

EARLY IRON AGE ECONOMIC EXPANSION AND CONTRACTION REVISITED

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We live currently in a planetary-wide world system. For many this is something of a novelty. People of this persuasion view globalization as a wholly contemporary process that began only yesterday and seems overwhelming in its potential to disturb long-settled attitudes and expectations. For others, though, globalization is something less than novel. Underway for thousands of years, the contemporary manifestations of a very old process may contain novelty in pace and scope – but the basic substance of growing interdependence is relatively familiar.

Yet even if one takes the less-than-novel stance on globalization, there are still many questions about the historical pattern of expanding interdependence. If true globalization required integrating the Americas with the Old World (to qualify as truly global), we can probably date the onset of this phase of interdependence somewhere between the Vikings, Christopher Columbus, and the Spanish Manilla galleons. But what about the Old World of Afro- Eurasia which, for most of the time people have been around and for most of the people, was essentially coterminous with the known world? When did it become globalized or Afro- Eurasianized?¹ Here again opinions differ. Some might point to the 19th century incorporation of China as the last piece in the mosaic while others argue that China has been merely moving back toward the center of the world system, after a brief stint – from a long run view - of marginalization.

Another point of view is to stress the existence and expansion of an ancient world system dating back to at least 3500 BCE, if not before, that spread outward from southwest Asia and ultimately encompassed the entire Old World. But when and at what rate of change did this occur? And how do we know it? The present analysis is the second part of a two-part reexamination of Andre Gunder Frank's 1993 interpretation of economic cycles in the ancient world system. The first part (Frank and Thompson, 2002)

¹ The underlying assumption here is that globalization essentially means growing interdependence (and increased awareness of that condition). Hence, what is "global" at any given time depends on the prevailing information base. For a long period of time, the Americas were terra incognita – at least to the people who remained in Afro- Eurasia, as opposed to those who crossed over the Bering Strait. Therefore, it does not seem inappropriate to equate the process of globalization with Afro- Eurasianization, at least prior to the time Europeans stumbled on the Americas and Australia. Whether this interdependency process should be termed "globalization" seems more of a semantical question than one of substance.

focused exclusively on the Bronze Age through 1200 BCE. Picking up where that study left off, this paper will focus on the early Iron Age from 1200 BCE to 200 CE. The central questions continue to revolve around whether systematic evidence is available to support an Afro- Eurasian economic expansion/contraction periodization and, if so, how this might speak to the question of early Afro- Eurasian interdependence and world system status. After first summarizing the results pertaining to the Bronze Age, we will outline the assertions advanced previously about early Iron Age economic cycles and proceed to a systematic test of those assertions based on historical and archaeological literature references to the comings and goings of prosperity and depression.

The Bronze Age Findings

Frank's (1993) arguments and periodization of the emergence of a singular world system were received with mixed support at the time of its publication. A sample of the response was published simultaneously so that there was little doubt about the range of views that were elicited by the claim that an initially southwest Asian-centered world system had emerged by the Bronze Age.² Moreover, it was possible to delineate cycles of economic expansion and contraction that were thought to hold across Afro- Eurasia and, because of their wide scale, to demonstrate the early existence of an ancient world system.

The objections to this type of work, based on the responses that were published, can be reduced to the following:

1. Little theoretical explication and justification was provided for the early emergence of an Afro- Eurasian system or the expectation that widespread synchronization in economic fluctuations occurred.
2. Geographical and transportation liabilities, among other factors, made it unlikely that all actors in the system were in direct and sustained contact. Multiple systems, therefore, are more likely to have existed.
3. The data put forward in support of the economic fluctuation periodization were also used to generate the periodization. Other data on cities, warfare, and migrations that might be related to economic growth as causes and effects were advanced inappropriately as straightforward indices of A and B phases.

It is not clear, however, that one needs an elaborate theory to assert that the origins of the present world system can be traced to southwestern Asia in third or fourth millennium BCE. It is not as if world history between 4000 BCE and 2000 CE is entirely unknown. Various arguments have been put forward for the more or less continuous expansion of a world system from Bronze Age days. Rather than be forced to commit to a detailed exposition of whether and how some 6000 years of history can be bridged, it does not

² An emphasis on the emergence of an initially southwest Asian-centric has become more common since the early 1990s. Compare, among others, Frank and Gills (1993), Chase-Dunn and Hall (1997), Modelski (2000), Wilkinson (2000), and McNeill and McNeill (2003).

seem unreasonable to explore hypotheses about the origins of the current system. Examining synchronization patterns is one way of looking at the claim of systemic continuity across time.

Ultimately, we will need theory to explain how the Afro- Eurasian system expanded. But we also need some sense of the rate and geographical pattern of expansion. This is the type of empirical analysis that can be undertaken prior to, or in conjunction with, developing a comprehensive explanation of why it happened the way it did. While it is admittedly difficult to explain phenomena in the absence of theory, it is also difficult to theorize in the absence of empirical information about the phenomena.

It is no more clear that all actors in a system need to be in direct and sustained contact to qualify as a system. If this were the case, a large number of actors in the contemporary system might be disqualified as members of the current world system. If Paraguay and Bangladesh have little interaction, are they to be considered outside the system that currently exists? Again, looking at synchronization patterns is one way to probe for the existence of multiple systems – as opposed to assuming that they must have existed given the obstacles to ancient interactions.

No one claims that the information advanced in support of the 1993 assertions were sufficient to the task.³ At the same time, one must start somewhere. Theoretical generalizations are unlikely to generate periodizations of economic fluctuations. Some attention to empirical trends is inevitable. The real questions concern how many sources are needed and whether conceivably related information should be pressed into service simultaneously. There is no absolutely right answer to these questions. Ideally, we might utilize as many sources on economic growth fluctuations as are available. More realistically, however, the more appropriate question is whether information exists to cover the territory and time periods desired – and just how readily accessible this information is. Finite time and resource pressures inevitably lead to some compromise. Yet it is certainly possible to expand the number and variety of sources utilized in the 1993 examination. It is also desirable to avoid mixing in alternative types of information (such as urban expansion, wars and migrations) that might have something to do with economic growth and decline. That is, as long as there is sufficient historical literature information to generate a schedule of periods of economic expansion and contraction, the best practice is to maintain as much independence as possible between and among the various different indicators of turmoil and prosperity. That way, subsequent analyses can examine the relationships, if any, among economic growth, war, migrations, and urban expansion.⁴ Apparently, it was possible during the early Iron Age for intense conflict and

³ The sources cited for the early Iron Age (if the 1200-1000 BCE B phase is included) encompass Bosworth (1992), Chernykh (1992), Childe (1942), Coedes (1968); Dietler (1988); Edens (1992); Edens and Bawden (1988); Francis (1989, 1991); Franck and Brownstone (1986); Frank (1992), Gernet (1982); Gills and Frank (1992), Ghirshman (1954), Glover (1991); James et al. (1991), Jaspers (1949, 1955, 1957), Kristiansen (1982, 1987, 1993), Liverani (1987), McNeill (1963, 1976); Melko and Wilkinson (1992); Raman (1991); Rostovtzeff (1941); Sherratt (n.d.), Sherratt and Sherratt (1991, 1993), Teggart (1939), Wang (1958); Wilkinson (1987, 1992a, 1992b)

⁴ Still, there is nothing wrong with mixing indicators if that is what is available. The challenge is to go beyond the need to rely on information that is already readily available.

economic growth to coexist – one example is the Chinese Warring States period.⁵ Therefore, we would be wrong to assume that turmoil must always lead to economic decline or, for that matter, that economic growth must lead to peace, or vice versa.

In this spirit, we proceeded to re-examine the question of whether a Bronze Age world system was characterized by widespread and synchronized cycles of economic prosperity and depression. We relied exclusively on information culled from the historical and archaeological sources that chose to discuss economic fluctuations.⁶ Based on this information, the goal was to code each one hundred year segment for some 15 Afro-urasian regions between 4000 BCE and 1000 BCE as characterized generally by economic expansion or contraction.

We found general contraction phases for the periods of 4000-3800, 3200 to an unclear date, 2300-2050, 1750/1700-1600, and 1250-1000. Expansion phases included 3800-3200, 2700-2300, 2050 to various dates in different parts of the system, and 1600-1250. This schedule did not conform perfectly to the earlier Frank dating scheme. The earlier outline only began in the 3rd millennium so we can say there was no disagreement about the 4th millennium. The same cannot be said about the 3rd millennium. Frank's (1993) A and B phases began with 3000-2800 as expansionary while 2700-26/2500 were categorized as contracting. The updated version places 3000-2800 within a contraction phase beginning in 3200. Frank's earlier first contraction phase (2700-26/2500) and second expansion phase (2600-2400) both fit within the new 2700-2300 expansionary period.

In contrast, the treatment of the end of the 3rd millennium is less subject to dispute. The 1993 schedule had a contracting phase between 24/2300 to 2000. The 2002 dating is 2300-2050. This high degree of overlap continues in to the 2nd millennium. The 1993 schedule had 2000-1800/1750 and 1600-1500-1200 as A phases and 1800-1750-1600 and 1200-1000 as B phases. The 2002 schedule assigns expansionary phases to the periods 2050-mixed dates (depending on region) and 1600-1250. Phases of contraction were

⁵ One argument is that the demands of warfare encouraged elites to maximize the exploitation of their land holdings.

⁶ Anyone familiar with the relevant literature will appreciate that discussions of ancient economic history are infrequent and only rarely accompanied by evidence. The nature of such a search requires wading through a considerable amount of political history to find a few sparse comments about the state of the economy. But, presumably, this imbalance of coverage mirrors the very limited information supplied in ancient original sources. At the same time, it is rarely clear precisely upon what sort of information an author bases his/her judgment that a given era was prosperous or depressed. All sorts of indicators - grave objects, the pace of urbanization, building, intense conflict, inscriptions, population growth, trade flows – are utilized (and probably in some not-transparent mix). Unless there is disagreement in the literature, our culling activities are forced to take the author's assessments at face value. However, an irony in this type of analysis is that when authors are highly self-conscious about the multiple interpretations possible from examining various indicators, the more difficult it is to arrive at a summary evaluation. An excellent case in point is Macmullen's (1988: 1-15) discussion of indicators on Roman economic decline. Our reliance on less substantiated or self-conscious evaluations suggests caution in viewing the culled evidence as carved in stone. Rather, it is merely a first cut (or should we say second cut) at attempting to encompass a very large and heterogeneous area and still arrive at impressions about the timing of fluctuations in economic fortunes.

assigned to the 1750/1700-1600 and 1250-1000 phases. Table 1 provides a summary of the 1993 and 2002 periodizations.

/Table 1 about here/

None the less, these expansionary and contraction phases were not always found to be Afro- Eurasian wide. The Bronze Age world system began as a 4th millennium, Mesopotamian-centric network predicated on Sumerian attempts to acquire raw materials in and through Anatolia, Iran, and Egypt. After the collapse or retrenchment of this first system, a 3rd millennium structure expanded to encompass Indus and Egyptian nodes, while retaining a relatively strong Mesopotamian node. Indus became the major intermediary between Central Asia and southwestern Asia vis the Gulf and Dilmun. Anatolian Troy served as a conduit into Central Europe and the Steppes. In the 2nd millennium, the network structure shifted farther west to focus on Egypt, the eastern Mediterranean, the Syro-Levantine trading cities, and Mycenaean Greece. Indus faded away with the decline of the Harappan cities while links to the western Mediterranean (Italy), Central Europe, and Nubia to the south of Egypt became stronger.

Economic synchronization appears to have been most evident in the areas most proximate to the shifting cores. The 4th millennium was Mesopotamian-centric. The 3rd millennium had a wider focus linking Indus to Mesopotamia while the 2nd millennium was focused primarily on the eastern Mediterranean littoral. Clearly, the Bronze Age system cannot be equated with the fullest extent of Afro- Eurasia at the outset. Rather, it moved unevenly, slowly, and in fits and starts toward a more maximal territorial definition. Still, the major contractions that punctuated the structural shifts (coming at the end of the 4th, 3rd, and 2nd millennia, as well as the less widely felt mid 3rd and mid 2nd millennia contractions) did tend to be increasingly manifested in most of the 15 Afro- Eurasian zones. The 2200-2100 BCE turmoil was registered in 11 of 15 of the regions. The c. 1200 BCE turmoil was manifested nearly everywhere in some fashion. We read these propensities as evidence that the system was expanding in geographical scope and developing greater interconnectivity and vulnerability, at least through the end of the Bronze Age around 1200 BCE.⁷

What happened in the early Iron Age? Our earlier analysis stopped short of examining the 1st millennium BCE given time and resource limitations. We are now in a position to continue the examination through the 2nd century in the first millennium CE. In general, our findings are not dissimilar to those pertaining to the Bronze Age. The empirical support for the 1993 periodization is mixed at best and needs a fair amount of revision. System-wide changes remain intermittent and much of the action continues to be western-focused, as opposed to pan-Afro- Eurasian, until near the very end of the 1st millennium BCE.

⁷ The major outstanding question is the extent to which widespread problems were due to global climate shifts. To the extent that it can be demonstrated that they were, the argument for apparent interconnectivity in terms of interactions (as opposed to common fate) will have been lessened.

Re-examining the Frank (1993) Early Iron Age Argument

Table 2 summarizes the Frank economic periodization of the early Iron Age world system. The left-hand column provides the dating while the right-hand column attempts to briefly suggest the reasons given in 1993 for why one period or another was thought to be expanding or contracting. The 1200-1000 BCE system-wide contraction was followed by a short period of economic expansion (1000-800 BCE) focused on Phoenician, Assyrian, and possibly Chinese growth. Increased competition led to imperial collapse and commercial conflict in the Mediterranean up to the midpoint of the 1st millennium. A second A phase (600/500-450/400 BCE) was ushered in by Greek and Persian growth, only to be rent asunder by Greco-Persian conflict, Celtic migrations in Europe, and warring states in China. A third A phase (350-250/200 BCE) was brought about by Macedonian/Seleucid, Mauryan, and Qin consolidations in the major urbanized portions of Eurasia. This third 1st millennium A phase may have been interrupted by an equally short B phase (250/200-200/50 BCE) that was less than system-wide in scope. The 1st millennium BCE then ended in a strong upswing (200/100 BCE- 200 CE) that encompassed successful empire building from China to the Mediterranean.

/Table 2 about here/

The basic question here is whether this interpretation is supported by the examination of additional sources that focus explicitly on discussions of the presence or absence of economic prosperity and depression? Table 3 focuses on 12 Afro- Eurasian regions over some 1400 years, at 50 year intervals.⁸ This structure (12 regions by 28 half-century intervals) creates 336 cells to code. Utilizing over 100 sources allowed all but 44 cells (about 13%) to be coded as either contracting (economic depression/decline), expanding

⁸ Murphy's law predicts that a more specific 50 year window (as opposed to the 100 year window used for the Bronze Age) will continue to have problems of fit since economic conditions are unlikely to move in accordance with annual calendars. But a 50 year window is preferable to a 100 year window in terms of specificity. Decadal coding might be possible for shorter time periods (that is, less than the 1400 years examined here) and certain zones such as Rome but such specificity would be more difficult to generate than one might think. Attempting to code large zones (e.g., India, China and so forth) is no more valid than it was in the Bronze Age. Very good arguments can be made for improving the geographical specificity as well as the temporal dimension. The problem is that the more specific information is often simply not available. In addition, some changes were made in the identities of the coded zones. The Bronze Age analysis included zones for the Gulf, Indus, Aegean/Eastern Mediterranean, Western Mediterranean, Central Europe, Central Asia, and the Steppe. In the early Iron Age analysis, the Gulf (see, for instance, Potts, 1990; Ray, 1994; Schippmann, 2001), Central Asia, and the Steppe have been dropped due to the lack of much useful economic information for the 1st millennium BCE. Indus has been broadened to become India. The Aegean/Eastern Mediterranean is equated with either Greece or Anatolia as most appropriate. The Western Mediterranean and Central Europe categories are merged to form an "Other Europe" category because most of the information found either did not discriminate between eastern and western Europe or because the information that was forthcoming on the two zones at the same time did not differ all that much. Finally, a case might be made for adding Southeast Asia to the early Iron Age survey in terms of Indian contacts by mid-millennium and Chinese contacts toward the end of the 1st millennium. As in a number of the other areas, however, the quantity of information is low. Southeast Asia's involvement in Afro-Eurasia, in any event, is probably greater in the first millennium CE and thereafter than in 1st millennium BCE.

(economic growth and prosperity) or mixed.⁹ The last category encompasses situations in which different parts of the region appear to have experienced different economic fortunes or situations in which the 50 year periods were some combination of expansion and contraction, without either activity dominating for most of the 50 year interval. With about 87 percent of the cells coded, 128 periods of contraction (38.1 %) and 130 periods of expansion (38.7 %) were discovered. The mixed category accounted for another 34 cells (10.1 %). All of the specific sources used in arriving at one of these three categorization are listed by time period and region in an appendix.

/Table 3 about here/

The parts of the table that are most easy to read are found at the top and the bottom. The first three centuries (1200-900 BCE) are fairly uniform in being designated as times of economic contraction. Egypt was a bit slower to succumb than the other regions at the outset of the c. 1200 Mediterranean collapse associated with the chaotic conditions associated with the Sea Peoples. The Phoenician Levantine cites were the first to emerge from this contraction phase. Several regions remained in contraction beyond the first 300 years of the early Iron Age: Greece to 850, Egypt to around 700, Iran possibly as late as 550 and the rise of the Achaeminids, Anatolia to 750, and India to about 600 BCE. Some relatively general propensity toward economic expansion occurred between about 750 and 550/500.

There was considerable divergence after the mid-millennium mark. Italy, Egypt, Palestine, and Mesopotamia experienced mainly economic contraction to around 350/300 BCE. European (excluding Greece and Italy) contraction, for the most part, persisted to about 50 BCE. Greece remained primarily expansive through the Alexandrian attack on southwestern Asia in the late 4th century and then experienced little growth thereafter. A number of Syro-Levantine cities appear to have retained some levels of prosperity, thanks to their intermediate position in east-west trade, through about 150 BCE. Carthage remained predominately expansive until its destruction at the hands of the Romans shortly after 150. India and China appear to have retained their tendencies toward economic growth several centuries into the 1st millennium CE.¹⁰

As recorded at the bottom of the table, there was a fairly strong and general shift back to economic expansion towards the very end of the 1st millennium BCE. Part of this movement is attributable to the Pax Romana established by the Roman Empire in what is referred to as the Augustan Age. Still, the new pan-Mediterranean prosperity largely bypassed Greece, Palestine (characterized by a series of revolts), and parts of Europe.¹¹

⁹ One hundred and ten sources yielded useful information (compared to 95 used for the Bronze Age). In both the Bronze and early Iron Age cases, quite a few sources were examined that yielded no useful information on our prosperity/depression question. One of the ironies of the early Iron Age is that there are a number of “black holes” concerning what happened in given areas. In a number of zones, archaeologists apparently have preferred to dig deeper than the 1st millennium BCE or not at all. A number of areas are also short on surviving written documents.

¹⁰ It seems most unlikely that China and India experienced unchecked economic growth for such long periods of time. The codings merely reflect what the sources suggest perhaps too loosely.

¹¹ On the other hand, it did extend to the Gulf and Indian Ocean areas (see Ray, 1994, 2003).

Whether or to what extent this same prosperity characterized Mesopotamia and Parthian Iran remains unclear after the transition to the 1st millennium CE. Indian and Chinese prosperity, as indicated previously, had begun much earlier and continued to at least 200 CE.

How might we translate this heterogeneous outcome into a schedule of A and B phases? The contraction phase that was initiated by the Mediterranean collapse around 1200 clearly persisted to about 850/750. An uneven period of expansion followed to about 550/500. The period of time between the Persian attack on Greece and Alexander's return of the favor does not lend itself readily to a singular generalization, although there is certainly more contraction than anything else. The post-Alexanderian Hellenistic era (roughly 300-150) was more expansive in Asia than in several European zones which tended to continue contracting to the end or almost the end of the millennium. Yet, despite exceptions previously noted, the 50 BCE-200 CE period essentially resembled an A phase for a respectable portion of Afro- Eurasia.

Table 4 summarizes this new interpretation and juxtaposes it next to the Frank (1993) schedule. Considerable disagreement is manifested. No support for Frank's (1993) first A phase (1000-800) is found in the revised schedule. Contraction persisted in most areas through the 9th century BCE. Similarly, Frank's next phase, an 800-550 B phase, is viewed as an A phase in the revised schedule. It should be noted that this revised A phase does overlap to some extent with Frank's (1993) 600/500-450/400 A phase. Moreover, there is more convergence on Frank's (1993) 450-350 B phase. Yet the revised schedule makes a distinction between what is essentially Europe and Asia after 300 BCE. Asian economic growth was noticeable after 300 while European growth was not. Only when we come to the end of the 1st millennium BCE is convergence recorded again thanks in part to Roman-Qin/Han - and imperial points in between - unification and pacification efforts. Even so, the revised ending A phase for the early Iron Age is much shorter than the 1993 interpretation.

/Table 4 about here/

How might one account for this brief and temporary divergence from what seems to be increasing interdependence? There is, of course, no guarantee that growing interdependence will prove to be a linear process. Steps forward, backward, and sideward seem to describe the path of Afro- Eurasian interdependence. Nor does some tendency toward synchronization, albeit highly uneven, necessarily connote interdependence. There is no moderate to strong trade linkage of China-India-the Mediterranean, after all, until toward the ending centuries of the 1st millennium BCE when some semblance of the Silk Routes began to take shape across Eurasia and around India by sea. Thus, we should be slow to embrace the idea of an early and comprehensive, pan-Eurasian interconnectivity predicated on trade.

Instead the historical pattern of Afro- Eurasian linkages is more a matter of early eastern probes from the west and, much later, western probes from the east.¹² Southwest Asia reached to Afghanistan as long ago as 9-10,000 years through down-the-line trade in obsidian used as tools. Farmers from southwest Asia moved north into Europe. Several thousand years later less sedentary groups from central Europe/Russia/Black Sea region moved east toward China and later south into Iran and India. There were, no doubt, all sorts of indirect interactions between the east and west with the people that became the Central Eurasian nomads as the principal agents. But southwest Asian-Indian interactions only became serious in the 3rd millennium BCE and broke down in the 2nd millennium BCE only to re-emerge in the 1st millennium. Chinese-Indian interactions appear to have become significant only in the second half of the 1st millennium BCE. Similarly, southwest Asian/Mediterranean interactions with China only began to attain significant levels in the last quarter of the 1st millennium BCE. We should be wary, therefore, of having very high and widespread interdependency expectations too early.

A second caveat involves a necessary qualification to the expectation that interdependence necessarily entails synchronization of economic fortunes. The first millennium BCE witnessed a serial commercial and colonial competition among Phoenicians, Etruscans, Greeks, Carthaginians, and Romans. It was unlikely that all could prosper simultaneously and even if that had been possible, they did not choose to develop absolute gains. Relative gains were more attractive. Thus, Phoenicians might do well at Greek expense. Or, alternatively, the Carthaginians were most likely to emerge as strong competitors only when the Phoenicians were under siege by Assyrians. Some dissynchronization, therefore, is also paradoxical evidence of interdependence as long as some competitors benefit at the expense of others.¹³

These generalizations do not preclude intermittent pulsations of heightened interdependency throughout the 1st millennium BCE. For instance, early Phoenician-Israeli commercial interactions with India are indicated around the beginning of the 1st millennium BCE. Central Eurasian nomadic groups, most notably the Scythians in the west, moved against China and southwest Asia (their traces are found as far west as Egypt) in the 700s, and subsequently eastern Europe.¹⁴ Persian (mid-500s) and Hellenistic (late 300s) reorganizations of southwest and parts of Central Asia had reverberations in both India and China. In India, these reorganizations may have encouraged parallel re-concentrations of military-political power. They also led to re-stimulations of Indo-Hellenistic commercial interactions. In China, Central Asian nomads fleeing Persian and later Alexandrian harassment moved east and intensified the nature of the “barbarian” threat along the sedentary-nomadic frontier of China. Thus, the increased commercial interconnections among Rome, India, and China after the 2nd

¹² Of course, one might start even earlier with northern migrations from East Africa into southwest Asia. See, for instance, Clark (1997).

¹³ Therefore, some level of behavioral synchronization may be necessary to posit interdependency but it is never sufficient. Once synchronization is observed, the next question is whether it can be explained through interaction or is merely spurious. Similarly, then, dissynchronization, if accompanied or brought about by interaction, can count towards interdependency as well.

¹⁴ Thereby initiating a pattern that would continue to be significant through the first half of the 2nd millennium CE.

century BCE and through the 2nd century CE on land and sea were not without precedent. They simply had occurred earlier in more fragmented and piecemeal ways.

As a consequence, we can say without qualification that Afro-Eurasia had become more interdependent in the 1st millennium BCE than it had been in earlier millennia if the emphasis is placed on a combination of the extent of the geographical scope encompassed by interdependency pulsations and the intensity or value of the flow of commodities exchanged.¹⁵ The nature of the interdependency, however, still falls considerably short of persistent and high levels of integration throughout all of Afro- Eurasia. The interconnections were still being formed. The interconnectivity also remained subject to breakdown as in the era that followed the 2nd century CE and the collapse of imperial structures from the Mediterranean to the Pacific. Yet even then, we should not overlook signs of a certain kind of interdependency related to military-political turmoil originating in the east (primarily Chinese- Xiong-nu conflict) showing up in the south (India) and west (Rome). But that is primarily a different millennium and a different story.

If economic interdependency can only claim a piece of the explanation for the uneven propensities toward shared economic fluctuations across Afro-Eurasia in the 1st millennium, climate change and technological diffusion should also be given some credit as additional, likely culprits. The climate change question must be deferred to another paper due to the limited state of our knowledge about Afro-Eurasian weather patterns of this time period. Suffice it to say that at some point we will probably find an important explanatory role for global climate change that influenced behavior throughout the Old World – although not necessarily in exactly the same way everywhere.¹⁶

Technological diffusion, on the other hand, must also be given some credit for periods of economic expansion in the 1st millennium BCE. While the labels of “Bronze” and “Iron” ages no doubt exaggerates the extent to which life in these periods was influenced by the use of successively harder metals for tools and weapons, the return to economic growth in the Mediterranean area and enhanced Indian and Chinese agrarian productivity appears to be traceable in part to the lagged spread of iron and more effective plows from west to east across Eurasia.¹⁷ Improved agricultural yields sustained more people, larger cities, and greater volumes of trade.

By the end of the 1st millennium BCE, some decrease in turmoil due to political reorganization and strengthened imperial controls across Eurasia also facilitated growth. Thus, there were common denominators underlying phases of economic expansion other than economic interdependency. Conflict reverberations have been mentioned above (Assyrians suppressing Phoenician activities and therefore encouraging Carthaginian

¹⁵ See Thompson (2004) for more discussion of the nature of this interdependency.

¹⁶ Chew (2001), Fagan (1999, 2004), and Thompson (2003) support this expectation. We need better data for more parts of Afro-Eurasia, though, before we can estimate how significant the climate factor might have been.

¹⁷ Iron tools were increasingly employed in the west after the “Sea Peoples” interruption of normal activities, after the 6th century BCE in India, and after the 4th century BCE in China.

expansion or Central Asians fleeing the coercive expansion efforts of Persians, Greeks, or Chinese). These reverberations were often unintended consequences of attempts to concentrate political and military power.¹⁸ Assyrian, Achaeminid, Hellenistic (Macedonian and Seleucid), Roman, Mauryan, Parthian, and Han imperial successes must also be given their due as agents of expanded interdependency. By pushing their frontiers in multiple directions, more people were forcibly brought into contact with one another for long periods of time. At the heights of imperial control, conditions within and between empires were also optimal for commercial expansion. Demand from imperial cities grew. Supply expanded as well in periods in which transaction costs (larger ships, better roads, and fewer attacks on caravans and convoys) tended to be reduced.

Conclusion

There is no need to insist on complete unity at the outset in order to make a case for the early emergence and basic continuity of a world system that dates back at least to the 4th millennium BCE. Initially, it stretched from Afghanistan to Egypt with a strong focus on Mesopotamian southwest Asia. Gradually, it incorporated increasingly stronger links to Europe, more of north and northeastern Africa, and India. While the intensity of these linkages were subject to some flux – thanks mainly to bouts of economic and political turmoil -Afro- Eurasian linkages continued to expand not unlike uneven attempts to blow up a balloon. A strong breath forces air into the balloon and its fundamental shape begins to appear. A weak grasp of the balloon airway allows some air to escape and the balloon partially collapses even though it still retains some of its earlier shape.¹⁹ The next breath into the balloon may make a bigger balloon than the first breath did – or it may not. If one starts with a very large balloon, a number of efforts will be required to fully inflate it, and there is no reason to anticipate that each successive breath will yield a linear result.

Some evidence of economic periodicity was found in the Bronze Age, just as some evidence exists for the early Iron Age. In neither case, does the evidence suggest early and uniform pan-Afro- Eurasian fluctuations in prosperity and depression. Areas closer to the most active economic zones were more likely to be affected by central economic fortunes than areas that were less proximate. Distance did matter. No doubt, there were multiple world systems in the Bronze and early Iron Age within Afro-Eurasia. By the

¹⁸ The unintentional dimension should not be stressed too much. Many of these imperial efforts explicitly sought to conquer their known worlds. Increased resistance, geographical barriers, and logistical constraints ensured that there were definite limits to early Iron Age expansion. At the same time, the increased nomadization of Central Eurasia – a process that had begun in the 2nd millennium BCE - must also be counted as a contributing factor to 1st millennium interdependencies across Eurasia.

¹⁹ A better analogy is probably an air mattress which has a more complex structure. Consequently, parts of the mattress are easier to fill with air than are some other areas which resist “integration” with the rest of the mattress interior. Either way, geography – the shape of the balloon or air mattress and the nature of Afro- Eurasia territory – provides a basic framework within which agents (air blowers) operate to exploit those ultimate limitations.

end of the 1st millennium BCE, however, the boundaries of the more prominent systems had become increasingly blurred by expanded economic transactions and increased knowledge about the existence of other parts of the known world. The urbanized rim that almost encircled Central Asia, stretching from the Mediterranean to China was beginning to become more closely integrated than had ever been imagined conceivable before. Unusually widespread economic prosperity for a time was one outcome of this achievement. With the advantage of hindsight, we know that Afro- Eurasia would not remain on an increasingly integrated trajectory after the 2nd century CE without substantial deviation. But that is the basic globalization pattern – uneven advances and regressions fueled and constrained by climate change, technological change, trade, conflict, disease, and political-military concentration and deconcentrations. The point is that globalization is a very old pattern that began quite some time ago and continues today.²⁰

²⁰ See, for instance, Chase-Dunn and Hall's (2000: 101) "kissing coyote" rendition of the pulsations in interdependency or Modelski's (2000) very long alternating phases of concentration and dispersal.

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Table 1: Frank (1993) Versus Frank and Thompson (2002) on Southwest Asian Bronze Age Economic Fluctuations

	Frank	1993	Frank and Thompson	2002
Contraction				4000?-3800
Expansion			3800-3200	
Contraction				3200- ?
Expansion	3000-2800			
Contraction		2700-26/2500		
Expansion	2600-2400		2700-2300	
Contraction		24/2300-2000		2300-2050
Expansion	2000-1800/1750		2050- mixed	
Contraction		1800/1750-1600-1500		1750-1700/1600
Expansion	1600/1500-1200		1600-1250	
Contraction		1200-1000		1250-1000 (at least)

Source: Frank and Thompson (2002)

Table 2: Frank's 1993 Interpretation of the Early Iron Age

A/ B	Timing	Indicators of Expansion or Contraction
A	1000-800 BCE	Revitalization of Arabian spice route; Phoenician expansion in Mediterranean and Atlantic Europe; north-south exchange initiated in C. Europe; Assyrian growth; possible urban revival in India; some Chinese integration under Western Zhou
B	800-550 BCE	Assyrian collapse; increased competition in Mediterranean, western Asia and China; displacement of Phoenician trade in Aegean
A	600/500- 450/400 BCE	Greek economic development; rise of Achaemenid empire and stabilization of western Asia; shift of world economy's center of gravity from Syria/Levant to Central Eurasia; expansion of Syrian caravan cities as terminus of Silk Road/Incense Road; reintegration of Central Europe to Mediterranean
B	450-350 BCE	Economic crisis in Greece and Greco-Persian relations; general economic contraction; Celtic attacks; revolts in the Persian Empire; Warring States period in China
A	350-250/200 BCE	Alexandrian expansion in western Asia; Mauryan expansion in India, Qin consolidation in China; increased western-Indian-Chinese trade
B	250/200-100/50 BCE	Egyptian and Greek economic decline but possibly localized phenomena given Roman and Chinese expansion
A	200/100 BCE – 200 CE	Simultaneous rise of Han China, Kushan India, Parthian Iran, Axium in East Africa, and Roman Empire

Table 3: Historical and Archaeological Evidence for Economic Expansion and Contraction in the 1st Millennium BCE Early Iron Age

BCE	Greece	Italy	Syria/Levant	Egypt	Palestine	Mesopotamia	Iran	Anatolia	Other Europe	Carthage/Africa	India	China
1200-1150	C	C	C	M	C	C	C	C	C		C	
1150-1100	C	C	C	C	C	C	E?	C	C		C	
1100-1050	C	C	C	C	C	C	C	C	C		C	
1050-1000	C	C	C-	C	C	C	C	C	C		C	
1000-950	C	C	M	C	C	C	C	C	C		C	E
950-900	C	C		M	E?	M	C	C	C		C	E
900-850	C	M	E	C?	E?	E	C	C	M?		C	
850-800	E	E	E	C?	C	C	C	C	M?		C	
800-750	C	E	E	C?	E	C		C	M?		C	C
750-700	E	E	E	C?	C	E		E	E	E	C	C
700-650	E	E	C	E	E?	M	C		E	E	C	
650-600	E	E	E	E	E	E	C	E	E	E	C	
600-550	E	E?	E	E	E?	M		E	E	E	E	
550-500	E	C?	E	E	C	M	E	E	M	E	E	
500-450	E	C	E	C	C	C	E	C	M	E	E	
450-400	E	C	E	C	C	C		C	C	E	E	
400-350	M	C	E	M	C	C		E	C	E	E	E
350-300	E	E	E	C?	C	C		E	C	C	E	E
300-250	C	C	E?	M?	E	E		M	C	E	E	E
250-200	C	C	E?	C	E	E		E	C	E	E	E
200-150	C	M	E?	C	E	E	M?		C	E	E	E
150-100	M	M	C	C	C	E	M?	M?	C	C	E	E
100-50	C	M	M	C	C	E	E?	C	M?	C	E	E
50-0	C	E	M	M	M	E	E?	E	E	M	E	E
0-50 CE	C	E	M	E	C?			E	E	E	E	E
50-100 CE	C	E	E	E	C			E	M	E	E	E
100-150 CE	C	E	E	E	C			E	M	E	E	E
150-200 CE	C	M	E	E				E	M	E	E	E

Table 4: A Comparison of the 1993 and 2004 Early Iron Age Economic Periodicities

Phases	Frank (1993) Schedule	Revised Schedule (2004)
Contraction	1200-1000	1200-c.750
Expansion	1000-800	
Contraction	800-550	
Expansion	600/500-450/400	750-550/500
Contraction	450-350	500-300/50 (non-Asian Hellenistic areas including Greece through 50 BCE)
Expansion	350-250/200	300-150 (Asian Hellenistic areas, India and China)
Contraction	250/200-100/50	
Expansion	200/100 BCE – 200 CE	50 BCE – 200 CE