CHAPTER 11

THE PERSIAN NEAR EAST

PETER R. BEDFORD

1 INTRODUCTION

The Achaemenid Persian empire at its greatest extent covered an area from the Indus river in the east to Macedonia in the west, from the Aral Sea in the north to Elephantine in Egypt in the south. It was the largest polity that had yet existed in the world. Cyrus II laid the foundation of the empire when he led a successful Persian rebellion against his Median overlord in 553–550, going on to conquer Lydia in 546 and Babylon, which gave him control of the Near East, in 539. Later kings, notably Darius I (522–486) extended Persian hegemony westwards into Europe and eastwards across Central Asia. In a series of battles over 333–331 Alexander defeated the Persians to lay claim to their empire. The Achaemenid Persian empire thus lasted for slightly over two hundred years. It incorporated a myriad of languages and cultures (some seventy peoples and tribes according to Hdt. 3.90–4), as well as diverse forms of economic subsistence. This chapter focuses on one major region of the empire, the Near East.

Given that the Achaemenid Persian empire inherited and adapted pre-existing economic structures in the Near East, some reaching back into the second millennium, if not earlier, and that any consideration of economic growth cannot be confined to just an analysis of the Persian period, it is necessary to draw out the economic history of the Near East in the centuries preceding the rise of the Achaemenid Persian empire, specifically the period of the Neo-Assyrian (c. 950–612) and Neo-Babylonian (612–539) empires.[1] While this chapter is organized around topics set out in the Introduction – growth, population, urbanization, institutional framework, production and exchange, stock of knowledge – it will become clear that due to the nature of the available sources it is difficult to give each of these equal treatment.

Like "the Greco-Roman world," "the Near East" is a construct. For the first millennium it is constituted by three broad geographical areas: southern Mesopotamia (Babylonia), northern Mesopotamia (Assyria and the area west to the Euphrates), and Syria-Palestine, each with differing

[1] For a preliminary treatment see Bedford 2005.

https://doi.org/10.1017/CHOL9780521780537.012 Published online by Cambridge University Press

climates, crops produced, modes of exploitation of land and labor, levels of population and urbanization, and types of institutions. While the political unification of these areas under successive empires did indeed have an impact on their economies, it would be preferable to study each area individually. Some attempt is made at this in the present chapter, but the nature and distribution of the evidence remain problematical. For the Persian period much of the documentary evidence on economic matters comes from southern Mesopotamia (Babylonia) and cannot be generalized for the Near East as a whole. The archaeological evidence is predominantly from Syria-Palestine and is similarly specific to that region. Given that the Near East was one (large and important) section of the Achaemenid Persian empire, an understanding of its economy(ies) cannot be divorced from wider imperial economic structures.

II GROWTH

The character of the evidence makes it difficult to measure economic performance in any meaningful way. A case can readily be made for aggregate growth in the first millennium, coming off a low base at the close of the Late Bronze Age, but per capita growth is difficult to prove. Rising living standards of the ruling elites are no guide to the experience of the population at large, and in any case regional differences in economic performance have to be recognized and should be taken into account in the discussion concerning the performance of the ancient economy in general. Production in agriculture in Egypt and Mesopotamia was quantitatively so much superior to the production in Attica or Latium, that even if the latter regions experienced substantial growth and the former not, the performance of the former remained much better. Within the Achaemenid Persian empire one should undertake separate studies of southern Mesopotamia (irrigation agriculture), northern Mesopotamia, northern Syria, the Levant and Asia Minor (rain-fed agriculture), southern regions (Syrian steppe lands, suited only for extensive grazing). Other factors are the existence of rivers (for the water supply of humans and animals; as transportation routes) and ports (for any imports or exports).

Regional propensities for growth are highlighted when we focus on southern Mesopotamia (Babylonia). Date cultivation, a regional specialization, and barley were the two staples of agricultural production, while millet, sesame, watercress, mustard, garlic, onions, and leeks were also grown. Flax was grown to produce linen textiles. Sheep were important for the production of woolen textiles, as well as for meat; bovines were bred for traction, and for meat.[2] In the Achaemenid Persian period returns on the

[2] Potts 1997: 56–90, on agriculture and diet.

‘The map which appears here in the printed edition has been removed for ease of use and now appears as an additional resource on the chapter overview page’.

https://doi.org/10.1017/CHOL9780521780537.012 Published online by Cambridge University Press

barley crop in the alluvial soil could often be 1:16 to 1:24, although 1:12 was common.[3] In order to obtain these returns investment was needed in the building and maintenance of canals and levees since agriculture was dependent on irrigation. Also, sufficient labor, draft animals, and agricultural tools were needed to take full advantage of the cultivatable area. Due to the fertility of the soil and the use of the seeder plough the soil could be densely sown. In the Persian period, indeed beginning around 650 (or earlier), agricultural production was flourishing in comparison with earlier in the first millennium, paralleled by an increase in population, and we should probably speak of economic growth in this period. In comparison, for example, with the Ur III period (c. 2100) where seeding rates were about 55.5 liters of seed per hectare of barley, producing about 1,200 liters per hectare (1:21), agriculture intensified in Neo-Babylonian and Persian periods with seeding rates of 133.3 liters per hectare at Nippur, yielding around 2,000 litres (1:15).[4] While the seed: yield ratio is lower for the Persian period, the amount produced per hectare is considerably greater.[5] Such intensification must have been dependent on improvements in agricultural technique; control of waterways and canal maintenance, use of animals and tools, and modes of seeding.[6]

While published data from the immediately preceding periods (reaching back into the second millennium) are lacking for comparative purposes, growth in agricultural production was periodic throughout the history of southern Mesopotamia rather than a steady development. There were earlier occasions when due to political organization and sufficient labor this region saw remarkable levels of agricultural production. One thinks here of the early fourth millennium, which led to the rise of urbanism, the Early Dynastic period (c. 2900–2400), the Ur III period, and the Old Babylonian period (c. 1900–1600). Political stability was a necessary but not sufficient condition to promote agricultural growth. In the Kassite/Middle Babylonian period (c. 1600–1200), for example, Babylonia was politically independent and stable, active on the international stage, and experiencing something of a cultural renaissance. Population density and urbanization were at relatively low levels, however, which hampered agricultural production.[7] The Persian period saw a set of conditions, which will be commented on below, that promoted agricultural productivity.

How the agricultural surplus was used is also significant for economic growth. In the Neo-Babylonian and Persian periods it was exploited by

[3] Dandamaev and Lukonin 1989: 130 cite 1:14 as the Persian period average.

[4] Adams 1981: 186; van Driel 1999: 217–18.

[5] Ur III: 1,200 liters yield minus 55 liters seed = 1,145 liters/hectare; Nippur: 2,000 liters yield minus 133 liters seed = 1,867 liters/hectare.

[6] For an overview of agriculture in the Neo-Babylonian and Persian periods, see van Driel 1988; 1990.

[7] See Liverani 1988: 606–13 for an overview.

institutional landowners such as temples to promote urban production, particularly for craft goods (for example, jewelry, garments) that were used mainly in the temples, although some of these handicrafts were exported, and a sizeable proportion of the produce was distributed to temple retainers (either those who worked for the temples, both slave and free labor, or who had rights to a temple prebend). The crown was also a major landholder that would have redistributed a part of this surplus to its own retainers.[8] Investment by both temples and the crown in the building and maintenance of canals and levees, as well as the upkeep of farmland, animals, and implements were economic desiderata. There was also a sizeable amount of land in private hands, although since our documentation for Babylonia in the Persian period largely comes from temple archives and the archives of individuals and family "firms" who managed property on behalf of temples and the crown, private landholding is underrepresented in our sources. Thus it is difficult to determine the percentage of private landholding over that held by temples and the crown.

Northern Mesopotamia (the region around the Assyrian homeland and west to the Euphrates river) was a rain-fed agricultural region for wheat and barley that had great potential with a seed–yield ratio perhaps averaging as high as 1:10.[9] Sufficient labor to work the land was again a salient issue. The Neo-Assyrian empire imported peoples from elsewhere in the empire, from Syria-Palestine and Babylonia, into this region as is evidenced by a significant increase in the number and disbursement of settlements in the eighth and seventh centuries.[10] This resettlement must have resulted in increased agricultural production, the like of which may not have previously been known in the area. Part of this surplus was spent on the building and maintenance of Assyrian temples and their cults as well as on the building of new, large royal cities in the Assyrian homeland. Some of this land and labor was granted to senior officials in the imperial administration, who may have used the surplus in constructing regional palaces and urban centers. This practice was developed further under the Persians in their satrapal system. Texts from or pertaining to these settlements and their agricultural production is scant, but Kuhrt contends that the end of the Neo-Assyrian empire did not necessarily result in the demise of all these settlements, so they were potentially a source of considerable agricultural wealth for the Persian empire.[11]

[8] Van De Mieroop 1997: 154–7, 181–5.

[9] Wilkinson 1994: 497; he also notes (484–5) that this region has a variety of land use zones reflecting differing physical geography and climate.

[10] Wilkinson 1995; Wilkinson and Barbanes 2000; Wilkinson 2000: 235–7.

[11] Kuhrt 1995b. For the Neo-Assyrian period, in addition to the works cited in n. 10, see Fales 1973 for the area around Harran; Kühne 1995 for the Habur region; and Fales 1990 on conditions in the Assyrian countryside more generally.

The significance of agricultural production in northern Mesopotamia during the Neo-Assyrian period lies in the fact that it was conducted by a population that arguably would have been less productive, from the point of view of the Assyrian economy, had they remained in their home territories. To be sure, some of this population was resettled in new Assyrian cities, but to generalize, residents of Syria-Palestine, a sizeable percentage of them urban residents as the Assyrian royal annals aver, would have been put into agricultural labor. Similarly, peoples from southern Mesopotamia, mainly Arameans and Chaldeans, many of whom would have been involved in pastoralism, as well as urban Babylonians, were deported and given over to agricultural work in northern Mesopotamia. This should have resulted in overall growth in agricultural production (new workers producing more than they consumed, including the costs of housing; how the resettled, formerly urban, population was organized for agricultural production is not directly addressed in our sources). I believe it would be fair to say, as van der Spek notes for the Seleucid period (this volume), that the resettlement of peoples in northern Mesopotamia was not the result of an economic plan with the goal of increasing agricultural production. The Assyrian royal annals state that its purpose was to punish recalcitrant vassals and to pacify their territories. But given the likelihood that for Syria-Palestine, at least, peoples from elsewhere in the empire were moved in lower numbers to replace the deported, largely urban, populations, the Assyrians may have been conscious of what they were doing. A similar policy was pursued by the Neo-Babylonian empire, which, taking Judah as an example, deported a portion of its (urban) population and did not replace them. Does this mean that these empires saw no need to replace urban populations in certain subjugated territories because they were of less economic utility? By the Persian period there was one clear outcome of the Babylonian policy of deportations to southern Mesopotamia: a marked increase in the amount of land under cultivation with consequent increases in agricultural production from the region. The Persians' own deportation of peoples to Persis increased in agricultural production, construction, and manufacturing, as evidenced in the Persepolis texts.[12]

By comparison with Mesopotamia, Syria-Palestine was less productive agriculturally due to the nature of the terrain, although it produced regionally specialized produce such as wheat, olives, grapes, and wine, along with peas, lentils, and mustard. The Assyrian empire may have had an effect on agricultural production given that David Hopkins interprets the intensification of olive cultivation in Judah during this period to be the result of Assyrian demands, and Gitin sees the establishment of industrial

[12] Aperghis 2001; Briant 2002: 433–5, 439–46.

production of olive oil in the Philistine city of Ekron in the same terms.[13] In Syria-Palestine the long distance trade conducted by the Phoenican cities had steadily increased during the first half of the first millennium.[14] In the early first millennium these cities were involved in regional trade, for example, the spice trade from Arabia, through Israel, to Tyre. The Phoenician coast and north Syria, extending into south-eastern Anatolia formed another zone of economic interaction. By the Persian period Phoenician political control extended from northern coastal Palestine to northern Syria and economically integrated the coastal and inland regions.[15] Most importantly, the Phoenician cities are well known for their trading interests focused on the Mediterranean littoral. Some have suggested population pressure as the impetus for establishing trading colonies, but the colonies were established only after a lengthy period of trading contact. The original impetus seems to have been mercantile at root, later intensified under pressure from the demands of imperial overlords. This trade was an important source of raw materials, especially metals, and the value of this trade steadily increased throughout the first millennium. Expanding trade networks were a feature of the first millennium (see further in section VI below). Investment in infrastructure, such as the famous Persian road system, facilitated trade.[16] Trade with the Gulf region and beyond, which is attested as early as the third millennium intensified under the Assyrians and was a feature of the Persian period economy.[17]

The Persian period should be viewed as a continuation of the Neo-Assyrian and Neo-Babylonian periods, although new developments can be detected that would have underpinned increased economic growth. As will be touched on in the following sections, it is possible to identify increases in population and agricultural production, improvements in institutional framework (specifically in Babylonia), and development in trade, but as with the immediately preceding periods the evidence intimates growth rather than offering the means to measure it. Overall, the evidence points to the likelihood of growth throughout the first millennium, especially given the demonstrable, although largely unquantifiable, increase in agricultural production. But if population was rising (see next section), growth depended on production outstripping population increases. Settlement of deported populations on more productive agricultural land should have facilitated this and underpinned growth. After the political and economic breakdown at the end of the Late Bronze Age economic performance improved, largely on the back of political stability, from c. 1000 onwards. Empires were at different times conducive to or disruptive to economic

[13] Hopkins 1997: 29; Gitin 1997: 87–91, but cf. Schloen 2001: 141–7.
[14] Bisi 1991; Bondì 1991; Liverani 1991; Sherratt and Sherratt 1993; Aubet 2001.
[15] Lehmann 1998. [16] Graf 1994; Briant 2002: 357–64.
[17] Salles 1990; Potts 1990 for the earliest periods.

growth, but in general the political and economic integration they fostered were positive for the economy. While emphasis is usually placed on the distinctive characteristics of the successive empires (Neo-Assyrian, Neo-Babylonian, Achaemenid Persian), the period c. 750 through to Alexander, at least, might be viewed as a single period – the regimes changed, but the form of polity (empire) and economic policies remained consistent. However, significant drivers of economic growth, such as capital investment, improved technology, and investment in human capital, are barely evident.[18] This means that in an economy based on agriculture there was very slow growth. If we allow 0.1 percent growth per annum, which is probably high, then economic growth over the period 1000–300 was 70 percent. Life at the beginning of the Hellenistic period had improved compared with the beginning of the Iron Age. But as Saller notes, "to say, for instance, that productivity and standard of living improved 50 percent sounds 'significant,' but takes on a different meaning if one adds 'over a thousand years'."[19]

III POPULATION

It is generally assumed that the population of the Near East increased throughout the first millennium, but the clear regional differences again highlight problems in viewing the Near East as an undifferentiated unit. The end of the second millennium saw considerable political disruption in Anatolia, Syria-Palestine, and Upper Mesopotamia which led to a decrease in urbanism (particularly in Anatolia and the northern Levantine coast). Despite population movements – Anatolians into northern Syria, Philistines on the southern Levantine coast – population across northern Syria and northern Mesopotamia may have decreased due to a prolonged period of desiccation.[20] Population levels in these areas begin to recover in the tenth century. Population fluctuations characterize Syria-Palestine in the first millennium. In Palestine, for example, it is estimated that the population west of the Jordan in 1000 was c. 150,000.[21] This ballooned to c. 400,000 by 750, the population high point for the pre-Roman period.[22] If these estimates are extrapolated for Syria, using a population density of 31 people per km^2 (the highest population density for Palestine; cf. 100–140 people per km^2 for classical Attica at its peak and 50–75 people per km^2 for classical Syracuse), the total population of Syria-Palestine c. 750, that is, around the time of Assyrian hegemony in the region, could be estimated at over 3 million people. The Neo-Assyrian and Neo-Babylonian periods witnessed a sharp decline in population in central and southern Syria-Palestine

[18] On these drivers see Saller 2002: 261–2, and above, Chapter 1. [19] Saller 2002: 258.
[20] Neumann and Parpola 1987; Wilkinson and Barbarnes 2000: 399–400.
[21] Broshi and Finkelstein 1992: 55. [22] Broshi and Finkelstein 1992: 53–4.

due to war losses and deportations. Carter estimates the population of late-Persian period Judah (450–332), a considerably smaller territory than the former kingdom of Judah consisting only of the Judean hill country and the area north of Jerusalem, to have been c. 20,000, coming off a low base of c. 13, 500 in the early Persian period (538–445); that is, about one-third of the population per km² of the same area in the eighth century.[23] Using this figure as a guide for inland central Syria and Palestine, and recognizing that population densities on the Levantine coast had recovered, a population of c. 1.5 million could be suggested for the whole of Syria-Palestine for the late-Persian period. This figure coheres with population estimates drawn from Aperghis' analysis of Herodotus' tribute list attributed to the time of Darius I (Hdt. 3.89–95) and which includes the extra expenses Babylonia and Asia Minor met by way of providing for the king's table (Hdt. 1.192).[24] At the arrival of Alexander in the Near East Aperghis estimates that the population of the Persian empire stood at around 30–35 million (including Egypt and the eastern provinces), but this seems to be on the high side, even accepting his calculations that lead to the conclusion that Mesopotamia would have had a population at the time of around 5–6 million.[25] Scheidel's estimation of 20–25 million, including also the Aegean, is likely to be closer to the mark.[26] In summary, the population of Syria-Palestine increased in the early first millennium (1000–750) under the independent kingdoms of the region from c. 1 million plus in 1100 BC to around 3 million in 800–750 and then went into sharp decline until a slight recovery in the Persian period to about 1 million plus again. On the basis of these figures, the activities of the Neo-Assyrian and Neo-Babylonian empires had a devastating effect on the population of Syria-Palestine, which as a consequence must have had profound ramifications for economic production and performance.

Population decreases in Syria-Palestine were partly offset by increases in Mesopotamia where deported peoples were resettled as a result of Assyrian, Babylonian, and Persian imperial policies. The Assyrian royal annals claim that well over one million persons were relocated throughout the empire in order to quell rebellions.[27] Even if that figure is suspect, there is no doubting the sizeable population movement. As already mentioned, the marked increase in village settlements in northern Mesopotamia, particularly in the late-Assyrian period (from Tiglath-Pileser III, c. 750 onwards) is evidence of where much of the deported populations were resettled. We should expect a natural increase in the population of Assyria during the Neo-Assyrian period as a factor as well. Figures for deportations under the

[23] Carter 1999: 201; Lipschits 2003. [24] Aperghis 2001: 79–81.
[25] Aperghis 2001: 79 for the total population; 74–6 for the population of Mesopotamia.
[26] See above, Chapter 3.
[27] Oded 1979: 19–22, who estimates the total number deported at 4.5 million, which must be considered too high.

Babylonian and Persian empires are not available, but it is clear that populations were not moved on the scale undertaken by the Assyrian empire.[28] The example of the Judean exile under the Babylonians and restoration under the Persians is clear evidence of the undertaking. According to the regional survey of Adams, the population of southern Mesopotamia was steadily increasing from the mid-seventh century, or perhaps a century earlier, with many new villages of various sizes coming into existence, some of this increase being due to resettlement of deportees.[29] Another factor in the increase in settlements in both northern and southern Mesopotamia was the sedentarization of formally (semi-)nomadic groups, a process that had already begun in Syria-Palestine with the formation of independent kingdoms in the early to mid-first millennium. In summary we can say that Syria-Palestine went through a sharp population increase in the period 1000–800, then a sharp decline, with some recovery in the Persian period. Northern Mesopotamia went through a steady population increase from 1000 until the Persian period. Southern Mesopotamia underwent a population decline until it was arrested by the early seventh century, at which point it saw a steady increase. As a general trend there was a shift in population from Syria-Palestine to Mesopotamia. A total population for the Near East (Herodotus' fifth satrapy [excluding Cyprus] and ninth satrapy) at the end of the Persian period of c. 7 million can be compared with an estimated population of 4.5 million at 1000, and 5.5 million at 750. While recognizing the regional differences, the population of the Near East as a whole increased around one-and-one-half times over the period 1000–350 (cf. a probable ten-fold increase in Mediterranean–Greek population between 900–300).[30]

In the Persian period, the economic ramifications of population density and urbanism can be seen in contrasting Judah in the Palestinian highlands with its neighboring coastal region. In Judah the population was in difficult economic circumstances as reflected in contemporary biblical texts (Haggai, Zechariah 1–8, Ezra-Nehemiah). The population struggled to subsist and found it difficult to generate a sufficient surplus to rebuild the Jerusalem temple and the city wall of Jerusalem. Jerusalem had few residents until Nehemiah enforced a synoikism (ca. 440). In comparison, the city of Der on the coast prospered in trade, building, and quality of life.[31] Throughout the Persian period the inland areas of central and southern Syria-Palestine were generally in economic decline in comparison both with the coastal regions and with the period preceding the arrival of the Mesopotamian empires. The comparison regarding economic performance can be further

[28] For the Persian period see Briant 2002: 433–5, 505–6.

[29] Adams 1981: 177–8, who notes that the population of Babylonia increased five or six times over the Middle Babylonian–Persian periods (1200–500); Brinkman 1984: 3–10.

[30] See above, Chapter 8. [31] Stern 1994.

extended when southern Mesopotamia, undergoing an economic boom and population increase, is brought into the picture, as will be touched on below.

IV URBANIZATION

As already noted there was considerable population movement in the Neo-Assyrian and Neo-Babylonian periods. This led to increased urbanization in the Assyrian home provinces and, later, in Babylonia, while urban centers decreased in central and southern Syria-Palestine. North Syria was relatively well urbanized with around a dozen cities in the 20–50 hectare range.[32] Cities in central and southern Syria-Palestine were few and generally considerably smaller than their Mesopotamian counterparts. Jerusalem, for example, might have been as large as 50 hectares at its height in c. 700, which would have given it a population of 5,000, assuming a population density of 100 persons per hectare. Urbanism was not extensive with most "cities" less than 10 hectares; for example Megiddo, redeveloped as an Assyrian provincial capital, was 6 hectares in size. Broshi estimates that in Iron Age II Judah and Israel about 34 percent of the population lived in "urban" settlements larger than 5 hectares (although it is questionable that a site under 10 hectares should be considered "urban").[33] Tyre was arguably the largest of the coastal cites at 53 hectares.[34] The Assyrian capitals of Assur, Nimrud (Kalhu), Khorsabad (Dur Sharrukin), and Nineveh were 75, 360, 300, and 750 hectares respectively. Although much of the area of these sites was not devoted to housing, residential areas may have been densely populated.[35] The Assyrian empire also promoted regional centers, such as Carchemish and Til Barsip/Kar Shalmaneser (60 hectares) in northern Syria and Dur-katlimmu on the Habur (55 hectares), a program followed by the Persians with their satrapal capitals. Few sites in northern Mesopotamia were larger than 10 hectares.[36] Babylon at its height in the early sixth century covered 850 hectares. Population estimates for Babylon and the main Assyrian cities have been resisted here due to the size and number of palatial buildings and temples on the sites, the extent of gardens and orchards, and the lack of estimates for the extent of private housing. A population

[32] Mazzoni 1995. [33] Broshi 2001: 83.

[34] Aubet 2001: 34 suggests a population for Tyre of about 30,000 (density 520 persons per hectare), which must be considered too high. On Sidon, the most important of the Phoenician cities in the Persian period, see Elayi 1989.

[35] Åkerman 1999–2001 argues for a population density of 600–700 persons per hectare in one neighborhood of Assur, giving a total population of about 50,000. She concurs with the estimates of Olmstead, Parpola, and Sasson for Nineveh of around 300,000, with a population density of 630 persons per hectare. These estimates must be judged as too high. See the discussion in Van De Mieroop 1997: 94–7.

[36] Wilkinson 1995.

for Babylon of 80,000 is generally accepted.[37] Babylonia from the seventh century was highly urbanized with a number of cities over 50 hectares (Babylon, Sippar, Borsippa, Nippur, Uruk). In southern Babylonia there were a further twenty-five sites in the 10–40 hectare range.[38] The largest cities in inland Palestine in this period – Lachish and Gezer – were only 7.2 hectares.[39]

With the decline of the Assyrian empire, the former royal cities in north-eastern Mesopotamia were probably reduced in size as the tribute that had supported them now went to Babylonia and, later, also Pasargadae, Persepolis, Susa, and other cities holding Persian treasuries.[40] Like the Assyrians, the Persians invested revenues in constructing new royal cities in their home province (Pasargadae and Persepolis in Persis). The rise of empires in the first millennium saw urban centers clustered in discrete areas: north-eastern Mesopotamia under the Assyrians, southern Mesopotamia under the Babylonians, and southern Babylonia and the Levantine coast under the Persians. The Hellenistic period marked a new era of urbanization in the Near East.[41]

The role of cities in the imperial economies is difficult to establish. They demanded considerable labor and materials in their construction.[42] Some of these cities were for royal display and were centers of imperial administration. The relationship between cities and their agricultural hinterland, which included villages, is difficult to establish on the basis of extant sources. Cities were not only centers of administration and specialist craft production, they were also agricultural centers with a large portion of their population directly engaged in agricultural production. Large cities commanded a hinterland of 5–6 km. radius, some of which was tilled by the people who lived within the city walls.[43] Cities situated on rivers could also be supplied from a wider economic region.[44]

V INSTITUTIONAL FRAMEWORK

In comparison with other aspects of the Near Eastern economy outlined in this chapter, information regarding institutions and organizations is relatively plentiful seeing that most extant documentary sources are generated by organizations (the state, temples, families, firms) and reflect institutional matters. This permits an extended discussion, although it is of

[37] Gates 2003: 181. [38] Adams 1981: 178.

[39] For Judah see Carter 1999: 215–48; for an overview of the archaeology of Palestine and Transjordan in the Persian period see Stern 2001: 373–460.

[40] On Pasargadae, Persepolis, Susa see Dandamaev and Lukonin 1989: 238–59; Potts 1999: 325–37; Briant 2002: 84–8, 165–70.

[41] See below, Chapter 15. [42] Parpola 1995; Briant 2002: 430–1. [43] Wilkinson 1989: 37–8, 44.

[44] On the role of waterways in trade see Fales 1993; Briant 2002: 277–84.

course possible to obtain only a partial picture. The central concern of this section is the impact of imperialism on institutions and organizations, specifically regarding the control and exploitation of agricultural land. An imperial polity is a type of organization, but in our period it was determinative for many other organizations and institutions in the economy. It should be noted, though, that the documentary base for this discussion is skewed. For the Neo-Assyrian period, most texts are generated by the imperial administration, so we obtain a reasonable understanding of the concerns and attitudes of those organizing the empire, although much of the information pertains to northern Mesopotamia.[45] In contrast, for the Neo-Babylonian and Persian periods, the texts are generated by temples and by important urban families that have close connections with the temples and the crown.[46] The geographical focus is southern Mesopotamia. We have little by way of administrative texts from Babylonia for these later periods, although it is possible to deduce information from the extant temple and family archives. The Persepolis Fortification and Treasury texts offer insight into aspects of the administrative organization of Fars (Persis), the heartland of the Persian empire, which, when taken together with sources from elsewhere in the empire, also afford an opportunity to make some generalizations.[47]

Regarding the control and exploitation of agricultural land, a regional approach again proves a fruitful way forward. In the first millennium Syria-Palestine underwent a series of developments in political organization. From around 1000 and continuing into the eighth century, the political landscape of Syria-Palestine changed from city states, that had characterized the Bronze Age, to a series of independent kingdoms controlling much larger territories.[48] On the face of it all these polities were organized under a king, had a clear sense of borders, and must have had established taxation regimes. They arguably also were characterized by family/kin-based land holding and "free" labor. Neo-Assyrian hegemony over the region developed from c. 745 and these independent polities were gradually extinguished and brought into the provincial system of the successive empires (Neo-Assyrian; Neo-Babylonian; Achaemenid Persian). By the Persian period Syria-Palestine had been under indirect or direct imperial rule for some two hundred years. What was the impact of imperial regimes on the Syro-Palestinian kingdoms? The first stage of Assyrian imperialism in Syria-Palestine was the extraction of tribute as an acknowledgment of political hegemony. This not only put

[45] Postgate 1979. [46] Oelsner 1976; 1984; 1987.

[47] Briant 2002: 422–71. On the Persepolis texts see also Koch 1990; Aperghis 1997; 1998; 2000; Brosius 2003a.

[48] For the Aramean kingdoms see Dion 1997 (economy: 325–66); Lipinski 2000 (economy: 515–97). For Judah/Israel see Ahlström 1993: 421–568. On Transjordan and the problem of the polities they formed see La Bianca and Younker 1995; Bienkowski and van der Steen 2001.

pressure on the economies of client states, it arguably had an impact on production and trade (see section on Growth above). The Arabian tribes maintained this status under successive imperial regimes. The second stage of integration into the empire, evident also in the Neo-Babylonian empire, was provincialization, the form of imperial organization inherited by the Persians. The client state, formerly independent, at least in respect of having indigenous kingship and institutions, was incorporated as a province. Kingship was eradicated and an Assyrian governor installed, portions of the population were deported and replaced by others from elsewhere in the empire; cities were destroyed. For the Syro-Palestinian kingdoms deportation meant the end of the family/kin-based agricultural holdings. It is unclear on what basis either the remaining population or those who were imported into the area held land. Did provincialization extinguish the property rights of the remaining indigenous population? The example of Jeremiah's purchase of a plot of land just prior to Judah's incorporation into the Babylonian provincial system (Jeremiah 32.1–15) might prompt one to think that it did not, but it could be viewed as a symbolic act expressing hope for a return to economic and social normalcy. In Babylonia under the Assyrians, by way of comparison, it appears that property rights were upheld, although it might be asked whether the favored status of Babylonian cities was a significant factor here. In Persian period Judah property rights are difficult to determine. Nehemiah 5.3–4 has Judeans mortgaging their fields to obtain grain during a famine and also borrowing to pay "the king's tax on our fields and vineyards," which likely point to ownership of land. Perhaps more salient is Leviticus 25.23, conventionally dated to the Persian period, which states that land is inalienable because it is "owned" by the deity. Judeans are merely granted usufruct by the deity. This was arguably a means of shoring up private ownership of land.

Under the Assyrians it is less likely that deported peoples received property rights, even usufruct. The problem is sharpened when we consider the deportation of peoples to northern Mesopotamia under the Assyrians. Land sales are scarce for the Neo-Assyrian period, and those that exist are clearly from "Assyrians," not deportees.[49] It is worth mentioning in passing that this land was likely to have also been held by family/kin groups since the witness lists on these sales include relatives of the vendor. Deportees would have had fewer legal and property rights than native Assyrians, and it appears that numbers of them were placed on agricultural land that was gifted to leading members of the Assyrian bureaucracy as a means of shoring up support for the incumbent king. Such grants are also evidenced in the Persian period where not only the royal family but also satraps and other officials controlled land in various parts of the empire (for example,

[49] Postgate 1989; Fales 1984.

Arsames). Babylonian and Persian practices (the latter indebted to the former) are seemingly different from those of the Assyrian empire. The Babylonian and Persian empires placed deportees from the same area together in villages on the alluvial land and, as noted below, they could have usufruct rights to land.[50]

Liverani contends that throughout the first millennium landed property had been moving from the hands of private owners into the control of large organizations such as the crown and temples and also leading families favored by relations with the crown.[51] Part of the explanation lies in imperialism; the crown commandeered the lands of subjugated territories, some of which was ceded to temples and the ruling elite. Another important factor for Liverani is debt burden. Private landholders forfeited their lands to creditors with the result that land was concentrated in fewer hands and the former landowners were reduced to hired labor or to working the land on behalf of its new owners. This is seemingly an accurate representation of northern Mesopotamia in the Neo-Assyrian period. However, for southern Mesopotamia in the Neo-Babylonian and Persian periods the picture is somewhat more complicated.

The differentiation between various groups in Babylonia during the Neo-Babylonian and Persian periods has been a recurring topic in a number of studies by Dandamaev.[52] He sees three economic "classes" (although he seeks to qualify this term to distinguish it from modern conceptions): first, those "who owned property in the means of production but did not engage in productive labor." This is the smallest group, consisting mainly of high royal and temple officials, large landowners, merchants, and businessmen (but slaves involved in business could be included). Second, the bulk of the population that "consisted of persons who possessed the means of production and were engaged in productive labor but did not exploit the labor of others." Free peasants and craftsmen, both "citizens" and deportees, constituted this group. Third, "the sector of compulsory labor," consisting of slaves, "the dependent populace deprived of property in the means of production," and free citizens working as debt slaves and hired workers. These "classes" cut across the legal status of the population. Here four groups can be identified. First, "fully fledged citizens" who were members of city or town assemblies; second, "free-born persons deprived of civil rights" who did not own land within the urban district's precincts (some settled on temple or royal land, others craftsmen and merchants); third, "various dependent groups" who were dependents of temples, the state, and private individuals; fourth, slaves, who could be distinguished from the third group as they could be sold. These legal and economic relations

[50] Eph'al 1978; Dandamaev 1983. [51] Liverani 1984.
[52] Dandamaev 1974; 1981; 1984: 647–8, 658–9; Dandamaev and Lukonin 1989: 152.

are not necessarily generalizable across the empire, but they are suggestive. The problem remains lack of sources from other areas for comparative research.

An important development under the Persians was the *hatru*, a corporate group formed of smallholders to whom the government had allotted land.[53] It first appeared in the late Neo-Babylonian period, but flourished under the Persians. *Hatru*s could be constituted of military personnel who received land on which was incumbent an obligation to supply a soldier, a horse, or military equipment. Other *hatru*s were named for administrative, craft, or agricultural occupations of their members, for the estates or administrative organizations to which their members were attached, or for the geographic or ethnic origins of their members (including deported populations). Here it is clear enough that settlement policies served the needs of the state by both expanding the amount of land under cultivation (increasing agricultural production and taxation) and having an obligated population for military service. We know that in the Assyrian empire landholding placed obligations on its owners, but from the available evidence this extended only to "Assyrians," not to deportees.[54] Deportees were incorporated into the Assyrian army, but not on the basis that we see in Babylonia under the Persians (this system was arguably used elsewhere in the empire; see the Jewish and Aramean military colony at Elephantine in Egypt).

Land held in *hatru*s was not alienable, but it could be inherited and passed on in dowries. It could also be used as a pledge in exchange for a loan. The significance of pledging land is summarized by Wunsch:

> . . . if the debtor fell behind with interest payments, the land converted into an antichretic pledge . . . [The creditor] thus became the virtual owner of the land and was entitled to rent it out. This shift in the control of the land through debt did not necessarily change the land's use or occupancy. The most appropriate tenant was the debtor himself. He ended up working the field, performing the duties that were linked with it while trying to repay the capital amount of his debt. This was of course more difficult under such conditions, as a substantial part of his crop had to be paid as rent to the creditor-lessor. Indebtedness therefore created a long-term dependency that provided the creditor with access to land and its usufruct even though no actual transfer of title took place.[55]

This is seemingly similar to the development Liverani sees for northern Mesopotamia under the Assyrians where debt led to loss of land, with the difference that the members of the *hatru* were not the "owners" of the land; that remained in the hands of the crown. It further coheres with Liverani's argument that throughout the first millennium land was increasingly in the

[53] Stolper 1985: 70–103. [54] Postgate 1974.
[55] Wunsch 1999: 408; similarly Stolper 1985: 104–7. This view is questioned by Jursa 2002a: 209–13.

control of the crown, temples, and elite families at the expense of "private" (families/kin groups) owners.

This discussion raises the vexed issue of land "ownership" in the Near East. We need concern ourselves here only with the first millennium, but it is worthwhile to be aware of the protracted debate over forms of ownership in third and second millennium Mesopotamia.[56] In the above paragraph both "control" and "ownership" of land in Babylonia were used, highlighting the problem of their relationship. In contrast to Liverani, Dandamaev holds that there was an increasing privatization of land in the Persian period.[57] If by "privatization" one means that the usufruct of land was dispersed more widely through the introduction of *hatru* organizations, this is true. However, if "privatization" is construed as ownership, in the sense that the land was alienable, it is not. As has already been mentioned, that land remained a crown possession. It is worthwhile to note in this context the common misperception, albeit now receding from the literature, that the crown was the actual owner of all the land in the empire. There were royal lands and lands that had been ceded to satraps and other members of the ruling elite, which might also be construed as part of the royal estate. There were also lands in the *hatru* class, which also belonged to the state. But taken together these accounted for but a fraction of all agricultural land. In Babylonia, for example, temples were arguably the largest landholders, although, as mentioned earlier, this too might be a misperception based on the extant sources from temple archives. Private property was considerable in Babylonia, even if it is underrepresented in our sources. This situation arguably obtained throughout the empire.

Two other developments in the Neo-Babylonian and Persian periods are significant in the economic life of Babylonia. The first is the emergence of family "firms." We have archives from a number of urban families that attest their close economic relationships with both the crown and local temples.[58] Two of the most closely studied are the Egibi and the Murashû families. Both families obtained management contracts to oversee production on land held by the crown and temples. Because temples held more lands than they were able to exploit with their own labor resources, they contracted with firms such as the Murashûs to place the land under cultivation. The Murashûs negotiated rental terms with the temples then rented on portions of the land to various farmers, often organizing for them labor, draught animals, equipment, water rights, tax payments, and the like, all as part of their contract.[59] The Murashûs were able to realize a profit from these

[56] Renger 1995 for an overview, with the Neo-Babylonian and Persian periods treated on 308–18.
[57] Dandamaev 1996.
[58] For example, Kümmel 1979; Stolper 1985; Joannès 1989; Jursa 1999; Beaulieu 2000; Bongenaar 2000a; Wunsch 2000; Abraham 2004.
[59] Stolper 1985; van Driel 1989.

transactions, leading scholars to characterize them as "entrepreneurs."[60] Other "entrepreneurial" activities of the Murashûs included contracting with *hatru* landholders to meet their tax payments through exchanging produce on their behalf, and charging a fee. This short-term credit facility has been considered "banking" by some commentators. While the Murashûs were clearly fulfilling a need for credit, they were lending their own silver as a business venture, not lending silver invested with them for a profit.[61] The activity of the Murashûs as middle-men between both temple and the state, on the one hand, and agricultural producers, on the other, is also an innovation of the Persian period. It facilitated agricultural production and arguably constitutes an economic advance over arrangements in the earlier first millennium.

The Egibis also managed large tracts of crown land in a manner similar to the Murashûs. They were further involved in *harranu* partnerships, a business partnership in which the two parties involved drew up a contract to share both profits and losses on a commercial agricultural venture.[62] As Wunsch explains it:

> One partner supplied the financial backing, while the other oversaw the field work, *i.e.*, lending the silver to farmers, collecting the payments due in commodities at the time of harvest in the countryside (usually at the canal), negotiating with officials about taxes and transport fees, renting boats for shipment, and storing and selling the products (although textual evidence is lacking for this last step).[63]

Seeing that the normal rate of interest for loans was 20 percent, the partners expected to see a return of over 40 percent on the investment to obtain a net return of at least 20 percent each. There are no examples where the capital to be loaned in a *harranu* partnership had first been borrowed in order to be invested; one of the parties had the capital at hand to invest. A sense of the political stability that underpinned business transactions in Babylonia is given by a long-term lease contract drawn up by the Murashûs with a certain Bagavir. He rented two fields to the Murashûs for sixty years with a penalty clause should he withdraw the land. The total amount of rent was paid in advance.[64]

The second significant development is the role of temples in the economy. Beside the crown, temples were the main landholding organizations in Babylonia and were thus major agricultural producers. They were also sites of specialized craft production, they were major slave holders (although it must be remembered that slavery in Babylonia was not as extensive or as economically important as it was in classical Greece or the Roman empire),

[60] Stolper 1985; Joannès 1995; van Driel 1999. [61] Similarly, for the Egibis, Wunsch 2002: 247–9.
[62] See also Lanz 1976; something similar may have obtained in Assyria in the Neo-Assyrian period, see Radner 1999: 109–19.
[63] Wunsch 1999: 395. [64] Dandamaev and Lukonin 1989: 135.

and they were major employers of free labor (both for agriculture and crafts).[65] Babylonian temples were always significant in the regional economy, and for the first millennium their importance reached a peak during the Neo-Babylonian and Persian periods. While Finley is correct to contrast temples as major landholders in Babylonia with "private" landholding in the Greco-Roman world,[66] it is important to note that the temples could be construed as a mechanism for agricultural production that served the interests and needs of the citizens of the city in which the temples were located (as well as serving the interests and needs of the organization and its elites). Following Dandamaev, who highlights that citizens obtained prebends or other rights to temple-managed production, we might say that the temples, while technically not "owned" by the citizens, were companies in which citizens were silent shareholders. That is, the temples held land on behalf of the citizens of a city. This is arguably an idiosyncratic view of Babylonian temples, but it deserves closer attention. It further serves to problematize the significance and role of "citizenship" in Babylonia in order to compare it with citizenship in, for example, Greek cities, specifically by bringing the issue of the relationship between citizenship and land holding into sharper relief.

It bears pointing out in respect of institutions that the Near East had a well-developed legal system based on a long-standing tradition; by the Persian period it was millennia old. In the Neo-Babylonian and Persian periods there is evidence for the drawing up of contracts, leases, "wills," land sales, slave manumissions, dowries, and the like, which is predicated on their enforceability. Babylonia had a system of courts and judges – some appointed by the crown, others appointed by the city, others appointed by the temple, as each of these organizations had their own jurisdictions – to whom disputes could be referred for resolution.[67] While witnesses could be called, the most significant element in any case was the written text. Courts would test the accuracy and legitimacy of documents in order to determine the outcome of a case. This is why private archives feature in the extant sources. Families and family "firms" needed to retain the written record of an economic or legal transaction in order to defend their claim to rights, ownership or legal status. Persian support for local legal traditions is evidenced throughout the empire.[68]

Both the Neo-Babylonian and Persian empires fostered the activities of *harranu* partnerships and family "firms" such as the Egibis and the Murashûs, thereby making a number of leading urban Babylonian families

[65] On slavery see Dandamaev 1984; Dandamaev and Lukonin 1989: 152–77; Baker 2001. On crafts see Renger 1971.

[66] Finley 1999: 28–9.

[67] These roles and relationships need further study; see provisionally Wunsch 1997–8; 1999–2000.

[68] Briant 1986b; 2002: 510–11, 956–7; Dandamaev and Lukonin 1989: 116–30.

wealthy. The close relationship between the state, the temples, and these families was mutually advantageous economically. While the state kept a watchful eye on the economic and social power of Babylonian temples, including, in the Persian period, taxing the temples, they were careful to manage the relationship so that temples remained economic engines in their respective areas of southern Mesopotamia.[69] This is understandable for the Neo-Babylonian period when the temples were, of course, indigenous organizations. It is significant that the Persians continued in broad terms the Neo-Babylonian policy towards Babylonian temples. Such an attitude was not limited to Babylonia. As a generalization, the Persians fostered good relations with organizations and leading persons in subjugated territories as a means of pacification and thus lowering the costs of running the empire. Respect for the cults of subjugated peoples, the use of local elites as administrators of subjugated territories, and the fostering of an imperial ideology that encouraged a view of mutual benefit (reciprocity) all enhanced the opportunity for economic performance.[70] The Assyrians were similarly concerned but had proven unable to integrate the empire sufficiently so that they were forced to undertake provincialization and mass deportation.

The outcomes of provincialization and mass deportation inherited by the Persians from the Neo-Assyrian and Neo-Babylonian empires nevertheless served their political and economic interests well. Increased agricultural production and economic activity in Babylonia are only part of the picture. The provincial system was developed by the Persians into the satrapal system of discrete regions headed by members of the Persian elite.[71] Within satrapies smaller polities were usually governed by indigenous leaders.[72] One significant development was in the area of taxation.[73] There can be no doubt that the Assyrians and Babylonians extracted taxes from their provincial holdings, just as they extracted tribute from client states. We do not know, however, how the central administration determined the amount to be paid by provinces, or what the amounts were for that matter, and tribute from clients seems to have been imposed on an *ad hoc* basis. While the Persians continued forms of taxation inherited from the preceding empires,[74] Darius I is commonly credited, on the basis of Hdt. 3.89–95, with implementing a taxation regime for the empire that took into account regional productivity, perhaps determined in part by a considered assessment of the

[69] Dandamaev 1976.

[70] Briant 1986b; Dandamaev and Lukonin 1989: 347–60. [71] Petit 1990.

[72] Dandamaev and Lukonin 1989: 103–7, and on administration more generally, 96–116; Tuplin 1987: 113–37.

[73] Dandamaev and Lukonin 1989: 177–95; Tuplin 1987: 137–57; Briant 2002: 388–471; van Driel 2002: 153–322 offers a detailed overview of taxation in Babylonia in the Neo-Babylonian and Persian periods, which emphasizes our partial understanding.

[74] Zaccagnini 1989a; 1989b.

amount of land under cultivation, yields, and, for the Arabian tribes at least, the value of traded goods. In Babylonia, fields were measured and yields estimated, while in Judah individual families' concern to meet "the king's tax" (Nehemiah 5.4) could point to a similar system.

Herodotus 3.89–95 is a problematic text.[75] We do not know if the amounts listed account for all forms of taxation, including tariffs, payments made to the satrap and local governor, and the like, or are only taxes imposed by the central administration on production and trade. Further, the amounts are given in silver. Does this mean that all taxes were due in silver or are these amounts silver equivalencies for taxes that could be paid in silver and/or in kind? Nehemiah 5.4 again points to payment in silver, but the Persepolis Fortification and Treasury texts attest that taxes were received in both silver and in kind. And the satrapal treasuries included granaries from which one might conclude that some taxes were paid in kind. The Murashû texts show that the Murashûs were involved in receiving payment in kind from landholders and paying taxes on their behalf in silver.[76] This is a significant matter, since if most taxes were paid in silver, it was incumbent on landholders to market at least some their produce in order to meet their tax liability. This would have a direct impact on "exchange" in the economy.

VI PRODUCTION AND EXCHANGE

Agricultural production has been introduced above. Three points can be mentioned in passing here. First, to reiterate, imperialism and debt broke down traditional family/kin-based land holdings. As a generalization, agricultural production was reorganized so that large landholders (the crown, temples, elites) exploited the labor of formerly "free" peasants to work the land. The *hatru* as a form of tenancy in Babylonia was expanded under the Persians, but it reinforced the dependency of agriculturalists on these large landowners. Second, pastoralism was an important part of the Near Eastern economy, and exchange between the (semi-) nomadic and sedentary populations was necessary for both groups.[77] Pastoralists provided animal products to the sedentary and received agricultural or craft products in exchange. Pastoralists hired themselves out as shepherds for the villagers' herds, and nomadic pastoralists grazing their herds on the stubble of agriculturalists' fallow fields provided animal dung as fertilizer. Even in the first millennium it is not correct to see a sharp divide between these two modes of subsistence, especially in areas near the 250mm isohyet that marked the limit of dry farming. In changing climatic and political conditions some sedentary agriculturalists could switch to pastoralism in order to survive,

[75] Graf 1985: 86–96; Briant 2002: 390–8. [76] Stolper 1985: 149. [77] Schwartz 1995.

while pastoralists could engage in agriculture. Rowton understands the relationship between pastoralists and agricultural villages to be "dimorphic," and the connections between the two groups, including their exchanges, was based on kin connections.[78] If so, reciprocity rather than market exchange was likely to be operative. Third, I can currently see no way of determining the scale of non-agricultural production. In comparison with agriculture which could be taxed on the basis of expected yields, or livestock owned either privately or by organizations such as temples which could be taxed on the basis of the increase in animals, the scale of (semi-) nomadic pastoralism is much more difficult to judge. Regarding craft production, much of it would have been undertaken in families for their own use. We know of the production of elite craft goods (carved ivory, metalwork, garments) from Phoenicia, northern Syria, and Babylonia, but they must have been but a fraction of all craft production.[79] Babylonian temples were centers of craft production, including garments, largely for their own use. We have evidence in the Neo-Assyrian through Persian periods of merchants who sold manufactured goods locally and others operating over long distance.[80] The percentage of all production that manufactured goods accounted for is impossible to determine from our sources.

As a generalization, trade increased throughout the period.[81] With the domestication of the camel Arab tribes were active in the spice trade and were integrated into successive imperial economies.[82] The increase in long-distance trade is also evident with the Phoenicians, who established colonies throughout the Mediterranean littoral, while Greeks founded new settlements on the Levantine coast. For the Phoenicians a major impetus for trade was the demand for raw materials by their imperial overlords.[83] These materials, sometimes with value added by craft production, were passed on to the imperial powers as tribute rather than via market exchange.[84] The Phoenicians obtained the materials by means of exchange with local populations, and the agreed rate of exchange must have been sufficiently advantageous to them to meet the costs of supporting the colonies and trading fleets while leaving a surplus that funded the home communities. The tribute extracted by the imperial powers did not leave the Phoenician cities impoverished. Phoenician trading activities seem to have been organized by the city states rather than by private entrepreneurs. This raises the issue of the extent to which other long-distance trade was organized privately. There is some evidence for this, texts from the Egibi family of Babylon (specifically Itti-Marduk-balatu) attest to it, and Dandamaev considers private

[78] Rowton 1976.
[79] Winter 1976; Culican 1991: 476–85; Van De Mieroop 1997: 181–93; Lipinski 2000: 531–43.
[80] Oppenheim 1967; Dandamaev 1971; Radner 1999; Joannès 1999.
[81] For an overview, see Dandamaev and Lukonin 1989: 209–19.
[82] Eph'al 1984. [83] Frankenstein 1979b; Elayi 1990. [84] Elat 1991.

individuals to have been dominant.[85] But it is likely that throughout the first millennium it was conducted by operatives acting on behalf of the state or large organizations (Babylonian temples). The volume of this trade is difficult to substantiate.

Another aspect of imperialism that demands further research is the extent to which political integration promoted trade. One might expect political integration to promote long-distance trade within the empire on the basis that contracts could be enforced, thus lowering transaction costs. Unfortunately there is little direct evidence to substantiate any increase. Regional specialization in agriculture and crafts and regional access to specific trade routes demanded inter-regional trade, although it barely appears in the documentary sources. Syria-Palestine, for example, was important to the imperial economy for four things: raw materials (such as timber) and finished speciality products (such as carved ivory, purple-dyed garments), labor, and access to trade routes to Egypt and Arabia. While certain ecologically specialized produce such as olives were of some importance, Syria-Palestine was of little importance to the imperial economy agriculturally. That central role was played by northern Mesopotamia (particularly under the Assyrians) and Babylonia (particularly under the Babylonians and Persians). Although state-directed long-distance and local trade is attested for the pre-Assyrian period, there is clear evidence of an increase in local trade in Syria-Palestine for the Assyrian through Persian periods where goods flowed between the Phoenician coastal cities and the hinterland to an extent not attested previously.[86] We should expect this to be via market exchange, although there is no direct evidence. The vexed question of markets in the Near East can only be touched on here. Market transactions certainly took place, but it was not the exclusive means of exchange; indeed, it was arguably not the main form of exchange. Reciprocity and redistribution (to use the "substantivist" terminology) continue to feature prominently in the first millennium, the latter particularly in the Babylonian temples and the Persian imperial administration. The price of labor, for example, was not determined by a market. Those working for the temples and the state were given set rations and, on occasion, silver (and note that the *hatru* was also a form of "payment" in that land was granted in the expectation that certain stipulated obligations would be met). Hired labor in Babylonia entered into a contract with an employer and for laborers compensation seems to have been tied to daily food needs. Specialized craftsmen could receive higher payments.[87] It is likely that we should understand hired labor in the context of the redistributive economy rather than the market economy. With respect to land, it could be sold if privately owned, as already noted, but there is no evidence of a speculative land market or borrowing

[85] Dandamaev 1971: 71–2. [86] Lehmann 1998. [87] Dandamaev 1987.

in order to invest in land. When the Egibi family invested the profits from completed *harranu* partnerships in agricultural land it was in order to move assets into another productive activity, not to see a further profit from the later on-selling of real estate.

As has already been mentioned, if an innovation of Persian rule was that taxes had to be paid, at least to some extent, in silver then this must have enhanced market exchanges (the issues of prices is addressed in Chapter 15). The Persepolis Fortification and Treasury texts reinforce this point since some payments were made to government retainers in silver, as well as in kind, which would then need to be exchanged for consumables in the market. This does not mean that the economy was monetized as silver was weighed rather than minted (indeed, coinage seems to have been most prevalent on the geographical margins of the empire; witness Phoenicia). Much of this market exchange would have been local and it is in this context that we can make sense of some of the activities of the Egibi and Murashû business families. The contracts they entered into for the management of large agricultural holdings and the purchase of produce should mean that they looked to sell consumables to the large urban populations of Babylonia. There is no direct evidence for this aspect of their business, but they needed to do something with their vast amounts of produce and urban inhabitants needed to eat.[88] An urban market seems a reasonable answer.

How much silver was in circulation and how did those liable for taxes gain access to it? We cannot answer the first question with any assurance, but there does not seem to have been a shortage of silver in the economy. Only a fraction of silver paid in taxes was hoarded in the satrapal and central (Susa, Persepolis, Pasargadae) treasuries, perhaps as little as 5 percent.[89] Hopkins' "taxes and trade" model might have some significance in respect to the second question.[90] In order to obtain silver with which to pay taxes, producers needed to sell their surplus, increasing the significance of the role of merchants and markets. Towns hold an important place in the system since it is non-agricultural labor, producing higher value goods and services, that consumes this surplus. The increase in the number of towns on the Levantine coast, in inland northern Syria, and in southern Mesopotamia facilitated the working of the system. In addition to the activities of the Egibis and Murashûs, mentioned above, lending support to this model, one should note that a perspective similar to Hopkins' was already adopted independently by Kippenberg regarding Persian period Judah.[91] Hopkins' model raises another issue: what was the taxation rate? Hopkins suggested

[88] Van De Mieroop 1997: 206–8.

[89] Stolper 1985: 145; Tuplin 1987: 138–9, who considers the figure to be too small. Dandamaev and Lukonin 1989: 205–6 contend for a shortage of silver.

[90] Hopkins 2002 (1995/96): 208–30. [91] Kippenberg 1981: 51–3.

10 percent for the Roman empire.[92] A similar figure has been offered for the Persian empire by Aperghis, while van Driel has suggested a much higher figure, for Babylonia at least; in the order of 33 percent.[93] However, van Driel's calculation includes not only state taxes but also local taxes, levies, and duties (on, for example, transport). Adapting Hopkins' formula "that *minimum* GDP = Population × (Minimum Subsistence plus seed)" we could estimate the minimum GDP for Mesopotamia in the Persian period as follows:[94]

(a) Population: 5.5 million,
(b) Minimum subsistence: 3 kur grain per person (1 kur = 180 liters),
(c) Average yields: 12 kur per kur of land (1 kur = 1.35 hectares)(assuming for northern Mesopotamia a seed–yield ratio of 1:10 and in Babylonia 1:14); that is, 1 kur of land could feed four people, meaning that only 1/4 kur of seed per person need be retained to grow a similar crop the next year.

This would mean that GDP was 5.5 million × 3.25 = 17, 875,000 kur grain. Accepting that 1 kur of grain was worth about 1 shekel,[95] and there were 3,600 shekels in a talent (60 shekels = 1 mina; 60 mina = 1 talent), the value of agricultural produce was 4,965 talents. Hopkins recognized that his calculations led to only a rough figure. In fact, Goldsmith's calculation of the size of the national product of the early Roman empire led him to concluded that Hopkins had underestimated the amount by about 2 1/2 times.[96] This probably holds true for the above calculations in respect to Achaemenid Babylonia, at least, where the wage of an adult laborer (free and slave) averaged 12 kur (= 12 shekels) per annum; that is, four times minimum subsistence.[97] Accepting the comparative evidence from Goldsmith that foodgrains should account for one-half to one-third of consumer expenditures,[98] this would make 12 shekels per annum a living wage when one includes dependent family members and notes that children could also be hired out.

Following Goldsmith, it could be suggested that the GDP for Mesopotamia was about 12,400 talents. According to Herodotus the Mesopotamian tax burden was 1,000 talents. This would point to a tax rate of around 8 percent. In addition, agricultural producers in Babylonia

[92] Hopkins 2002 (1995/96): 199.
[93] Aperghis 2001: 85 (10,000 talents total value of agricultural and other production and 1,000 talents paid in tax); van Driel 2002: 317–19.
[94] Hopkins 2002 (1995/96): 197–8. Syria-Palestine has been omitted from the discussion due to lack of information on prices and salaries.
[95] Dandamaev 1987: 272; Van der Spek 2000a: 294.
[96] Goldsmith 1984: 263–74 (Hopkins discussed 273 n. 51); Goldsmith 1987: 34–59.
[97] Dandamaev 1987: 272. Dandamaev cites the annual wage of an adolescent laborer as 6 shekels.
[98] Goldsmith 1984: 267–8.

had to meet the cost of tools, animals, canal maintenance, water, local payments (for example, to temples), certain sales taxes, rents, transportation, and the like, which would have added considerably to their expenditures. Even if this tax rate is suspect, it is nevertheless true to say that at the arrival of Alexander the Persian economy was not in financial crisis due to over taxation.[99] For Babylonia specifically there is evidence to show that this region was not in economic decline.[100]

VII STOCK OF KNOWLEDGE

There is evidence of intensive agriculture in southern Mesopotamia in the Neo-Babylonian and Persian periods, drawing on and improving traditional farming techniques, encouraged by regional population pressure. The increased use of iron for farming implements across the Near East in the first millennium aided agricultural production and reflects dispersed skills in iron manufacture and iron working.[101] For the Phoenicians, there is indirect evidence for improvements in the size and manufacture of shipping for long-distance trade. Concomitant with this must have been an increasing understanding of Mediterranean geography, maritime currents, and cultures, none of which is directly attested in any source. In Babylonia it is clear that slaves were equipped with a similar range of skills to free labor, since those belonging to temples are involved in the full variety of crafts. Apprenticeship contracts show how these craft skills were passed on.[102] Literacy, especially in respect to cuneiform, remained the preserve of an elite. Scribes were needed for drawing up contracts and other legal instruments, economic texts, and records, and we should expect that they were to be found throughout the region (although evidence from villages is sparse and certainly underrepresented in the extant sources). The adoption of Aramaic as the *lingua franca* of the Persian empire, a direction already recognized in the Neo-Assyrian period, demanded a scribal class trained in this language. Texts in local languages – Old Persian, Elamite, Akkadian, Phoenician, Hebrew, Demotic, Greek, etc. – continued to be produced, and scribes acting on behalf of the administration needed to be bilingual (Aramaic and the local language). Scientific knowledge is again best attested from Babylonian sources: astrology, extispicy, lexical lists, grammatical and medical texts, knowledge of Sumerian (cultural tradition).[103]

Directly relevant to economic performance in southern Mesopotamia in the Neo-Babylonian and Persian periods was the development of new forms of agricultural relations and legal instruments. *Harranu* partnerships

[99] Briant 2002: 800–13, reacting to the claim of Olmstead 1948: 289–99.
[100] van Driel 1987. [101] Moorey 1994: 289–92; Curtis et al. 1979; Curtis 1999.
[102] Dandamaev 1984: 279–307. [103] Dandamaev and Lukonin 1989: 283–9; Aaboe 1991.

were a new development in the Neo-Babylonian to Persian periods and reflect an advance in entrepreneurial activity. It permitted someone with administrative and business skills to team up with someone with capital to invest in order to increase the wealth of both parties through agricultural production. The entrepreneurial activities of the Murashûs in land management, based on the system of *hatru* land tenure arrangements, and in short-term lending also led to improved economic results. Both were incentive (profit) driven. To be sure, only a small elite was involved in this, but they represent innovations in economic organization and activity, as does the *hatru* system itself. The downside of the Murashûs' credit arrangements was the loss of control of land by individuals/families.

VIII CONCLUSION

This very general overview of the economy of the Near East in the Persian period has emphasized continuities with the preceding Neo-Assyrian and Neo-Babylonian empires, while highlighting for Babylonia certain developments in land tenure, business practices, and legal instruments. The general conditions that underpinned economic growth have been outlined, although it must be admitted that the available evidence intimates growth without a means, as far as I can see, to quantify it. Since the Near East consisted of three main regions – southern Mesopotamia, northern Mesopotamia, Syria-Palestine – each differing in levels of population, urbanism, agricultural production, and long-distance trade connections, a concerted effort needs to be made to study each of these regions individually as well as within the context of the Persian empire as a whole. It must be admitted that due to the nature of the available sources our understanding of each of these regions remains patchy at best. Over the period of the Near Eastern-based empires (Neo-Assyrian, Neo-Babylonian, Achaemenid Persian; c. 950–330) there was slow economic growth, but given the agricultural base of the economy and poor capital investment, technological improvements, and investment in human capital, it was severely limited.