along with the increasing use of metallic currency for redistribution and exchange, influenced the transaction costs associated with various allocation systems. This, in turn, resulted in a reconfiguration of the boundaries between different modes of distribution within the ancient Egyptian economy. Such observations

underscore the validity of employing an institutional approach for a comprehensive understanding of the economic dynamics in ancient Egypt. Despite being highlighted by Janssen almost four decades ago, economic history in Egyptology remains relatively overlooked. However, a profound understanding of the dynamics of Pharaonic history inevitably requires a comprehensive exploration of the country's economic structure and its evolutionary patterns. In response, there has been a notable surge in economic studies within Egyptology in recent years, with scholars such as Warburton (2000), Cooney (2007), Zingarelli (2010), and Warden (2014) contributing to this emerging wave of research.

MAIN PART

The foundation of the Egyptian state is traced to around 3000 B.C., marked by the rule of Menes, the monarch credited with the unification of Egypt. Thriving along the Nile for millennia, Ancient Egypt featured a unique economic system intricately linked to an imperial dynastic structure, setting it apart from contemporaneous societies; the civilization's advanced technological prowess, evident in monumental constructions, not only left an enduring legacy but also facilitated artifact preservation, enriching the scholarly exploration of its history. Two significant distinctions between ancient Egypt and Mesopotamia are evident:

1. The Egyptian dynastic system exhibited more grandeur, featuring a large-scale political-economic structure of imperial nature from its inception, in contrast to the early city-states in Mesopotamia.

2. Technological prowess in Egypt surpassed that of Mesopotamia, leaving contemporary scholars with unanswered questions about the construction of the magnificent monuments. Engineering and architecture in Egypt were more advanced, making the remnants of ancient Egyptian history more accessible and facilitating more in-depth studies.

The commencement of Egypt's written history is situated around 3400 to 3200 BCE, aligning with the development of hieroglyphic script attributed to the Naqada Culture III [Mark (2009a)]. The research aims to offer a thorough examination of the economic dynamics in ancient Egypt, taking a comprehensive approach that delves into the interconnected realms of agriculture, trade practices, and monetary relations. Within the economic framework of ancient Egypt during the latter half of the 2nd millennium B.C., a variety of economic systems coexisted. Primarily, attention is directed towards the king's private economic domain, commonly identified as the "domain." Given the king's specific role within the state, he concurrently presided over an additional economic structure - the institutionalized state economy [Bogoslovsky (1987)]. The Royal Palace and Temple were central institutions that wielded significant influence over the economy and society of ancient Egypt. The Royal Palace played a key role in governance, administration, and the consolidation of political power, while the Temple held importance in religious rituals, wealth management, and community welfare. Together, these institutions played integral roles in shaping the intricate socio-economic structure of ancient Egyptian civilization [Warburton (1997)].

Agriculture

In ancient Egypt, as in Mesopotamia, foundational economic relationships took shape during the Neolithic Revolution, with agriculture serving as the primary catalyst for the nascent economic structure. Before 6000 BCE, nomadic hunter-gatherers, attracted to the advantageous conditions offered by the Nile River Valley, initiated the process of settlement in this area [Mark (2009b)]. The fertile lands along the Nile River and its surroundings provided conducive conditions for agricultural practices, allowing for irrigation across a substantial expanse of cultivable land spanning 12,500 square miles between Upper and Lower Egypt [Starr (1991): 53]. This particular corridor marked the initial foundation for the economic development of ancient Egypt. Beyond the primary economy, it is accurate to assert that the intricate fabric of the ancient Egyptian civilization, in its entirety, was profoundly shaped by the developments within this economic sphere. The paramount strength of the Egyptian civilization lay in its possession of a sustainable agricultural system and effective environmental management practices [Hughes (1992)]. The inception of agriculture ushered in a surplus of food, enabling the evolution of cities, monumental cultural edifices, and the establishment of a state bureaucracy.

Central to the Egyptian economic framework was agriculture, profoundly shaped by the annual Nile inundation. This natural phenomenon endowed the fertile river valley with copious harvests, encompassing vital crops like wheat, barley, and a diverse array of fruits and vegetables. Beyond providing for basic sustenance, this agricultural surplus played a pivotal role in facilitating trade and generating tax revenue, highlighting its foundational significance in the economic dynamics of ancient Egypt. The coexistence of extensive state-managed farms alongside smaller, privately owned plots added layers of complexity to the agricultural landscape, emphasizing the nuanced and diversified nature of economic activities in this ancient civilization.

Central to the economic and societal dynamics of ancient Egypt, agriculture emerged as a fundamental cornerstone, intricately woven into the daily lives of its inhabitants. The Egyptians exhibited a remarkable proficiency in cultivating a diverse spectrum of crops, ranging from grains and vegetables to fruits, all contributing to their sustenance. However, amid this agricultural diversity, the dietary landscape of the populace found its focal point in staple crops, with a pronounced emphasis on cereals such as barley, einkorn wheat, and emmer wheat, which played a pivotal role in the essential production of bread. This nuanced relationship between cultivation practices and dietary essentials highlights the profound impact of agriculture in not only sustaining but also shaping the intricate fabric of ancient Egyptian society.

At the core of the economic structure was the pivotal concept of a 'production surplus,' denoting the difference between the comprehensive agricultural output and the consumption needs of the farming populace. This surplus, seized by the Pharaoh and other privileged class members, served as a means to compensate officials, enlist craftsmen, and maintain the military and servant cohorts [Carneiro (1970); Ghatak & Ingersent (1984)]. The surplus theories articulated here bear a close affinity to concepts previously formulated by Marx (2020). In ancient Egypt, the assessment of economic value was fundamentally rooted in human labor, signifying both the dynamism of the

economy and the extensive reliance on human resources for a myriad of tasks. The involvement of hundreds of thousands of individuals in the construction of the Egyptian pyramids serves as a tangible manifestation of the theory of surplus labor within that economic framework. The examination of these theories reveals that the primary determinant in the establishment of the illustrious Egyptian civilization was the economy, specifically, the generation of surplus production and the valuation of labor. Understanding the issue of exploitation in ancient Egypt is essential, given the widespread use of a diverse labor force that included hundreds of thousands of slaves, as well as free peasants and urban dwellers. This intricate workforce played a significant role in various aspects of Egyptian society and its economy.

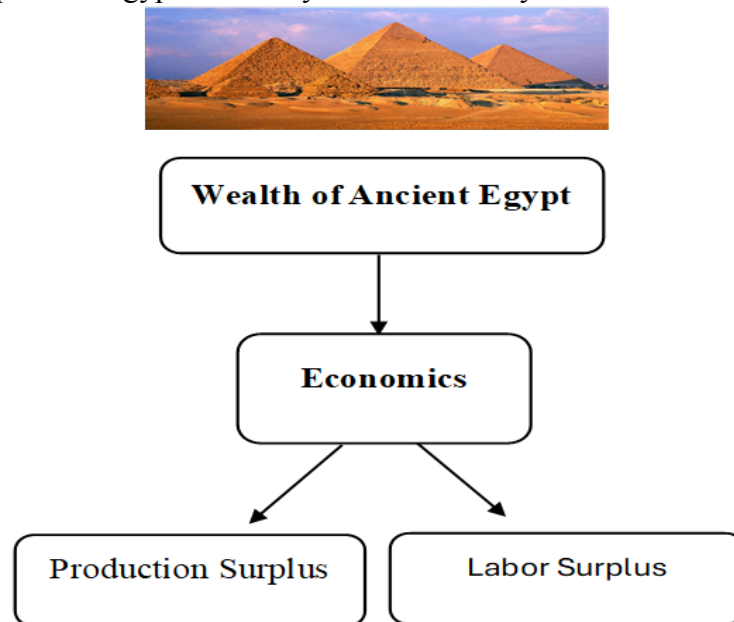


Figure 1. Unraveling the Economic Foundations of Ancient Egypt's Illustrious Civilization.

The economic surplus, amassed through taxation, was channeled towards the priests, who in turn distributed a portion across the different echelons of the bureaucracy, the temple artisans, and the labor force involved in diverse religious and hydraulic endeavors [Henry (2002)]. During the New Kingdom period, individuals and households actively embraced entrepreneurial pursuits, particularly in the domains of production and exchange. While a substantial portion of private economic activities was geared towards personal consumption or acquiring goods for individual use, a distinct subset demonstrated entrepreneurial characteristics. This subset aimed at amassing surplus durable goods, envisioning their subsequent exchange for revenue-generating commodities such as slaves or hireable donkeys. To optimize the accumulation of surplus durable goods, private individuals and households frequently supplemented their primary revenues derived from agriculture or service to the state or temple. This supplementation involved the exchange of surplus labor for commodities or the production of goods specifically for exchange. Such diversified economic strategies within private spheres

exemplify the multifaceted nature of entrepreneurial activities during the New Kingdom [Muhs (2016b): 137].

The imperative adoption of agriculture by the Pharaonic state stemmed from the limitations of the preceding foraging economy, which failed to generate either a production or labor surplus viable for utilization beyond agricultural realms. The adoption of agriculture brought about noteworthy changes in the food production system through four crucial avenues [Allen (1997)]:

1. **Storability** - The concept of storability in agriculture, exemplified by the prolonged preservation of cultivated foods like grains and livestock, held significant implications for societal evolution. It not only provided early farmers with a more effective strategy for managing risks associated with annual production fluctuations but also rendered them more vulnerable to exploitation. The surplus food, stored from one year to the next, became a valuable resource that could sustain various activities, leading to the establishment of tax and rent collection systems.

2. **Production per Hectare** - The adoption of agriculture probably led to a rise in food production per hectare, with research indicating a transition from 30 to 120 individuals per square kilometer of utilized land, as analyzed by Butzer (1976: 82-84) and underscored by its demographic consequences in Egypt.

3. **Production per Worker** - Assessing the impact of the shift from foraging to farming on production surplus pivots on the evaluation of output per worker rather than per hectare, a consideration substantiated by collateral information. In the predynastic era of Egypt, families likely exercised flexibility in land cultivation, potentially surpassing the minimum, driven by the dual objectives of risk mitigation through enhanced production and the trade of surpluses for other commodities, as exemplified in Upper Egypt's adoption of farming resulting in permanent villages, pottery production, and a conspicuous production surplus, indicative of the emergence of a stateless village society.

4. **Seasonality of Labor** - The implementation of agriculture in Egypt brought about changes in labor dynamics, fostering a surplus workforce strategically employed during specific seasons, notably exemplified in pyramid construction. The decision of Egyptian foragers to adopt agriculture involved a nuanced evaluation of heightened labor demands against benefits like increased food production and the creation of storable food, while the delayed transition in Upper Egypt could be attributed to factors such as gradual knowledge dissemination, sparse population density, or climatic conditions influencing the timing of agricultural experimentation.

A fundamental dichotomy exists between institutional and household agriculture. Institutional agriculture involves cultivating extensive lands owned by the crown, temples, or bestowed upon courtiers and dignitaries in exchange for their services to the king. This method includes extensive cereal cultivation and livestock farming with ploughs and draught animals, indicating the availability of ample manpower and animals, possibly resulting in lower yields than in an intensive regime. Conversely, household agriculture, influenced by the unique characteristics of the Nile Valley's flooded soil, omits the need for ploughs, which ordinary peasants likely could not afford, and emphasizes intensive cultivation of small plots (approximately 1.5 hectares sufficient for a nuclear family's sustenance) and pig rearing [Garcia (2014)]. In ancient Egypt, there's limited evidence of cattle consumption, while pig, sheep, goats, and fish were the main

sources of animal proteins for the local population. The consumption of meat revealed a selective pattern, involving cattle raising with specific portions of the herds being removed under authority. Temples in ancient Egypt played a dual role in governance, functioning as central hubs for coordinating agricultural production, tax collection, and the cultivation of fallow land, while also serving as mechanisms for the assimilation of local authorities into the royal administrative structure. This integration is exemplified in documents such as the Wilbour papyrus, illustrating the allocation of numerous plots to a lower social stratum comprising priests, military personnel, and affluent peasants, concentrated within a confined region in Middle Egypt [García & Carlos (2014)].

The agricultural cycle in ancient Egypt hinged on the annual Nile inundation, shaping the Egyptian calendar with its three seasons: akhet, marked by flooding that covered fertile riverbanks and allowed irrigation of higher land; peret, involving activities such as plowing, sowing, and germination; and shemu, associated with the harvest. The consistent nature of the inundation, a vital environmental factor, facilitated agriculture, although variations in flood height could potentially jeopardize the food supply if not diligently monitored using instruments like Nilometers. Harvested grain was winnowed with large fans and additional sieving; the grain was then transported to granaries, where it was measured and stored under the authority of mayors and temple personnel for later distribution [Katary (2013)].

Trade

Originating in the Predynastic Period of Egypt (c. 6000 - c. 3150 BCE) and extending into Roman Egypt (30 BCE-646 CE), trade persisted as a consistent element in the economic dynamics. Throughout most of its historical trajectory, ancient Egypt relied on a barter system, abstaining from the use of currency [Mark (2017a)]. In the ancient Egyptian economy, goods and services were evaluated using a unit called a deben. According to historian Thompson (2016), the deben served a purpose akin to the contemporary dollar in North America, acting as a measure to communicate the prices of various items, despite the absence of a physical deben coin. A deben was approximately 90 grams of copper, and more valuable items could be priced in debens of silver or gold, with proportional adjustments in value. For example, if a scroll of papyrus cost one deben and a pair of sandals was also valued at one deben, a fair exchange could be made between the two items. Similarly, if three jugs of beer were priced at one deben and a day's work was also worth one deben, a just exchange would involve receiving three jugs of beer for a day's labor [Mark, J. (2017b)].

Supply chain management serves as the capillary vessels of the economic system and stands as an essential element for the progression toward sustainable evolution in this domain [Hasanov (2023b)]. Similar to ancient Mesopotamia, Egypt serves as the origin of the initial supply chain system. Archeological evidence underscores the adeptness of the Ancient Egyptians in crafting intricate logistical systems. Moreover, the primary objectives of logistics identified in Ancient Egypt, encompassing transportation, raw material sourcing, and the distribution of essential resources for sustenance and warfare, have endured in modern business logistics. The evolution lies not in altering these fundamental goals, but rather in the refinement of technology and execution methods applied to achieve them [Pelletier (2013)].

In the field of Egyptology, the conventional standpoint has long asserted that foreign trade was predominantly controlled by the state, functioning essentially as a monopoly. This perspective envisions organized state expeditions, periodically commissioned by pharaohs, specifically aimed at acquiring valuable and prestigious goods. These expeditions typically targeted a diverse array of sought-after items, ranging from gold and incense to timber, ivory, and exotic hides. The portrayal of a centralized and state-driven model for foreign trade in the ancient Egyptian context is implicit in this characterization. However, it is crucial to engage in a more nuanced examination, exploring the intricacies and potential variations that may have existed beyond the standard narrative of a state monopoly.

Middle Egypt presents a distinctive lens through which to examine the organizational structures of power, politics, economy, and culture during the transition to the third millennium BC. The apparent smooth integration of this region into the reunified monarchy led by King Mentuhotep II (2055–2004 BC) was made possible by the preservation of the interests and local lineages of influential leaders. The accumulation of wealth and power during this period was closely tied to trade and the ability to either access or control international exchange networks [García, J. C. (2017)]. During this period, Middle Egypt distinguishes itself as a meeting point for diverse populations, functioning as a pivotal hub for both political and economic sway. It assumes a vital role as a nodal point facilitating exchanges across the Nile Valley. Particularly noteworthy is its transformation into a substantial power center, where rulers strategically lend support to the overarching monarchy. In reciprocation for their allegiance, these rulers secure autonomy at the local level and exert significant political influence within the royal court. The intricate interplay among regional dynamics, trade activities, and political alliances highlights the nuanced role of Middle Egypt within the broader sociopolitical landscape of that era.

The initial economic ties of Ancient Egypt were established with its neighboring Sudan, reflecting a shared interest in cultivating trade relationships. Notably, Egyptian pharaohs, harboring aspirations of territorial expansion, were keen on leveraging the potential advantages offered by Sudan. According to Reisner (1918), Egypt's strategic aim was to participate in the trade caravans headed towards Central Asia. Amin (1970) further details the array of products exchanged between Egypt and Sudan during this period, encompassing commodities such as gold, leather, ivory, and oil. This early trade association laid the groundwork for subsequent economic exchanges that would significantly influence the socio-economic landscapes of both Ancient Egypt and Sudan. Nubia earned distinction for its opulent gold mines, its appellation "Nubia" itself being derived from the Egyptian word for gold. Beyond its immediate vicinity, ancient Egypt cultivated robust trade connections with Mesopotamia, particularly emphasizing the widespread exchange of timber products. In subsequent eras, Egypt forged trade links with the Roman Empire, primarily involving the interchange of metals and select precious stones.

In tandem with ancient Mesopotamia, ancient Egypt developed accounting systems to facilitate both internal and external business transactions, showcasing a shared recognition of the pivotal role of accounting in managing economic activities. These systems played a crucial role in recording financial transactions, contributing to the

efficient operation of internal affairs and facilitating external trade in both civilizations. The levels of accountability consist of: hierarchical; horizontal; and self, all entailing both accounting and non-accounting elements. Furthermore, accountability is analyzed at three spheres: the individual-state, the state-individual, and the individual-individual. The spectrum of accountability includes hierarchical, horizontal, and self-accountability, encompassing elements from both accounting and non-accounting domains. This accountability framework is further analyzed within three spheres: individual-state, state-individual, and individual-individual relationships [Carmona & Ezzamel (2007)].

Inflation

One of the earliest forms of currency, particularly stemming from the Mesopotamia and Turkey region, was crafted from pure gold and can be traced back to 3rd millennium BC Egypt. This gold currency featured standardized weights and values. The smaller units, referred to as deben, were fashioned in the shape of golden rings. The designated unit for measuring the currency was termed shat, representing 7.5 grams of gold. A deben held a value of 12 shat, corresponding to 90 grams of gold [StrongPoint (2016)]. Ancient Egypt experiences a cultural evolution during the Late Period, where transactions encompassing purchases, taxes, and wages persist in being settled in kind. Concurrently, the use of money of account, notably the deben and kite, continues to serve as a medium of exchange, demonstrating a continuity with earlier practices [Ezzamel & Hoskin (2002)].

Inflation, denoting a broad escalation in prices across an economy, has been a recurring occurrence in various societies across historical epochs. Contrary to the perception of inflation as a phenomenon exclusive to modern economic paradigms, its manifestation predates contemporary history, constituting an enduring characteristic since the establishment of the earliest nations and urban centers. An distinctive feature in the economic history of ancient Egypt is the occurrence of one of the earliest documented instances of inflation in antiquity. The Ptolemaic copper inflation, spanning approximately 230 to 140 BC, represented a pivotal economic event in the history of the Ptolemaic Kingdom, covering a century of notable significance. The origins of this inflation were intricate, involving the intentional devaluation of coinage by the Ptolemies as a response to financial challenges, achieved through a gradual reduction in the silver content of copper coins, a form of debasement that essentially amounted to the equivalent of "printing money." Concurrently, the continuous military campaigns, depleting the treasury, necessitated further debasement to finance ongoing military endeavors. The debate among scholars extends to economic mismanagement, including factors like inefficient tax collection and monopolies, as potential contributors to the inflation [Segre (1942)]. The ramifications of the Ptolemaic copper inflation were profound. The diminishing value of copper coins led to significant escalations in the prices of goods and services, profoundly impacting the daily lives of ordinary citizens. This devaluation sparked notable social unrest, particularly among workers and individuals on fixed incomes who grappled with heightened hardships. Additionally, the economic disruptions triggered by the inflation impeded trade and investment, introducing a pervasive

instability that hindered broader economic growth within the region. During the 1st to 4th centuries, when Egypt was under Roman rule, a notable inflationary episode again unfolded. The rapid surge in the price of wheat in the open market resulted in significant economic upheaval. Fundamentally, the pronounced inflationary pressures were rooted in the agricultural sector, a crucial foundation for both the Egyptian and Roman economies during that period [Jones (1974)].

CONCLUSION

This comprehensive study meticulously examines the intricate economic framework that defined ancient Egypt throughout its remarkable four-millennia history. The research illuminates the fundamental roles played by agriculture, dynamic trade practices, and the evolution of monetary systems, elucidating their interdependence and collective influence on the prosperity of this distinctive civilization. Key findings accentuate the pivotal importance of the fertile Nile Valley in fostering a robust agricultural system, where the coexistence of institutional and household agriculture demonstrates nuanced diversity within the sector.

Trade, operational since the Predynastic Period, surpasses state-controlled monopolies, involving intricate regional dynamics and a diverse array of actors. Trade connections extended to Mesopotamia, Sudan, and the Roman Empire, showcasing the extensive reach and complexity of ancient Egyptian trade practices. An analysis of monetary systems reveals challenges such as the Ptolemaic copper inflation, emphasizing the intricate interplay between economic policies and broader societal factors. The study also underscores the facilitating role of accounting systems in both internal and external transactions.

Comprehending the economic dynamics of ancient Egypt provides valuable insights into the resilience and cultural prosperity of this civilization. It underscores the intricate nexus between agriculture, trade, and monetary practices in shaping its enduring success, offering a nuanced understanding of the historical intricacies that contributed to the remarkable longevity of ancient Egyptian society.

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