

NOTES

Preface

1. Businesses also arose in Southeast Asia, India, China, and other places, but there is little evidence that those developments led to the business environment and structural characteristics that produced what I am calling here modern business.

2. Braudel 1979–86, 1995b; A. Chandler 1977, 1990; Hicks 1969; McNeill 1991, 1977; North 1981, 1990, 2005; North and Thomas 1973; Williamson 1985, 1996; and Williamson and Winter 1991.

Introduction

1. Scheidel, Morris, and Saller 2007:12. I, too, have relied heavily on the institutional economic ideas of Nobel Prize–winner Douglass C. North.

2. N. Ferguson 2009:12.

1. The Beginning

1. The concepts and information in this chapter come mainly from Clark 1952; Dalton 1967; Diamond 1999; Earle and Ericson 1977; Highwater 1981; Jaynes 1976; McNeill 1991; and Polanyi, Arensberg, and Pearson 1971.

2. McNeill 1991:6.
3. Boyer 2002 and Schoek 1987. On the evolutionary origins of religious belief, see Wolpert 2006.
4. Dalton 1967. See generally Boyer 2002 and North 2005. Spinoza argued that the source of priestly power was belief in afterlife; Nadler 2001:142.
5. Quotation from Highwater 1981:55–56.
6. Etzioni 1988:51.
7. Jaynes 1976. See also Nash 1967:524. Recent psychological research and neuroscientific findings support this possibility, in that 80 percent or more of all behavior can be explained by animal instinct rather than rational thought; see Westen 2008.
8. North 2005:76. Schlesinger 1964:11 argues that the central idea of classical Greek tragedy is to portray the hero as promising to alter fate. This hubris, or attempted usurpation of the gods' role in controlling fate, led Middle Eastern societies to limit the swearing of oaths; see also Schlesinger 1968.
9. Polanyi 1971:75, 77.
10. Diamond 1999:272; Polanyi 1971:75, 77; Dalton 1977:196.
11. Diamond 1999:350–51.
12. For the phrase “cradle of business,” see Sutherland 1969:16.
13. Clark 1952:175.
14. Clark 1952:244.
15. Einzig 1966:416.
16. Polanyi 1971:250.
17. Polanyi 1971:73–77.
18. Black and Mendenhall 1993:50–51.
19. Highwater 1981:89.
20. Highwater 1981:95, quoting Robert Ornstein Jr. For the impact of time orientation on individual promises, see Schlesinger 1978:24.
21. The basic historical approach in this section comes from McNeill 1991 and North 1981. Main sources are Algaze 1993; Diakonoff 1982, 1969; Diamond 1999; Kramer 1963; Larsen 1979, 1982; Leemans 1950, 1960; Oppenheim 1977; Saggs 1989; Silver 1985, 1995; and Snell 1997. Many aspects of early Egyptian and Mesopotamian society are difficult to ascertain for sure, but it would be tedious to litter the text with constant reminders that our understanding is highly speculative. I have tried instead to provide a narrative based on my best interpretation of the sources cited.
22. East 1967:138–39.
23. For a full discussion, see Diamond 1999:131–75.
24. Oppenheim 1977:41–42 and McNeill 1991:30–32.
25. Saggs 1989:36.
26. Moore and Lewis 2009:27.
27. McNeill 1977:40.
28. Saggs 1989:39; Silver 1985:57; Diakonoff 1969:6.
29. Van de Mieroop 2005:18.
30. Yoffee 1981:23–24.

31. Saggs 1989:23–24.
32. Saggs 1989:133–36; see also Wilford 1997.
33. McNeill 1977:54–55. For acreage, see Silver 1985:163.
34. Thomas 1984.
35. Saggs 1989:130. For date plantations, see Silver 1995:109.
36. Snell 1997:57.
37. Silver 1995:66–67.
38. Sherratt 1997:10–11.
39. Sherratt 1997:5.
40. Snell 1997:56.
41. See generally Meyer 2003. For widows and orphans, see Snell 1997:35.
42. McNeill 1991:68n4.
43. L. Casson 1991:8 and Leemans 1960:122–24.
44. Saggs 1989:131, 139.
45. McNeill 1991:84–85.
46. Saggs 1989:133–36; see also Wilford 1997.
47. L. Casson 1991:8.
48. Saggs 1989:144.
49. McNeill 1991:41; Clark 1952:269; and Sherratt 1997:17.
50. Letters from al-Amarna, quoted in Saggs 1989:145.
51. Yoffee 1981:12.
52. W. Bernstein 2008 2008:24–25.
53. Snell 1997:40–41.
54. Leemans 1950:44.
55. For instance, a contract at Mari was concluded when the parties “have eaten from the platter, drunk from the goblet, and anointed each other with oil”; Silver 1995:32.
56. Silver 1995:73.
57. Leemans 1950:11; see generally Silver 1985.
58. Yoffee 1981:8.
59. Moore and Lewis 2009:49. See also Leemans 1950:113–17.
60. Wilford 1993:1.
61. Snell 1997:38, 41.
62. Moore and Lewis 2009:34–36.
63. McNeill 1991:92.
64. Leemans 1960:132. They could travel on their own behalf, for investors, or for principals.
65. Leemans 1950:9. The earliest written record dates to 2430 B.C.E. at Girsu; Snell 1997:21.
66. Finley 1983a:17.
67. Silver 1995:122 suggests this.
68. Silver 1995:122.
69. Silver 1995:94.
70. Webber and Wildavsky 1985:57.

71. Silver 1985:50.
72. Leemans 1950:63–66.
73. Oppenheim 1977:303.
74. Silver 1985:118ff.
75. Jacob Janssen, quoted in Silver 1985:83.
76. McNeill 1991:48.
77. It's convenient to ascribe steps like secularization to particular people like Sargon, but we don't usually know the detailed chronologies. In Sargon's case, his grandson Naram-Sin (2236–2200 B.C.E.) discarded the old religious titles and completed the secularization of government; Diakonoff 1991:89–90.
78. North 1981:53.
79. Snell 1997:32.
80. McNeill 1991:46.
81. Comin, Easterly, and Gong 2007:5–6.
82. Silver 1985:12–16.
83. McNeill 1991:52.
84. Larsen 1979:80–81.
85. McNeill 1991:55–60; see generally Nissen, Damarov, and Englund 1993.
86. Webber and Wildavsky 1985:77.
87. For the ecological advantage, see Gall and Saxe 1977.
88. Genesis 41.33–36.
89. McNeill 1991:62.
90. My thanks to Frederick Terna for suggesting this line of speculation.
91. Webber and Wildavsky 1985:77.
92. Seife 2000:11.
93. Maine 1861:165.
94. Association of Chartered Accountants 1999.
95. Snell 1997:60.
96. Code of Hammurabi §32, at Leemans 1960:6–7.
97. Baskin and Miranti 1997:314.
98. Snell 1997:60.
99. Code of Hammurabi §148, quoted in Brunstad 2000:524n104.
100. W. Ferguson 1969:31.
101. The classic definition is Polanyi 1971:264: a unit of exchange, which is both a measure and a store of value. For more recent variations, see Schaps 2001:94.
102. Vilar 1976:26 and Leemans 1950:14.
103. Leemans 1950:2–3.
104. Stos-Gale 2001:73–4.
105. Schaps 2001:94.
106. Baskin and Miranti 1997:314.
107. Sutherland 1969:17.
108. Sutherland 1969:25–31.
109. Sutherland 1969:31 and Polanyi 1971:266.
110. Silver 1985:124.

111. Silver 1985:125–26.
112. W. Bernstein 2008 2008:27.
113. U.S. Federal Reserve 2005.
114. The following discussion is based on Leemans 1950. While credit transactions are known for Egypt, far more have been found in Mesopotamia; see Silver 1985:83.
115. This observation is the central insight behind Keynesian economics; see Skidelsky 1999.
116. Leemans 1950:16. In Babylon there was for many centuries a class of money-lenders; Silver 1985:84–85.
117. Goetzmann and Rouwenhorst 2005:chap. 1.
118. Leemans 1950:16.
119. Silver 1985:83.
120. Code of Hammurabi §119, at Leemans 1950:16.
121. These particular examples are from Silver 1985:85–86.
122. Goetzmann and Rouwenhorst 2005:chap. 1.
123. Baskin and Miranti 1997:314–15.
124. Goetzmann and Rouwenhorst 2005:chap. 1. It is known that Dimuzi made loans to fishermen and farmers, so absent any indication of his use of the 250g of silver I presume that he did so with this wealth as well.
125. Harrison 2002.
126. Quoted in Saggs 1989:141.
127. Saggs 1989:134.
128. Aubet 1993:89ff.
129. Silver 1985:61.
130. The classic discussion of such communities is Curtin 1984.
131. Curtin 1984:69.
132. Saggs 1989:143.
133. Yoffee 1981:12.
134. This account is based on Larsen 1982.
135. See Silver 1995:53 for economic discussion.
136. Silver 1985:41–43.
137. Silver 1995:42.
138. Larsen 1982:229–32.
139. Silver 1985:105.
140. Snell 1997:36.
141. Leemans 1950:9.
142. Association of Chartered Accountants 1999.
143. Oppenheim 1977:80–84.
144. Snell 1997:35–6.
145. Snell 1997:56.
146. See generally Finley 1983b:86.

2. Middle Eastern Empires, 1600–323 B.C.E.

1. Frye 1963:120.
2. For general history and geography I relied primarily on East 1967; Frye 1963; McNeill and McNeill 2003; and Peters 1970. The perspectives of Polanyi, Arensberg, and Pearson 1971 remain important, even though some of the discussions are now outdated.
3. I have taken these dates from chronologies compiled in Ross 2003.
4. Trading partners included the Mitanni, Babylonians, Hittites, Assyrians, and the people of Cyprus, Crete, and the Aegean Islands; Kinder and Hilgemann 1964:25.
5. Saggs 1989:138.
6. L. Casson 1991:15. Astarte was sometimes known as “Our Lady of Byblos.”
7. L. Casson 1991:13.
8. L. Casson 1991:6.
9. We know rather little about Minoan society. Its written language, Linear B, remains primarily from the palace of Knossos, preserved at the moment of its destruction; Finley 1981:40–42. For the story of Linear B, see Chadwick 1958. More recently, with additional discoveries of Linear B at various sites, doubt has been thrown on the dating of Linear B, and therefore of the Mycenaean takeover, moving it forward to 1385 B.C.E. or so; see Rutter 2000:lesson 25.
10. The discussion of the Cyclades relies on Renfrew 1972.
11. L. Casson 1991:19 and McNeill and McNeill 2003:97n54.
12. Hammond 1986:46.
13. Fine 1983:6.
14. Renfrew 1972:11.
15. Renfrew 1972:332. Linear B consists almost entirely of accounts recording the receipt and delivery of goods; Finley 1981:40–42.
16. Finley 1981:45–48.
17. L. Casson 1991:26–27.
18. Frankenstein 1979:264.
19. Ugarit was, in fact, the first of many ports of trade down to present-day Hong Kong and Singapore; see Revere 1971:5off.
20. Louvre Dept. of Oriental Antiquities, window 19, 1/19/09.
21. Arnold 1971:182–83 and Kohlmeyer 1985:250–51.
22. Saggs 1989:79–84.
23. Aubet 1993:61. The capacity of a ship excavated at Ugarit, 200 tons, was the average size of Atlantic trade ships in the late eighteenth century; see Albion, Baker, and Labaree 1994:93.
24. Kohlmeyer 1985:250.
25. Saggs 1989:148.
26. Louvre Dept. of Oriental Antiquities, window 19, 1/19/09.
27. Both from Saggs 1989:147.
28. Moore and Lewis 1999:22.
29. Moore and Lewis 1999:95–96.

30. Moore and Lewis 1999:97.
31. Silver 1985:51, quoting a study of Ugarit merchants.
32. Hammond 1986:73.
33. Hammond 1986:52.
34. For drought, see Aubet 1993:55. For Romanian origins of invasion, see Finley 1981:58.
35. Troy's fall is dated to 1184 B.C.E.; McNeill and McNeill 2003:93–94, 192. For Mycenaean participation in the Hittite Empire's destruction, see Diakonoff 1991:327.
36. Aubet 1993:57.
37. Aubet 1993:115, citing the *Iliad*.
38. McNeill and McNeill 2003:117–18.
39. Clark 1952:200.
40. Clark 1952:201.
41. McNeill and McNeill 2003:120.
42. Snell 1997:83.
43. Oded 1979:69.
44. McNeill and McNeill 2003:136n27.
45. Frye 1963:98.
46. Miles 1995:212.
47. Frye 1963:105.
48. McNeill and McNeill 2003:127 and Frye 1963:55.
49. Kinder and Hilgemann 1964:31.
50. Oded 1979:101–2.
51. The factual basis of the following account is found in Oppenheim 1971:319–20; Moscati 1968; and Aubet 1993.
52. Wilford 1997. For Tyre, see Aubet 1993:19.
53. Aubet 1993:9.
54. Aubet 1993:92, 298.
55. 1 Kings 5.
56. Moore and Lewis 1999:24.
57. See generally Moscati 1968:83ff.
58. Genesis 37:3.
59. Moore and Lewis 1999:28.
60. Aubet 1993:59.
61. Aubet 1993:40–41.
62. Moore and Lewis 1999:22–28.
63. Moore and Lewis 1999:29.
64. Aubet 1993:96.
65. Moscati 1968:98.
66. Moore and Lewis 1999:26.
67. Frye 1963:64.
68. Ezekiel 27:3–8.
69. Frankenstein 1979:265.
70. Aubet 1993:91–94.

71. Moore and Lewis 1999:22.
72. Herodotus, *Histories*, quoted in Moscati 1968:101.
73. Aubet 1993:111.
74. Aubet 1993:244.
75. Sahlins 1974.
76. *Odyssey* 15, quoted in Moscati 1968:87. See Dougherty 2001:44.
77. Cunliffe 2008:28 makes a similar point when he contemplates a Roman merchant trading wine in Gaul for slaves: “To a Gaul . . . to find a trader who would willingly give an amphora of wine for a worthless captive must have seemed like manna from heaven. Who was duping whom?”
78. Arnold 1971.
79. Aubet 1993:117.
80. Aubet 1993:appendix 2.
81. Moore and Lewis 1999:110.
82. Fine and Leopold 1993:264.
83. Muhly 1985:263.
84. Aubet 1993:64.
85. The primary sources for this account are Aubet 1993; Moore and Lewis 1999; and Moscati 1968.
86. Moscati 1968:115.
87. From Diodorus, quoted in Moscati 1968:126–27.
88. Diodorus 5.35, 4–5, quoted in Aubet 1993:237.
89. Moore and Lewis 1999:31.
90. Aubet 1993:96.
91. Aubet 1993:166.
92. Moore and Lewis 1999:33.
93. Aubet 1993:64, 273.
94. W. Bernstein 2008 2008:35.
95. Frye 1963:54.
96. Diakonoff 1991:252.
97. The estimate is from Oded 1979:20–21n5. The percent of the population is based on the assumption that the total population of the Assyrian Empire at any time, excluding Egypt, was something like four million people. Over 300 years that’s about ten generations, or forty million people.
98. Frye 1963:50–55.
99. The account of Assyria’s fall and Persian history comes from McNeill and McNeill 2003; Frye 1963; Fine 1983; and CAH 1964.
100. Herodotus, *Histories* 69–70.
101. Herodotus, *Histories* 60.
102. My description of the Persian Empire is taken largely from Bairoch 1988; Fine 1983; Frye 1963; and Peters 1970.
103. As of 323 B.C.E.; Bairoch 1988:27.
104. Green 1991:301.
105. Bairoch 1988:28–29.

106. This discussion of legitimacy relies heavily on the Nobel Prize-winning work of economic historian Douglass North and successors like Daron Acemoglu, cited in the bibliography.

107. Quoted in Frye 1963:78.

108. North 1981:100.

109. Green 1991:334.

110. CAH 1964:63, 91–92.

111. Green 1991: 372–73.

112. Frye 1963:90–92.

113. McNeill and McNeill 2003:128.

114. Under the Assyrians, local commissions had reassessed property annually, based on the expected harvest. But local assessors were easily corrupted and annual reassessment discouraged improvements because it quickly led to higher taxes. Instead, Darius created a central ministry to assess land based on average historical yields. The central ministry was less corruptible than local assessors, and the method didn't penalize landowners for improving productivity. A number of modern theorists, including the early-twentieth-century economist Henry George, believe that the resulting land tax was the fairest and most economically favorable tax possible. The virtues of such a land tax are eloquently argued in George's *Poverty and Wealth*.

115. Frye 1963:101.

116. Frye 1963:117.

117. CAH 1964:98.

118. Frye 1963:98.

119. L. Casson 1994:53.

120. L. Casson 1994:56.

121. W. Bernstein 2008: 56 dates the adoption of dromedaries to the Assyrian Empire, but more scholarly sources put it a bit later; see Bulliet 1975.

122. All the surviving records seem to be from Babylonia, largely because records there were kept on permanent clay tablets, while elsewhere the writing material of preference was papyrus, little of which survives. But the generalization seems plausible.

123. Silver 1985:131.

124. Aubet 1993:49.

125. McNeill and McNeill 2003:133.

126. Shiff 1987.

127. Silver 1985:50–51.

128. CAH 1964:97.

129. The description of the Murasu archives is taken from Stolper 1985.

130. Stolper 1985:27–28.

131. Ville 1996.

132. Herodotus, *Histories* 103.

133. Silver 1985:121.

134. Silver 1985:119; see also Nehemiah 13.16.

135. Frankenstein 1979:287.

136. Merchants who knew each other could simplify payments by keeping books of account and using weighed and sealed purses of gold or silver of specified value. But due to problems of trust, these techniques weren't available for consumer transactions; Silver 1985:126.

137. Frye 1963:110.

138. Frye 1963:106.

139. Frye 1963:109.

140. North 1981:102 referring to Weber 1976. As to the Depression-era central bankers and the hoarding of gold as the principal cause of the 1930s Depression, see Ahamed 2009:378–79.

141. Frye 1963:118–19.

142. Frye 1963:119.

143. Frye 1963:119.

144. Fine 1983:541.

145. Frye 1963:119.

3. Markets and Greece

1. My conception of Greek history is based mainly on Burn 1988; Fine 1983; Finley 1981; Grant 1987; Hammond 1986; and Starr 1989. After writing this chapter I read Hanson 1999, who argues for a similar view of the hoplites.

2. Plato, *Phaedo* 109b.

3. Quoted in Finley 1981:126.

4. Finley 1981:6.

5. Burn 1988:13.

6. Fine 1983:51.

7. Sparta at its most populous may have had about 8,000 men over the age of twenty-one and perhaps 45,000 male helots, providing a total population of around 200,000. See n10 and Figueira 1986:116.

8. Starr 1989:38.

9. Fine 1983:51 and Starr 1989:24; Since only adult men could be citizens, I assume that the total population was four times the number of citizens, plus 30 percent for slaves.

10. Although an Athenian population of about 300,000 seems to be generally agreed, historians are uncertain about the population of the Greek diaspora. Pounds 1990:34 estimates 1,500,000 for the entire Greek world.

11. Silver 1985:66.

12. Silver 1985:66.

13. The unattributed facts in the following paragraph are based on Finley 1981 and Hanson 1999.

14. Hammond 1986:84.

15. Grant 1987:xiii.

16. Hammond 1986:98.

17. Finley 1981:75.

18. Fine 1983:36.
19. Quoted in Hanson 1999:133.
20. Hanson 1999:310–11.
21. Finley 1981:132.
22. Grant 1987:13.
23. Finley 1992:151.
24. Keegan 1993:244.
25. Finley 1981:81. The etymological derivation represents a real conceptual derivation as well.
26. Fine 1983:41.
27. Fine 1983:63.
28. Anonymous 2008.
29. Fine 1983:9 and Finley 1981:83. As Hanson 1999:xx says: “All cultural complaints against trading, censure against commerce, and envy and disdain for the factory owner, shipowner, or speculator originate in the distance of such figures from the conservative, rural traditions of the great majority of the [ancient Greek] population.”
30. Oliver Wendell Holmes Jr., “The Profession of the Law,” quoted in Lerner 1943:33.
31. Some pottery fragments dated to 825 B.C.E. are probably older; Hammond 1986:94.
32. For this insight, Clifford Brown referred me to Gunnell 1968:72, who says: “It was through the work of Homer, Hesiod, the Greek poets and dramatists, and the philosophers that the idea of the self and its temporal limitations as well as the idea of history or the existence of social order in time emerged.”
33. Van de Mierop 2005:30.
34. Hanson 1999:41ff.
35. Hanson 1999:83.
36. Grant 1987:7.
37. The following discussion is based on Fine 1983:69–96.
38. Morris 1994:32.
39. Austin and Vidal-Naquit 1977:54.
40. Hornblower and Spawforth 1996:1536.
41. Grant 1987:83.
42. Finley 1992:106. For land subdivision, see Finley 1952.
43. Hanson 1999:116.
44. Shakespeare, *Merchant of Venice* 1.3.
45. Fine 1983:98–99.
46. Finley 1992:116. For dollar equivalents, see table 5.
47. This formulation avoids the scholarly controversies about whether the armaments or the yeomanry came first. See Hanson 1999:226–29.
48. Hanson 1999:68.
49. Fine 1983:99.
50. Fine 1983:99.
51. Finley 1981:98.

52. Hanson 1999:221.
53. Ste. Croix 1981:24–25.
54. Austin 1988:729.
55. Fine 1983:246.
56. Hammond 1986:126. For graffiti, see Fine 1983:84.
57. Austin 1988:729.
58. *International Herald Tribune* 2007.
59. Cook 1983:219.
60. Parke 1931:233.
61. Parke 1931:235.
62. McNeill 1991:198.
63. The following story is taken from Grant 1987; Fine 1983; and Finley 1981.
64. Grant 1987:39.
65. Fine 1983:193.
66. Fine 1983:1. For Periander's revenge, see Hammond 1986:147.
67. Hammond 1986:156.
68. Grant 1987:42.
69. Jaynes 1976:285.
70. My description of Solon's reforms is based on Fine 1983 and Finley 1981:120–21. As so often the case, it is convenient to attribute everything that happened to this one attractive figure, whether he himself actually did it or not.
71. From *The Suppliants*, quoted in Finley 1981:101.
72. Finley 1981:120–21.
73. Hammond 1986:160.
74. Finley 1992:162.
75. Finley 1992:162.
76. Whitby 1998:120–21.
77. Isager and Skydsgaard 1992:146.
78. Quoted in Fine 1983:250.
79. Fine 1983:212–13.
80. W. Bernstein 2008 2008:48.
81. Isager and Skydsgaard 1992:145.
82. McNeill and McNeill 2003:201.
83. Finley 1981:124.
84. Fine 1983:392–94.
85. McNeill and McNeill 2003:202.
86. Sallares 1991:58, 61.
87. Figueira 1986 and Finley 1992:30–31.
88. For Spartan customs, see Burn 1988:20–21; Hammond 1986:101; and Fine 1983:162–63.
89. McNeill and McNeill 2003:255.
90. Ste. Croix 1981:346.
91. Fine 1983:263.
92. Rostovtzeff 1957:751.

93. Fine 1983:218.
94. Polanyi, Arensberg, and Pearson 1971:83.
95. Aubet 1993:117.
96. Finley 1981:120n1.
97. Sutherland 1969:67.
98. Fine 1983:136; see also Grant 1987:21.
99. Austin and Vidal-Naquit 1977:56–58.
100. Austin and Vidal-Naquit 1977:57 and von Reden 1995:181.
101. Bogaert 1966:313 and Schaps 2004:104.
102. Hammond 1986:661.
103. Grant 1987:291–92.
104. Von Reden 1995:195.
105. For a rigorous and mathematical statement of the issues in these paragraphs, see Brunner and Meltzer 1971. I disagree here with von Reden 1995, who argues that coins reflected rather than created the new set of social relations exemplified by markets and democratic political structures.
106. North 1990:108 emphasizes low transaction costs.
107. E. Harris 2002:70.
108. Quoted in Finley 1981:135.
109. Austin 1988:741.
110. Polanyi, Arensberg, and Pearson 1971:67.
111. E. Cohen 1992:24.
112. Aristotle, *Politics* 2.4.12 §§1267–69, quoted in Finley 1952:53.
113. Finley 1952:58.
114. E. Cohen 1992:66–67.
115. 1998 Statistical Abstract of the United States, table 826: “Money Stock and Liquid Assets: 1980–1997,” 525.
116. Finley 1952:63n64. For average acreage, see Applebaum 1992:41.
117. Applebaum 1992:41.
118. Finley 1952:58.
119. Ste. Croix 1981:118.
120. On temple slaves, see W. Ferguson 1969:93n9.
121. As contemporary plays portray them; W. Ferguson 1969:94.
122. Rostovtzeff 1957:1145.

4. Business in Athens

1. This discussion is primarily based on Bogaert 1966; E. Cohen 1992; and Millet 1983.
2. Finley 1952:103.
3. Davies 2001.
4. Kim 2002:10 (map 1.1).
5. Bogaert 1966:313.

6. Bogaert 1966:307.
7. E. Cohen 1992:19n82.
8. <http://www.federalreserve.gov/releases/h6/Current/> (accessed July 9, 2008).
9. Quoted in E. Cohen 1992:111. Except as otherwise cited, all facts and quotations in this and the next five paragraphs are from E. Cohen 1992:65–148.
10. Hyperides, *Against Athenogenes* (330–324), quoted in E. Cohen 1992:120.
11. Bogaert 1966:367.
12. Minchinton 1990:172 and Crook 1967:214.
13. Millet 1990:182.
14. Finley 1952:103.
15. Finley 1992:117.
16. Millet 1983:48, citing a speech of Demosthenes.
17. Millet 1983.
18. Finley 1952:85, quoting an Athenian author.
19. Deuteronomy 23.19–20.
20. L. Casson 1994:30.
21. See generally Persky 2007.
22. Finley 1992:198.
23. E. Cohen 1992:32n20, explicitly refuting Finley's argument that thirty known bankers indicates a small level of business.
24. E. Cohen 1992:13n48.
25. Bogaert 1966:370.
26. Mossé 1983:62.
27. Bogaert 1966:371.
28. E. Cohen 1992:151n170. Compare Goldsmith 1987:30.
29. Finley 1952:87.
30. E. Cohen 1992:201.
31. E. Cohen 1992:8.
32. E. Cohen 1992:231.
33. Green 1990:375.
34. E. Cohen 1992:56–57.
35. Millet 1983:36.
36. E. Cohen 1992:146–47.
37. Meijer and van Nijf 1992:49.
38. Hopper 1979:69.
39. Hopper 1979:49.
40. Hopper 1979:49, 67–8.
41. Rostovtzeff 1957:1270–74, for Alexandria in the Hellenistic period, but certainly true earlier and elsewhere.
42. Frayn 1993:6. Pompeii and Herculaneum were no different in this respect from the Greek cities of the East; Rostovtzeff 1957:1274.
43. Veyne 1987:133.
44. Contemporary fragment quoted in Austin 1988:738.
45. Duncan-Jones 1990:37.

46. Hopper 1979:60.
47. Hopper 1979:60.
48. Hopper 1979:70.
49. Goldsmith 1987:30. The value of the slaves seems too low by this estimate, however.
50. Reger 1994:87.
51. Finley 1992:107.
52. W. Harris 1993:86.
53. Applebaum 1992:47–48.
54. Hopkins 1983:xii.
55. Hopper 1979:130–31.
56. Applebaum 1992:45.
57. Austin 1988:743 and Applebaum 1992:46.
58. Hopper 1979:129.
59. Mokyř 1990:21.
60. Mokyř 1990:196–97.
61. Applebaum 1992:28.
62. Finley 1983b:89–90.
63. Applebaum 1992:55. There were twenty-one more studied, but their status is unknown.
64. Hanson 1999:245.
65. Austin 1988:746 and Hanson 1999:105.
66. For Periclean Athens, estimates vary from twenty to four hundred thousand, with sixty to seventy thousand “the best guess”; Grant 1987:2n60.
67. Finley 1992:83.
68. Finley 1992:73–74. Finley 1983b:80 estimates that the percent of slaves in Greece and Rome was about the same as it was in the U.S. South, 30–35 percent, giving him a figure of sixty thousand for Athens in the fifth century B.C.E. (and two million for Rome in the second century C.E.).
69. Applebaum 1992:46.
70. Fine 1983:439.
71. This description of Chios is based on Grant 1987:148–50.
72. Reed 2003:55, citing comments of other scholars.
73. E. Cohen 1992:77.
74. Applebaum 1992:51.
75. Radice 1973:111.
76. E. Cohen 1992:78.
77. E. Cohen 1992:100.
78. Applebaum 1992:51.
79. Lacey 1968, quoted in E. Cohen 1992:78n81.
80. Applebaum 1992:59.
81. Sallares 1991:58, 61.
82. Adams 1993:66.
83. Applebaum 1992:37.

84. Green 1990:365.
85. Aristotle, *Politics* 8.2.4, quoted in Grant 1987:22.
86. See Demosthenes' denunciation in *Against Aristogeiton* 1.50–52, quoted in Meijer and van Nijf 1992:45.
87. E. Cohen 1992:82.
88. Fine and Leopold 1993:96.
89. North 2005:100–101.
90. Finley 1992:48.
91. Prior and Kirby 1993.

5. Hellenistic History

1. For Hellenistic history in general, I relied mainly on Finley 1992; Frye 1963; Grant 1990c; Green 1990; Gruen 1984; Jones 1940; Rostovtzeff 1957; Ste. Croix 1981; Tarn and Griffith 1974; and Walbank 1993.
2. Quoted in Hopper 1979:193.
3. Green 1990:5–7.
4. Green 1990:11.
5. Green 1991:155–56.
6. Revere 1971:60.
7. Green 1991:316.
8. Oldach et al. 1988.
9. Borza 2007:431n54.
10. Grant 1990c:92.
11. Green 1991:20.
12. Tarn and Griffith 1974:64.
13. Green 1990:524.
14. Jones 1940:166.
15. Quoted in Ste. Croix 1981:310.
16. Ste. Croix 1981:300.
17. Quoted in Green 1991:10–11.
18. Rostovtzeff 1993:276; Grant 1990c:127; and Sallares 1991:73.
19. The population of Athens has been much discussed. I follow Sallares 1991:60, who puts Athens as low as 100,000 people, with a total population for Attica including Athens at 150,000–200,000.
20. Metropolitan Museum of Art 1994a.
21. L. Casson 1994:54.
22. Green 1990:13.
23. Green 1990:369.
24. Grant 1990c:43.
25. Peters 1970:166.
26. Peters 1970:166.
27. Rostovtzeff 1957:1150–51.

28. Egypt around 300 B.C.E. was estimated to have six million people; Aperghis 2001:76. Josephus estimated Egypt's population at the time of Jesus at seven to eight million people, and since the Romans were taking a census for tax purposes, historians assume this number to be valid; see Bowman 1994:17; Grant 1990c:78–79; Kaegi 1992:27; Peters 1970:173, 517, 520; and Rostovtzeff 1957:1137–38.
29. Bowman 1994:204–6; Walbank 1993:121, 176; and Grant 1990c:37–38, 76.
30. Green 1990:396. Poem quoted in Tarn and Griffith 1974:53.
31. Tarn and Griffith 1974:325–38; and Green 1990:609–13.
32. Gabrielsen 2001.
33. Mokyr 2008:76. Mokyr notes that economic models demonstrate that such transfers sustain cooperative outcomes even in the absence of good legal enforcement of contractual obligations (2008:77–78).
34. Grant 1990c:146; and Rostovtzeff 1957:691.
35. Gabrielsen 2005:236.
36. McNeill 1991:289n53.
37. Bowman 1994:111–13.
38. Quoted in Bowman 1994:111–12.
39. Berthold 1984:55–56n64 says there were about forty thousand citizens, plus a large population of foreigners and slaves.
40. Starr 1989:54.
41. Green 1990:108. An alternative theory is that the Winged Victory celebrates the Battle of Cos, where Macedonia's Antigonus Gonatus defeated the Ptolemaic fleet in 260 B.C.E.; Cary 1965:138.
42. Green 1990:380. See also Rostovtzeff 1957:686–87.
43. Peters 1970:177.
44. Berthold 1984:53.
45. The king was Seleucus III, the mistress was Mysta; Berthold 1984:102.
46. Higgins 1988:126.
47. Quoted in Berthold 1984:67.
48. Higgins 1988:137.
49. Rostovtzeff 1957:686–87.
50. Diamond 1999:159.
51. Hornblower and Spawforth 1996:766 (“Ipsus”).
52. Frye 1963:145.
53. Peters 1970:239.
54. Bowman 1994:96; and Adams 1993:17–25.
55. Peters 1970:242.
56. Green 1990:425.
57. Green 1990:531.
58. Bowman 1994:225.
59. Alfoldy 1988:56.
60. Starr 1989:60.
61. Berthold 1984:227.
62. Berthold 1984:219.

63. Bowman 1994:26.
64. Green 1990:431.
65. Green 1990:513.
66. Peters 1970:143; and Frye 1963:176–77.

6. The Hellenistic Business Environment

1. McNeill 1991:276.
2. Tarn and Griffith 1974:147.
3. Tcherikover 1975:149.
4. Jones 1940:7.
5. Quoted in Finley 1983a:25.
6. Quoted in Walbank 1993:29.
7. For the economic and political theory, see Acemoglu and Robinson 2008.
8. Jones 1940:108.
9. Garnsey and Saller 1987:32.
10. Jones 1940:4 and Finley 1992:153.
11. McNeill 1991:282.
12. Finley 1992:170.
13. Walbank 1993:142.
14. Walbank 1993:151; and Jones 1940:4.
15. Quoted in Walbank 1993:128.
16. Frye 1963:137.
17. Frye 1963:137.
18. Whittaker 1993:4.
19. Ste. Croix 1981:114–15.
20. Rostovtzeff 1957:1116–17.
21. Hopkins 1983:53.
22. McNeill 1991:287; and Ste. Croix 1981:124.
23. Tarn and Griffith 1974:295.
24. Quoted in Grant 1990c:98.
25. White 1993:214.
26. McNeill 1991:292.
27. Grant 1990a:152 and Gies and Gies 1995:22.
28. Walbank 1993:185–86.
29. Applebaum 1992:74.
30. For Euclid, see Green 1990:456. For Fermat, see Singh and Ribet 1997:69.
31. Cunliffe 2008:11–12.
32. Walbank 1993:191–92.
33. Durant 1944:313.
34. Peters 1970:401.
35. Walbank 1993:188–89.
36. Walbank 1993:160.

37. Applebaum 1992:81.
38. Quoted in Mokyry 1990:27n10.
39. Rostovtzeff 1957:1166.
40. See discussion of White 1993 in Green 1993:233–34.
41. CAH 1994:21.
42. Walbank 1993:160.
43. Peters 1970:169.
44. Grant 1990a:43.
45. Rostovtzeff 1957:650.
46. Grant 1990a:70.
47. Rostovtzeff 1957:697, 1166; and Frye 1963:145.
48. Cipolla 1974:49.
49. Rostovtzeff 1957:650.
50. Rostovtzeff 1957:632–33.
51. Applebaum 1992:81.
52. Scarborough 1993:220.
53. Running before a good wind, a ship could cover 90–135 km in a twelve-hour sailing day; Grant and Kitzinger 1988:359.
54. Finley 1992:126.
55. Garnsey, Hopkins, and Whittaker 1983:168. For grain prices, see M. Mango 2001:96.
56. Green 1990:367.
57. Applebaum 1992:87.
58. Ste. Croix 1981:12.
59. Described in Landels 1981:161.
60. W. Bernstein 2008 2008:56.
61. Green 1990:367; and McNeill 1991:295–96.
62. L. Casson 1994:68–69, citing the legend of Theseus.
63. L. Casson 1994:68–69.
64. Grant and Kitzinger 1988:354.
65. Durant 1944:323–24.
66. Durant 1944:324.
67. Gies and Gies 1995:30.
68. Rostovtzeff 1957:1037–38.
69. Walbank 1993:44.
70. Walbank 1993:202.
71. Landels 1981:164; and L. Casson 1994:66.
72. Grant and Kitzinger 1988:359; and D'Arms and Kopff 1980:8.
73. <http://members.aol.com/Sokamoto31/ny.htm>.
74. Durant 1944:325.
75. Landels 1981:153.
76. From the description by the third-century B.C.E. Greek writer Athenaeus, translated in Meijer and van Nijf 1992:154–56.
77. Grant and Kitzinger 1988:359.

78. Duncan-Jones 1990:9–29.
79. Green 1991:401.
80. Rostovtzeff 1957:1218.
81. Finley 1992:147.
82. Quoted in Finley 1992:147.
83. Grant 1974:86.
84. Anderson 1978:63.
85. Garnsey and Saller 1987:58.
86. Alföldy 1988:97.
87. Kauffman 2006:44 provides a general explanation of this phenomenon: “Every economic good occupies a niche defined by its relations to complementary and substitute goods. As the number of economic goods increases, the number of ways in which to adaptively combine those goods takes off exponentially, forging possibilities for all-new niches. The autocatalytic creation of niches is thus a main driver of economic growth.” See also Atkeson and Kehoe 2007:66.
88. Walbank 1993:192.
89. See generally Rosenberg 2008 and Nelson 1996:chap. 3.
90. McNeill 1991:288.
91. Applebaum 1992:90.
92. Frye 1963:151.
93. Described in Walbank 1993:196.
94. *Aeneid* 6.848–53 (Vergil 2008), Anchises to his son Aeneas.
95. Gies and Gies 1995:36.
96. Gies and Gies 1995:32; and McNeill 1991:374.
97. Ste. Croix 1981:118.
98. Pompey’s father-in-law Pythodorus, from the small Anatolian city of Tralles, had four thousand talents (Tarn and Griffith 1974:113); Hiero of Laodicea on the Lycus gave more than that to his home city in gifts alone (Ste. Croix 1981:120); Antiochus IV’s satrap in Jerusalem, Joseph ben Tobiah, had three thousand talents (Tcherikover 1975:135); and in 65 B.C.E. a Syrian outlaw paid Pompey a fine of one thousand talents (Bowersock 1983:30).
99. CAH 1994:639.
100. Garnsey and Saller 1987:56; and Hopkins 1978:17–18.
101. A long decline in the price of grain at Delos during a period of steady population growth suggests this; Green 1990:372.
102. D’Arms and Kopff 1980:149–50.
103. Todd and Millet 1990:8–9; and Halpern and Hobson 1993:10.
104. D. Cohen 1995:188.
105. Blackstone 1962:379–80.
106. Jones 1977:5.
107. Quoted in Ste. Croix 1981:141.
108. Ste. Croix 1981:300–301.
109. Ste. Croix 1981:304.

110. For equivalent efforts by U.S. conservatives, see Bandow 2000; Taylor and Meier 2003; McDermott and Eliot 1996; and Howard 1994.
111. Green 1990:46.
112. Tarn and Griffith 1974:88. The kings also sat in judgment of individual cases; 1974:90.
113. Tarn and Griffith 1974:80.
114. Tarn and Griffith 1974:88–89.
115. Walbank 1993:251; Rostovtzeff 1957: 3 and Tarn and Griffith 1974:89.
116. Rostovtzeff 1957:680.
117. Quoted in CAH 1994:630.

7. Hellenistic Business

1. The principal sources for this chapter are Austin 1988; Berthold 1984; L. Casson 1991, 1994; Frayn 1993; Grant 1990c; Green 1990; Hopper 1979; Peters 1970; Rostovtzeff 1972; Tarn and Griffith 1974; and Walbank 1993.
2. Garnsey, Hopkins, and Whittaker 1983:i.
3. Rostovtzeff 1972:9.
4. Finley 1992:7.
5. L. Casson 1994:17–18.
6. McNeill 1991:96.
7. Metropolitan Museum of Art 1994b.
8. Grant 1990c:6.
9. L. Casson 1994:24; and Hopper 1979:91.
10. Frye 1963:59.
11. L. Casson 1994:124.
12. McNeill 1991:96.
13. Rostovtzeff 1972:247.
14. L. Casson 1991:2.
15. Meijer and van Nijf 1992:6–67.
16. Hopper 1979:91.
17. Barraclough 1984:77 (map 1).
18. Morley 1996:111.
19. Rostovtzeff 1972:10.
20. Gaylin 1989.
21. The Bosporan kings in the Crimea and the Greek colonists in southern Italy and Sicily may have done so, since Athens and other Greek city-states were providing them with good markets. In Athens, where Solon and Cleisthenes had encouraged farmers to grow exportable crops, some of the wealthier landowners, like Pericles, may have done so as well.
22. Green 1990:68.
23. Rostovtzeff 1972:1203–4.

24. Sharecropping was the landholder's equivalent of owning debt, as compared to owning equity, which requires more active management but yields higher returns.
25. Reger 1994:7.
26. Quoted in Ste. Croix 1981:4.
27. On peasant conservatism, see Gallant 1991:7: peasants "actively seek to minimize subsistence risk and so avoid activities which would increase the level of risk."
28. Morley 1996:5.
29. Morley 1996:11.
30. Rostovtzeff 1972:4.
31. Rostovtzeff 1972:10.
32. Grant 1990c:1; see also Walbank 1993:8–110.
33. Grant 1990c:1.
34. Bowman 1989:9.
35. Grant 1990c:2.
36. Grant 1990c:43.
37. Thompson 1983:8.
38. Finley 1992:106.
39. Rostovtzeff 1972:52ß.
40. Rostovtzeff 1972:182.
41. See Varro's comments at Rostovtzeff 1972:188.
42. Frye 1963:46.
43. Rostovtzeff 1972:50.
44. Rostovtzeff 1972:158; and Ste. Croix 1981:56ff.
45. Hopper 1979:90.
46. Ste. Croix 1981:71.
47. Burford 1972:3–4.
48. Wood 1988:4.
49. Tarn and Griffith 1974:69; see Walbank 1993:79.
50. Quoted in Durant 1944:504.
51. White 1993:14.
52. Burford 1972:42.
53. Ste. Croix 1981:71.
54. Tarn and Griffith 1974:17–18.
55. Tarn and Griffith 1974:13.
56. Tarn and Griffith 1974:78.
57. Tarn and Griffith 1974:273.
58. Finley 1992:51.
59. Finley 1992:53.
60. Jones 1940:4.
61. Tarn and Griffith 1974:14–15.
62. As describe by Dio Chrysostomus; Meijer and van Nijf 1992:6–7.
63. Plutarch, *Lives* 74.
64. Grant 1990c:24; and Green 1990:62.
65. Green 1990:73.

66. For ten years, see Bogaert 1966:306. For brief inflation, see Reger 1994:157, 252.
67. Green 1990:73.
68. The description of banking is taken from Bogaert 1966 unless otherwise noted.
69. L. Casson 1991:100.
70. Quoted in Hendy 1985:249–50.
71. Hendy 1985:49–50, citing John Cassian. At the time Cassian was writing there was only the one Roman currency.
72. Quoted in Rostovtzeff 1972:88.
73. Bogaert 1966:79.
74. Bogaert 1966:292.
75. Reger 1994:3.
76. Green 1990:74.
77. Bogaert 1966:34.
78. Bogaert 1966:72.
79. Bogaert 1966:35–40.
80. Grant 1990c:4–5; Bowman 1989:13; and Rostovtzeff 1972:285.
81. Bogaert 1966:344.
82. Bowman 1989:8, 115, 117. Bowman is describing Roman Egypt, but the description probably applies to later Ptolemaic Egypt as well.
83. Bowman 1989:13.
84. Bogaert 1966:55–56.
85. Rostovtzeff 1972:22.
86. Bowman 1989:16; Finley 1952:7; and Bogaert 1966:57, 361, 370.
87. Grant 1990c:4–5.
88. Bogaert 1966:5–6.
89. Wild 1970:10.
90. Finley 1992:44–45.

8. The Early Roman Republic

1. This section relies on Ferrill 1988; Keller 1974; Pallotino 1975; and Wells 1999.
2. Keller 1974:60–68.
3. Ferrill 1988:47.
4. Smith 1988:35. Alföldy 1988:6 translates Smith's fifteen thousand "citizens."
5. Brunt 1988:145.
6. Keegan 1993:265.
7. Dudley 1993:42.
8. The discussion of Rome's political structure relies mainly on Alföldy 1988 and Finley 1983a.
9. For patronage I have relied on Alföldy 1988; Brunt 1988; D'Arms and Kopff 1980; Garnsey and Saller 1987; Saller 1989; and A. Wallace-Hadrill 1989.
10. Plutarch, *Pericles*.
11. Nippel 1995:2.

12. Veyne 1987:151. The discussion of this paragraph follows Nippel 1995.
13. Quoted in MacMullen 1988:105.
14. Crook 1967:52–54.
15. Saller 1989:57. This designation seems to have been very confusing to historians.
16. A. Wallace-Hadrill 1989:63.
17. “A mighty tide of morning callers”; Vergil, *Georgics* 2.461.
18. Quoted in Saller 1989:58.
19. Saller 1989:58.
20. Dudley 1993:25.
21. Quoted in Garnsey and Saller 1987:148.
22. G. Hamilton 1996 and Casson and Rose 1997:2–3.
23. Aubert 1994:285.
24. D’Arms and Kopff 1980:155–56.
25. Finley 1992:64. Andreau 1999:68–70 doubts that the *peculium* was enough to capitalize slave businesses, but remains silent about funds advanced from patrons to clients—who may well have included such slaves.
26. The account of the Carthaginian wars is based on Dudley 1993; Goodman 1997; and Rostovtzeff 1960.
27. Alföldy 1988:29–30.
28. Ferrill 1988:52.
29. Rostovtzeff 1960:41.
30. Rostovtzeff 1960:50.
31. Rostovtzeff 1957:51.
32. Duncan-Jones 1990:36.
33. Rostovtzeff 1957:1150–51.
34. Duncan-Jones 1990:36.
35. Durant 1944:40–41.
36. Alföldy 1988:37, citing Polybius.
37. L. Casson 1991:145–46.
38. Rostovtzeff 1960:79 and CAH 1994:579.
39. Rostovtzeff 1960:86.
40. Jones 1974:114–15.
41. Durant 1944:40.
42. Dudley 1993:184.
43. CAH 1994:579.
44. Dudley 1993:137.
45. Badian 1972:16.
46. CAH 1994:636; see generally, Badian 1972:66ff.
47. Rostovtzeff 1957:17.
48. Malminder 2005:32–33.
49. Hopkins 1978:52.
50. Adams 1993:66–68.
51. Adams 1993:97–102.

52. Aubert 1994:332–33.
53. Aubert 1994:338.
54. Lintott 1993:87.
55. Alfoldy 1988:50; and Rostovtzeff 1960:88.
56. Badian 1972:45.
57. Goodman 1997:172. See also Veyne 1987:158; and generally D’Arms and Kopff 1980.
58. Brunt 1988:145.
59. Much remains to be known about them, such as the number of publican societies and how long they lasted.
60. Badian 1972:38; and Aubert 1994:327.
61. Aubert 1994:325–26. For staffs, see Badian 1972:46–47.
62. Aubert 1994:337.
63. This is evident from the praises Cato received for being an honest censor.
64. Hopkins 1978:45. See also Durant 1944:336.
65. Aubert 1994:329.
66. Alfoldy 1988:52.
67. About 50 percent of all citizens served around seven years on average; Hopkins 1978:30.
68. Quoted in Alfoldy 1988:46.
69. Whittaker 1993:60.
70. The following account is from Talbert 1984:54–66.
71. Quoted in Alfoldy 1988:61. Sallust (86–34 B.C.E.), born a plebeian, became a tribune, senator, governor of Africa, and one of Julius Caesar’s supporters.
72. Nelson and Zeckhauser 2008:3–4.
73. Talbert 1984:63. Veiento went no further.
74. Quoted in Talbert 1984:54.
75. D’Arms and Kopff 1980:83.
76. CAH 1994:612.
77. Morley 1996:117. See also Moritz 1958:67.
78. Hopkins 1978:2.
79. Finley 1983b:82.
80. Hopkins 1978:16 (fig. 1.2).
81. Garnsey and Saller 1987:90.
82. Hopkins 1978:107–11.
83. Hopkins 1978:118.
84. Alfoldy 1988:67.
85. Frayn 1984:128.
86. Crook 1967:156.
87. An Italian population of 5,000,000–8,000,000 in the early empire is “the broad consensus of modern scholarly opinion”; Parkin 1992:5. An additional 600,000–1,000,000 lived in Sicily; Pounds 1990:53. For 2,000,000 slaves, see CAH 1994:608 and Finley 1992:92–93. I find this number improbably high, however. It derives largely from contemporary estimates, which are notoriously unreliable. Even if slaves worked

every one of the 123,000 acres planted to vineyard around Rome with the same manpower that one well-documented farm used (Settefinestre; see below), the total number of slaves involved would be less than 17,000. Of course, there were many farms growing other products, but vineyards were among the most important cash crops for which slave labor would have been used.

88. CAH 1994:616.
89. Frayn 1984:115.
90. CAH 1994:616; and Frayn 1984: 123.
91. Alföldy 1988:68–69, 145.
92. This area was the Roman measure of land, the *jugerum*; Pounds 1990:63–64.
93. Duncan-Jones 1990:126.
94. Rostovtzeff 1957:61.
95. CAH 1994:612.
96. Morley 1996:11.
97. Hopkins 1978:3.
98. Goodman 1997:148.
99. CAH 1994:614.
100. Vallee 1998.
101. Garnsey and Saller 1987:60.
102. W. Harris 1993:12n7.
103. Hopkins 1978:9n16.
104. Aubert 1994:117.
105. Duncan-Jones 1990:127 (table 42).
106. Finley 1976:106.
107. Aubert 1994:176–77.
108. In the second century C.E. at Veientanus, near Rome, there were 86 large villas and farms and 230 smaller holdings; Randsborg 1991:42. At Veleia in northern Italy at the beginning of the second century there were 17 estates holding 125 farms, of which many were leased to peasants; Duncan-Jones 1990:127. In the Hermapolite nome of Egypt around 350 C.E., there were 441 landowners, with 16 owning 51 percent of the land; Bowman 1994:87, 99.
109. Aubert 1994:176–77.
110. Aubert 1994:176–77.
111. Quoted in Ste. Croix 1981:187.
112. White 1975:213.
113. Kolhatkar 2006:99. Columella's comment is at Aubert 1994:185.
114. Paterson 1998:159.
115. Frayn 1984:145.
116. Frayn 1984:77 (fig. 7).
117. Carandini 1980:7.
118. CAH 1994:614. One hectoliter = 26.4 gallons.
119. Aubert 1994:173.

9. The Late Roman Republic

1. My understanding of Roman history before the third century c.e. relies most heavily on Alföldy 1988; CAH 1994; Dudley 1993; Ferrill 1988; Finley 1976, 1992; Garnsey and Saller 1987; Goodman 1997; Rostovtzeff 1957, 1960; and Ste. Croix 1981.

2. Cato's biography appears in Plutarch's *Lives* 411ff., and all quotations below are from this work.

3. Thanks to Plutarch, more is known about Cato's investments than any other Roman's.

4. Rostovtzeff 1957:22.

5. Rostovtzeff 1957:21.

6. Rostovtzeff 1957:818.

7. Dudley 1993:62.

8. CAH 1994:593. Presumably the publicans provided the military with bribes and gifts, but these could hardly amount to a significant share of their profits.

9. Adams 1993:79, citing Livy.

10. Badian 1972:76–77.

11. Quoted in Adams 1993:82.

12. Alföldy 1988:55.

13. Quoted in Alföldy 1988:61.

14. Green 1990:428.

15. Quoted in Badian 1972:45.

16. Rostovtzeff 1960:71; and Green 1990:427–28.

17. Alföldy 1988:46.

18. Badian 1972:41.

19. Jones 1974:114; and Green 1990:414.

20. Rostovtzeff 1960:73.

21. Walbank 1993:238.

22. See, e.g., a memorial to the diplomats of Abdera, quoted in Walbank 1993:238.

23. Rostovtzeff 1957:17; and Alföldy 1988:49.

24. CAH 1994:593.

25. L. Casson 1991:169.

26. Rostovtzeff 1957:744–45, based on shipwrecks containing statues in bronze and marble, furniture, decorative bowls and candelabra, bas-reliefs, columns, bases and capitals in marble, and slabs of marble.

27. Grant 1990c:122.

28. Rostovtzeff 1957:752–56; and Alföldy 1988:61.

29. W. Ferguson 1969:428.

30. Rostovtzeff 1957:741.

31. Dudley 1993:60–61.

32. Ste. Croix 1981:347.

33. Hopkins 1978:28.

34. Rostovtzeff 1957:739.

35. Alföldy 1988:54.
36. Edmondson 1993:170–74.
37. Alföldy 1988:68; and Green 1990:529–30.
38. Alföldy 1988:59.
39. Alföldy 1988:53, quoting Plutarch.
40. Garnsey and Saller 1987:5.
41. Dudley 1993:73.
42. Dudley 1993:65.
43. Rostovtzeff 1957:33–34.
44. Rostovtzeff 1960:156; Rostovtzeff 1957:35; and Pounds 1990:53–54.
45. Description from Whittaker 1993:116.
46. Dudley 1993:180; and Pounds 1990:49.
47. Pounds 1990:62.
48. For the *annona* I relied mainly on Sirks 1991. Other important sources include L. Casson 1980 and Loane 1938.
49. On incidents, see Aldrete and Mattingly 1999:174; Tacitus quoted in 1999:176–77.
50. Hopkins 1978:38.
51. Loane 1938:13n9. The number of Romans who received the *annona* is unclear: 10 percent lived on church charity in late antiquity (Sirks 1991:21n52), but other sources suggest a much larger percent of Romans received free food at earlier times. Barnish 1987:160–63 seems to conclude that about 29 percent of the city’s population received the dole. L. Casson 1980:22 estimates that the state supplied twelve million of the sixty million modii (four hundred thousand tons) of grain Rome consumed, or 20 percent.
52. Aldrete and Mattingly 1999:203.
53. Quoted in Rickman 1980:263.
54. A. Cameron 1993b:99.
55. After designating Pergamum the province of Asia, Gaius imposed a new harvest tax and allowed the publicans, instead of city magistrates, to collect it; Rostovtzeff 1960:101.
56. Dudley 1993:72.
57. Brunt 1988:145.
58. Dudley 1993:74.
59. Brunt 1988:152.
60. Badian 1972:81.
61. CAH 1994:594.
62. Badian 1972:14.
63. Ste. Croix 1981:356. For Cicero’s story about Verres in Asia, see Hopkins 1978:42–43.
64. Green 1990:556.
65. Sallares 1991:190–200.
66. Rostovtzeff 1960:96; and CAH 1994:592.
67. Quoted in Alföldy 1988:51.
68. W. Ferguson 1969:428.

69. Plutarch, *Caius Marius*. Marius was elected one of the two consuls.
70. Dudley 1993:77. They actually averaged twenty years of service; Hopkins 1978:30.
71. Dudley 1993:80.
72. W. Ferguson 1969:441; and Green 1990: 560–63. Information about Athens is far better than about anywhere else in Greece.
73. Dudley 1993:80.
74. “For the Manilian Law,” is quoted in Durant 1944:140.
75. Green 1990:64.
76. Green 1990:564.
77. Rostovtzeff 1960:113.
78. CAH 1994:197.
79. My account is based on Ward 1977 and on Plutarch. The quotations are from Plutarch’s *Life of Crassus*, unless otherwise indicated.
80. Durant 1944:138.
81. Dudley 1993:90.
82. W. Ferguson 1969:428.
83. Lucullus retired to his Roman town house, where he sponsored epicurean feasts and introduced cherry trees from Pontus. He bought Sulla’s estate on the Bay of Naples, paying more than thirty times what Sulla had paid Marius for the same property (a measure of Rome’s increasing wealth). The last Roman emperor retired here after his abdication in 476 C.E.; Dudley 1993:70–71 and Durant 1944:132. On real estate see Finley 1992:103.
84. Starr 1989:74.
85. Bowman 1994:35.
86. Badian 1972:105.
87. Jones 1974:93.
88. Badian 1972:109, 116–17; and Peters 1970:380.
89. The description of Rome is taken largely from Carcopino 1968, who describes the city under Augustus, a few decades after Crassus.
90. Carcopino 1968:22.
91. Chairs were for professors or priests (the origin of the term for a university appointment).
92. Quoted in Carcopino 1968:33.
93. A capital offense for both; if convicted, he would be executed and she, buried alive.
94. Bailey 1978:40n18.
95. Dudley 1993:97–98.
96. Wells 1984:52.
97. Wells 1984:40.
98. Quoted in Klingaman 2008:35.
99. Garnsey, Hopkins, and Whittaker 1983:118.
100. For population at time of Caesar, see CAH 1994:605. For population in the second century C.E., see Pounds 1990:53.

101. Both Caesar and Pompey reduced taxes in the East, reformed the tax system, and got rid of publicans; Peters 1970:380.
102. Peters 1970:380.
103. Peters 1970:384; and Durant 1944:203.
104. Durant 1944:201–2.
105. Their rule was called the Second Triumvirate because one Lepidus, who commanded Roman forces in Africa, served for a time before Octavian had him removed.
106. Hopkins 1978:7.
107. Durant 1944:192.
108. Brown 1973:14.
109. Goodman 1997:23.
110. Andraeu 1999:18.
111. Rostovtzeff 1957:30–31.

10. The Principate.

1. On Augustus I have relied mainly on Alföldy 1988; Brunt 1988; Dudley 1993; Durant 1944; Goodman 1997; Hopkins 1978; and Rostovtzeff 1960.
2. Dudley 1993:107.
3. Hopkins 1978:92.
4. Dudley 1993:124.
5. Williams 1997:9.
6. Rostovtzeff 1960:165–66.
7. Durant 1944:234. Sigmund Freud tells a joke from Macrobius's *Saturnalia*, said to have originated in Augustus's Rome, if not with the emperor himself: a monarch touring his provinces met someone who looked just like him. He asked if the fellow's mother had worked in the palace. "No, your highness, but my father did"; Beard 2008.
8. Hopkins 1978:39.
9. Durant 1944:215.
10. Brunt 1988:439.
11. Rostovtzeff 1960:174.
12. Goodman 1997:240.
13. Rostovtzeff 1960:173.
14. Horsley 1995:210.
15. Rostovtzeff 1960:229; and Goodman 1997:108.
16. Dudley 1993:137.
17. Richardson 1976:55; and Rostovtzeff 1960:227.
18. Rostovtzeff 1960:228–29.
19. Richardson 1976:62–63.
20. Millar 1977.
21. Goodman 1997:118.
22. Garnsey and Saller 1987:88.

23. Goodman 1997:100.
24. Hopkins 1978:38.
25. MacMullen 1988:175–76.
26. Goodman 1997:100.
27. Adams 1993:78; Webber and Wildavsky 1985:77; and Crook 1967:147.
28. Quoted in Ste. Croix 1981:363.
29. Brunt 1988:153–54.
30. Adams 1993:94–95.
31. Jones 1974:95.
32. Rostovtzeff 1957:49.
33. Adams 1993:95.
34. MacMullen 1988:88.
35. MacMullen 1988:88.
36. MacMullen 1988:138.
37. Morley 1996:78–79.
38. MacMullen 1988:120.
39. Rostovtzeff 1960:144.
40. Rostovtzeff 1957:29; and Goodman 1997:190.
41. Green 1991:5.
42. Quoted in Green 1991:274.
43. Green 1991:200.
44. Jones 1940:101.
45. Hopkins 1978:221, 230–31.
46. Goodman 1997:175.
47. Dudley 1993:142.
48. Dudley 1993:140–41.
49. Tacitus, quoted in Goodman 1997:201.
50. Durant 1944:274. The Durants evidently got this from Seneca's *Apocolocyntosis*, which contains a section called "The Pumpkinification of Emperor Claudius," a daydream. Claudius arrives in heaven where "Augustus denounces him: 'Since the divine Claudius has killed his father-in-law Appius Silanus, his two sons-in-law Magnus Pompeius and L. Silanus, his daughter's father-in-law Crassus Frugi, a man as like himself as one egg is to another, Scribonia his daughter's mother-in-law, his wife Mesalina, and others too numerous to mention, I propose that strict punishment be meted out to him, that he be granted no rest from adjudicating cases, and that he be got out of the way as soon as possible, departing from heaven within thirty days and from Olympus within three.' The motion carried and Claudius was sent to Pluto's Hell for further trial. There he was found guilty of 'Senators killed, thirty-five; Roman knights, two hundred and twenty-one; other persons, as many as the sands on the seashore.' His punishment: 'It was decided that a new punishment ought to be arranged, that for him must be devised some vain task and the hope of gratifying some desire, without end or consummation.' So he was given a bottomless dice box to gamble with, and the dice constantly slipped out, frustrating him no end. But finally Caesar appeared, claimed him as a slave, and he ended up working as a law clerk."

(trans. A. P. Ball [orig., Columbia University Press, 1902], available at <http://www.forumromanum.org/literature/apocolocytosis.html> [accessed 6/28/08]).

51. On extermination, see Rostovtzeff 1960:196. On Africa, see Goodman 1997:56.

52. Keay 1988:100–101.

53. Alföldy 1988:95. For cedars, see Goodman 1997:248.

54. Goldsmith 1987:55 (table 4.2).

55. Brown 1997:12–13.

56. From Augustus to Titus, veterans were paid 900 HS (225 denarii)/year and retired with 12,000 HS; Goodman 1997:118.

57. The *annona* added oil in 200 C.E., and pork and wine later, in the 270s; Morley 1996:55.

58. Silver 1985:80. But see L. Casson 1980:22.

59. Sirks 1991:25.

60. Garnsey and Saller 1987:60 and Whittaker 1993:54. For piggybacking on military shipments, see Keay 1988:95. For piggybacking on private landowner shipments, see Greene 2000:44.

61. Keay 1988:98.

62. Aldrete and Mattingly 1999:191.

63. Kleberg 1957:102–5.

64. The story of the crisis is from Durant 1944:332.

65. Dudley 1993:167.

66. Rostovtzeff 1957:103–5.

67. Goodman 1987:120.

68. Alföldy 1988:120.

69. Dudley 1993:169.

70. Gibbon 1946:61.

71. Rostovtzeff 1960:208.

72. Quoted in Rostovtzeff 1957:122.

73. Counted as of the fourth century C.E. (Brown 1992:25), but never much changed (A. Cameron 1993b:129).

74. For five hundred villages, see Frayn 1993:162 (speaking of the early empire). For 30–40 percent in cities, see Hopkins 1978:6; and Morley 1996:182. For the population of Rome, see Hopkins 1978:7n13; and Garnsey and Saller 1987:6. For Puteoli largest outside Rome, see Randsborg 1991:92. For one hundred thousand in Ostia, see Dudley 1993:202, but see Morley 1996:182, estimating thirty thousand. For Capua and Salerno, see D'Arms and Kopff 1980:106. For twenty-five cities of fifteen thousand each, see Morley 1996:182.

75. Duncan-Jones 1990:104.

76. Frayn 1993:38–39.

77. Quoted in Carcopino 1968:47.

78. Mokyr 1999:20.

79. L. Casson 1988:356.

80. Dudley 1993:182–83.

81. MacMullen 1988:30.
82. Brown 1969:20.
83. Dudley 1993:181.
84. Dudley 1993:184.
85. Garnsey and Saller 1987:59.
86. Goodman 1987:200.
87. Sirks 1991:39; and Keay 1988:75.
88. Paterson 1998:163.
89. Keay 1988:103.
90. I am summarizing here a complex process, described in Rostovtzeff 1960:216–25.
91. Goodman 1987:213.
92. Pounds 1990:51.
93. Garnsey and Saller 1987:57; and Randsborg 1991:31–32.
94. Brown 1997:13.
95. Pounds 1990:57–58; and Dudley 1993:131.
96. The history of Judea related here relies primarily on Bowersock 1983; Buehler 1974; Cahill 1998; S. Cohen 1988; Cohn 1994; *Encyclopaedia Judaica*; Goodman 1987; Miles 1995; Millar 1993; Peters 1970; Safrai 1994; Smallwood 1976; Tarn and Griffith 1974; and Wylen 1996.
97. Micah 6.8.
98. *Encyclopaedia Judaica* 6.18 (“Diaspora”).
99. Buehler 1974:58–59.
100. Buehler 1974:88–89.
101. Wylen 1996:66.
102. Schiffman 1992; and Huie 1998.
103. Smallwood 1976:28. The bribes included a solid gold vine from the temple worth seven hundred talents; S. Cohen 1988:23. While in Jerusalem, Pompey visited the famous temple. Leaving his guards and their eagle standards in the courtyard he wandered around, then departed. The Pharisees, claiming that the eagle standards had desecrated the temple with idolatry, so vilified Pompey that nearly two centuries later a Jewish mob tore down his tomb in Alexandria; Smallwood 1976:27.
104. Goodman 1987:10.
105. Wylen 1996:72–73.
106. Wylen 1996:210–11; Brown 1973:36; and Horsley 1995:219n50. Tenancy was a Hellenistic innovation in Judea during the third century B.C.E.; Goodman 1987:67.
107. Goodman 1987:56–58.
108. Horsley 1995:219–20.
109. Millar 1993:51.
110. Goodman 1987:65, 75.
111. Smallwood 1976:257.
112. Millar 1993:55.
113. Wylen 1996:75.
114. Cohn 1994:208.

115. Smallwood 1976:343–49.
116. Johnston 2001.
117. Miles 1995:200.
118. Miles 1995:219. The Sibylline Books were from the cult of Cybele, very important in these parts.
119. Smallwood 1976:384 and *Encyclopaedia Judaica* 6.10 (Philo estimated one million Jews in Egypt in the first century C.E.).
120. The following paragraphs are based on Smallwood 1976:358–69.
121. The insurrectionists allegedly slaughtered 220,000 people and greatly depopulated the land. They were said to have worn the intestines of their victims as belts, among other atrocities.
122. A. Cameron 1993b:183.
123. Cohn 1994:208.
124. Goodman 1997:325.
125. MacMullen 1986:83.
126. Quoted in Dudley 1993:179.
127. Hornblower and Spawforth 1996:1537 (“Trade, Roman”).

11. Roman Society

1. Alföldy 1988:88–89, 127, 147.
2. Estimate by Whittaker 1993:12.
3. Alföldy 1988:108.
4. Hopkins 1978:182.
5. Hopkins 1978:41. For John the Lydian, see Ste. Croix 1981:488.
6. Hendy 1985:203.
7. Alföldy 1988:108. For Ahenobarbus, see Anderson 1978:61.
8. Ste. Croix 1981:359n10.
9. Finley 1992:100–101.
10. Garnsey and Saller 1987:70.
11. Garnsey and Saller 1987:64–69.
12. Garnsey and Saller 1987:67.
13. Durant 1944:40.
14. Alföldy 1988:107.
15. Finley 1992:112.
16. Goodman 1997:208.
17. Under the Antonines; see Jones 1974:126.
18. Hopkins 1978:49.
19. Aubert 1994:368.
20. The drainage was not completed until 1875, and further work was done repeatedly throughout the Middle Ages; Dudley 1993:164. Working days are net of Roman holidays.

21. Peters 1970:339n26 and Hopkins 1978:109. On slavery generally see Alföldy 1988; Finley 1992, 1983b; Hopkins 1978; Ste. Croix 1981; and Whittaker 1993, 1987.
22. Wells 1999:13–14.
23. Duncan-Jones 1990:104.
24. For one hundred thousand slaves costing a typical average of two thousand HS, see Anderson 1978:135; and Alföldy 1988:203.
25. Suetonius, *Claudius*, in Meijer and van Nijf 1992:101.
26. Claudius required ships to remain six years in service (Garnsey and Saller 1987:88), so I assume this is the useful life of such ships. That means one sixth of the shipping tonnage had to be replaced annually, or just under 29,000 tons.
27. This is a speculative calculation. It assumes that Rome consumed 172,000 tons of Egypt's grain annually; Bowman 1989:38. Landels 1981:166 notes that since a ship usually made only one voyage per season between Alexandria and Italy, this required a fleet of 172,000 tons. Bowman says that Egypt may have supplied 30 percent of the *annona's* grain, a number that comes from one ancient text called "isolated" and "unreliable" by Garnsey and Saller 1987:85, but it's the only estimate we have. If correct, then even though other routes allowed more trips, Rome might have needed double the Egyptian tonnage to supply all its needs. How much did 58,000 tons of shipping cost? Fairly careful estimates suggest that it cost up to 1,000 HS per ton for a 400-ton ship sailing the route from Alexandria to Ostia; Garnsey and Saller 1987:49. But smaller ships undoubtedly cost more per ton, so the 1,000-HS-per-ton figure is conservative.
28. Sirks 1991:31–34.
29. Garnsey and Saller 1987:43–44.
30. J. Wallace-Hadrill 1988:11.
31. In this section I have relied primarily on Alföldy 1988; Crook 1967; Finley 1976; Frayn 1993; Jones 1974; Kolbert 1979; Nippel 1995; Ste. Croix 1981; and Wolff 1951.
32. North 1981:109.
33. By contrast, in many underdeveloped societies today—and even in the developed societies a century ago—the multiplicity of legal systems has greatly complicated the ownership of property, and the resulting confusion has been a major obstacle to the creation of wealth and its use for productive purposes. See DeSoto 2003.
34. See DeSoto 2003 for an excellent discussion of the role of law in the creation of wealth.
35. Crook 1967:214.
36. Wolff 1951:71.
37. Rome also had a *ius gentium* for non-Romans, and the censor punished crimes against the state like treason and sedition, serious crimes against persons like rape and murder, and the economic crimes of counterfeiting, smuggling, and brigandage; Nippel 1995:113. Citizens accused of capital crimes could appeal to the emperor; Crook 1967:70.
38. Crook 1967; and see generally Millar 1977.
39. According to a price list from the African town of Timgad in 362 C.E., 7½ bushels of wheat went to the governor's chief of staff and his aides to begin a lawsuit

before the governor, plus 2 bushels per mile to the clerk for travel to notify the defendant—100 bushels if service was overseas; MacMullen 1988:151.

40. In large cases the jury might include up to a hundred people; Crook 1967:79.

41. Quoted in Wolff 1951:77.

42. As the first sentence in the Twelve Tables says, “If a man is summoned to appear in court and does not come, let witnesses be heard and then let the plaintiff seize him. If he resists or absconds, the plaintiff can use force”; Kolbert 1979:13.

43. See generally Crook 1967 for legal procedures.

44. Brown 1969:90.

45. MacMullen 1988:118–19; and CAH 1994:547.

46. Goodman 1997:185.

47. Paterson 1998:155; see Justinian, *Digest* 18.

48. CAH 1994:635.

49. Aubert 1994:44–45. Recall that the Code of Hammurabi provided that an agent’s sale of his master’s merchandise could not be invalidated if the agent had provided his master a price quotation under seal; Association of Chartered Accountants in the United States 1999.

50. Aubert 1994:171.

51. Aubert 1994:5–6, 9–12, 59.

52. Aubert 1994:413.

53. In recent years, economists and social scientists have developed the concept of “social capital,” a set of informal norms that facilitates cooperation; Fukuyama 1999:14–16. Where high levels of social capital exist, as in a patronage relationship, agency costs are typically much reduced; Fukuyama 1999:201ff. and Fukuyama 1995.

54. Ste. Croix 1981:165.

55. Ste. Croix 1981:259.

56. Quoted in Ste. Croix 1981:167.

57. Hopkins 1978:14n20. Rawson 1976 contrasts the Roman lack of attachment to land with the passionate attitude of the English nobility at the time of Jane Austen.

58. D’Arms 1981:86.

59. Morley 1996:79.

60. Kolbert 1979:58.

61. Crook 1967:140.

62. Finley 1992:106 explains that peasant holdings were usually too small to fully occupy an entire peasant family.

63. Carcopino 1968:184.

64. Carcopino 1968:206. A typical American worker might have ten holidays, two weeks vacation, weekends off, and an eight-hour day, which comes to 1,920 hours per year. The Roman work year of seven hours a day for ninety days plus six hours a day for ninety days equals 1,170 hours.

65. Crook 1967:107–9; and Aubert 1994:44–45.

66. Carcopino 1968:181.

67. Applebaum 1992:158–62.

68. Alfoldy 1988:144.

69. The cost was 270 denarii under Augustus; Finley 1952:70. For a year's upkeep, see Hopkins 1978:39–40. For early-second-century cost, see Hopkins 1978:109; and Peters 1970:339n26.

70. Finley 1983b:133. The precise status of these *coloni* varied with time and place; in general, the restrictions became increasingly severe as the empire aged, until at last it could be stated that the only distinction between a slave and a *colonus* was the latter's obligation to serve in the army; Whittaker 1987:110.

71. Finley 1983b:140.

72. Quoted in Ste. Croix 1981:182.

73. Aldrete and Mattingly 1999:201.

74. Applebaum 1992:112–13.

75. Goodman 1997:273; and Jones 1974:358.

76. Alföldy 1988:208; and Ste. Croix 1981:243.

77. Aubert 1994:157.

78. This assumes that 25–30 percent of population were adult men, or approximately fifteen million.

79. Hopkins 1978:7n13; and Garnsey and Saller 1987:73. The size of the slave population after Augustus is a matter of uncertainty. With the end of the great military conquests and of Mediterranean piracy, slave prices rose, and therefore it would be logical to conclude that the number of slaves declined; Jones 1974:128. On the other hand, Finley 1983b:131 and other scholars (e.g., Whittaker 1993:171) believe there was little or no decline until the third century. As Finley observes, we know only that it existed in the second century C.E. and was largely gone by the time of Charlemagne.

80. Finley 1983b:81.

81. Badian 1972:33–34.

82. Quoted in Finley 1983b:96.

83. Recall that if a master was killed, the law required that all his slaves be tortured to death; Hopkins 1978:120.

84. Applebaum 1992:104. The choice between persuasion and the whip is known, in modern human resource theory, as “theory x versus theory y management”; see McGregor 1985.

85. Whittaker 1987:98.

86. Applebaum 1992:136; and Whittaker 1987:98.

87. Hopkins 1978:222.

88. Alföldy 1988:146.

89. Finley 1992:74.

90. Alföldy 1988:143.

91. For Athens, see Grant 1990c:132. For Mago, see Rostovtzeff 1957:10.

92. Alföldy 1988:141.

93. Crook 1967:63.

94. Alföldy 1988:141.

95. Inscription from the Aegean island of Calymna around 100 C.E., quoted in Hopkins 1978:157.

96. Crook 1967:51. The freed person could not be obligated to perform degrading work, however, such as prostitution; 1967:52.
97. Although freedmen had to gain their former masters' permission to sue; Crook 1967:2, 51.
98. Garnsey and Saller 1987:124.
99. Alföldy 1988:141; and Veyne 1987:145.
100. Ste. Croix 1981:148.
101. Carcopino 1968:85.
102. Applebaum 1992:116–17.
103. Potter and Mattingly 1999:267.
104. Applebaum 1992:121.
105. Carcopino 1968:183.
106. What Rostovtzeff 1957:1306 says of the Hellenistic kings was true of the Roman emperors as well.
107. For the dependence of emperors on the urban mob, see Brown 1992:149.
108. Trajan was instructing Pliny to forbid the formation of a fire brigade in Bithynia's capital of Nicomedia; Pliny, *Letters* 10.34, quoted in Goodman 1997:232.
109. Sirks 1991:406.
110. Applebaum 1992:143.
111. Description from Carcopino 1968:175–76.
112. D'Arms 1981:147–48.
113. A. Wallace-Hadrill 1991. The discussion of status relies especially on Alföldy 1988; Aubert 1994; D'Arms 1981; Garnsey, Hopkins, and Whittaker 1983; Hopkins 1978; Talbert 1984; and Veyne 1987.
114. Cicero, *De officiis* 1.150–51, cited in Finley 1992:41–42.
115. This was true even in the Principate; Badian 1972:51.
116. Applebaum 1992:105, cited in Hopkins 1978:54.
117. "Because these men are forced to remain seated in the shade and sometimes even to spend entire days at fireside"; quoted in Veyne 1987:122.
118. Veyne 1987:119; and Applebaum 1992:96.
119. Whittaker 1993:2.
120. The dominant ideal for the economy was stability, a virtue particularly prized in rural economies; Green 1990:363.
121. Thaler 2010; and Carr 1968.
122. Aubert 1994:21–22.
123. Crook 1967:193.
124. Crook 1967:193; and Veyne 1987:132.
125. Applebaum 1992:152.
126. See his speech in Meijer and van Nijf 1992:74.
127. Andraeu 1999:48.
128. Veyne 1987:143.
129. Brunt 1988:172–73.
130. Brunt 1988:169.
131. D'Arms 1981:49.

132. Brunt 1988:171.
133. Carcopino 1968:193.
134. D'Arms 1981:64.
135. Andreau 1999:12.
136. Andreau 1999:78.
137. Andreau 1999:8.
138. Peters 1970:528.
139. Alföldy 1988:128.
140. Rostovtzeff 1957:150n14.
141. Alföldy 1988:52.
142. Grant 1985:103–4.
143. Bowman 1994:39–40.
144. Aubert 1994:25.
145. Alföldy 1988:109ff.
146. Ten percent of the population lived in cities of 10,000 or more; Goldsmith 1987:34.
147. *Citizens United v. Federal Election Board*, 558 U.S. 50 (210), J. Roberts concurring opinion.

12. Roman Businesses

1. Randsborg 1991:127–28.
2. Whittaker 1993:113.
3. Rostovtzeff 1957:550.
4. Burford 1972:64.
5. Frayn 1993:73.
6. Durant 1944:323.
7. Rostovtzeff 1957:74.
8. Frayn 1993:43.
9. Jones 1974:353. Diocletian's Price Edict, a 305 C.E. decree that listed many consumer products and their prices, specifically mentions several types of cloak made in the Anatolian city of Laodicea.
10. Garnsey and Saller 1987:136; see also Hopper 1979:136.
11. Window 1, Room 41, Early Medieval Europe A.D. 300–1100, British Museum.
12. Dudley 1993:197.
13. Goldsmith 1987:263; and Badian 1972:33–34.
14. Whittaker 1993:116.
15. Ste. Croix 1981:142, 197.
16. Quoted in Sutherland 1969:30, as a reasonably true picture in general.
17. On private contractors, see Bowman 1994:95. On publicans, see Badian 1972:32.
18. W. Harris 1993:17n44.
19. Alföldy 1988:206.
20. Burford 1972:92–93.

21. Alston 1998:188.
22. Senators evidently remained responsible for the mints producing tiny copper coins known as *ases*.
23. Pounds 1990:64.
24. Durant 1944:321.
25. Alföldy 1988:206.
26. Frayn 1993:60.
27. Carcopino 1968:60.
28. Hodge 1990:119.
29. Ste. Croix 1981:156–57. Theodosius put a stop to this in 390 C.E.
30. Garnsey and Saller 1987:87.
31. Applebaum 1992:152.
32. Moritz 1958:73.
33. Moritz 1958:102.
34. Hodge 1990:119–20.
35. Hodge 1990:115. See also Greene 2000:39.
36. Rostovtzeff 1957:551. The description of cloth relies mainly on Moeller 1976; Wild 1970; and Wilson 1938.
37. Dudley 1993:200.
38. Jones 1974:351.
39. Moeller 1976:7.
40. Wild 1970:27.
41. Wilson 1938:3.
42. Randsborg 1991:159–60.
43. Rice 1967:125.
44. The stories about Commodus, Severus Alexander, and Aurelian are from Wilson 1938:5.
45. Wilson 1938:4.
46. Rice 1967:125.
47. Wild 1970:13.
48. A story told by Procopius; see Collins 1991:130; and Hopkirk 1980:21.
49. Brown 1973:155–56.
50. Rice 1967:126.
51. Rice 1967:124, 126.
52. Wild 1970:21.
53. Jones 1974:39.
54. Quoted in Carcopino 1968:174.
55. Jones 1974:356.
56. Wilson 1938:66.
57. Meijer and van Nijf 1992:103.
58. The description of wool manufacturing relies primarily on Frayn 1984; Wild 1970; and Wilson 1938.
59. Jones 1974:353.
60. Wild 1970:79.

61. This description is based on Guttman 1988:23–26, with Roman details from Moeller 1976; Wild 1970; and Wilson 1938.
62. <http://www.peacefulpastures.com/fleece.html>.
63. Dyeing became part of the finishing process in the Middle Ages.
64. Moeller 1976:13–14.
65. Wild 1970:35–36.
66. See Ovid's description in *Metamorphoses* 6.53–58, quoted in Wilson 1938:22.
67. Wild 1970:82.
68. Guttman 1988:25.
69. Moeller 1976:14.
70. Wild 1970:82.
71. Moeller 1976:19.
72. Wild 1970:83.
73. Moeller 1976:26. There is a question about how common these were. Moeller thinks many fullers used them; Wild 1970 thinks they were rare.
74. Moeller 1976:45–46.
75. Moeller 1976:79.
76. Wilson 1938:65.
77. Moeller 1976:54.
78. Moeller 1976:78.
79. Moeller 1976:81.
80. Applebaum 1992:153.
81. Aubert 1994:284.
82. Aubert 1994:211.
83. These might have been partnerships of potters, but more likely it was of land-owners; Aubert 1994:211.
84. Applebaum 1992:154.
85. D'Arms 1981:155–56.
86. Applebaum 1992:154.
87. Dudley 1993:154.
88. Wood-Perkins 1980:325–38.
89. Meiggs 1982:341.
90. Quoted in Ste. Croix 1981:25.
91. Elton 1996:82.
92. Ste. Croix 1981:199. The discussion of markets relies heavily on Frayn 1993 and Morley 1996.
93. Applebaum 1992:163–64.
94. Applebaum 1992:105.
95. C. Mango 1994:41.
96. Alfoldy 1988:207.
97. Applebaum 1992:146.
98. Frayn 1993:122–23.
99. Barnish 1987:171.
100. Alston 1998:196.

101. Frayn 1993:141.
102. Bowman 1994:107.
103. Frayn 1993:19.
104. Frayn 1993:33–34.
105. Moeller 1976:65.
106. Silver 1995:7, quoting Rose 2004.
107. Rostovtzeff 1957:31; and Andreau 1999:18.
108. Frayn 1993:162–63.
109. Goldsmith 1987:46.
110. Pounds 1990:66. The only measure of trade as a share of the economy comes from Constantine’s tax on commerce that collected about 5 percent of the imperial tax revenues in the East during his reign, almost entirely from Eastern trade; Jones 1974:35–37.
111. L. Casson 1991:198.
112. L. Casson 1991:198–99.
113. Ste. Croix 1981:232.
114. L. Casson 1991:205; see also the Periplus quoted in Goodman 1997:271.
115. Elton 1996:82.
116. Randsborg 1991:139.
117. Rostovtzeff 1957:1247.
118. L. Casson 1991:198.
119. L. Casson 1991:202. Peters 1970:523 claims it went to China. It is not clear if “Antun” in the Chinese account refers to Antoninus Pius or Marcus Aurelius.
120. Randsborg 1991:146.
121. L. Casson 1991:205–6.
122. Peters 1970:521.
123. Rostovtzeff 1957:156–57.
124. Duncan-Jones 1982:33.
125. L. Casson 1991:203.
126. Rostovtzeff 1957:156–57.
127. Dudley 1993:203.
128. The winds blew toward India in the spring and toward Egypt in the fall.
129. L. Casson 1991:204–5.
130. Starr 1989:73.
131. L. Casson 1991:203.
132. McNeill 1987:1115; see generally Bulliet 1975.
133. Palmyra was two hundred kilometers from the Euphrates, but on the up-stream journey travelers had to disembark considerably downriver and proceed overland about five hundred kilometers to Palmyra; Millar 1993:331.
134. Millar 1993:332.
135. Rostovtzeff 1957:155n19; and Millar 1993:515. There were also Palmyrene agents at Alexandria.
136. Garnsey, Hopkins, and Whittaker 1983:174.
137. Hopkins 1983:54.

138. C. Mango 1994:43. In the seventh century an Alexandrian laborer earned 1/24 of a solidus per day; 1994:40.
139. My discussion of slave trading relies on Alföldy 1988; Finley 1983b; W. Harris 1980 and Hopkins 1983.
140. Tchernia 1983 and Hopkins 1983:98.
141. Finley 1983b:80. Outside Italy, most slavery was urban and domestic; Whitaker 1993:95.
142. CAH 1994:630.
143. W. Harris 1980:126.
144. Morley 1996:104.
145. Bowman 1994:105.
146. L. Casson 1988:359.
147. D'Arms 1981:8.
148. Albion, Baker, and Labaree 1994:23.
149. Duncan-Jones 1982:17, 24.
150. Loane 1938:11n3.
151. Rickman 1980:264.
152. Jones 1974:37.
153. Sirks 1991:253–56.
154. Applebaum 1992:163.
155. Rickman 1980:271.
156. Carcopino 1968:177.
157. Rostovtzeff 1957:54.
158. Both Rostovtzeff 1957:162 and Jones 1974:128 list the suppression of piracy first among the causes for Rome's blossoming trade.
159. Goodman 1997:146.
160. Keay 1988:104.
161. This discussion is based on the extended definition of transaction costs at North 1981:19.
162. A detailed description of such a process is provided in Boyce 2003.
163. Frye 1963:188.
164. Goods from the mid-eighth century are preserved at Nara; Randsborg 1991:146.
165. As late as Cicero's day an advocate could not take fees for his legal services. But his grateful "friends" no doubt endowed him well with lucrative gifts and bequests; Crook 1967:90; and Finley 1992:57.
166. Durant 1944:313.
167. Wilford 1998.
168. Potter and Mattingly 1999:269.
169. Plutarch, *Life of Pericles* 2.1–2, quoted in Finley 1992:54.
170. Garnsey and Saller 1987:50; contrast D'Arms 1981:149–50.
171. Duncan-Jones 1982:198. But coin hoards suggest a greater usage than some historians allow; Howgego 1992:20–21.
172. Morley 1996:78; Duncan-Jones 1982:6; W. Harris 1993:20; and Bowman 1994:91.

173. Goldsmith 1987:40–41 estimates silver in 14 C.E. of 100 HS per capita and total coinage a third larger in value. Adding them yields 0.93 times the subsistence level of about 250 HS per person reported by Hopkins 1983:39–40 and Duncan-Jones 1982:54. For the United States, taking the population at 300,000,000 and the minimum wage as the subsistence level, the ratio in 1997 was 1.2 for the M2 money supply; 1998 Statistical Abstract of the United States, Table 826, “Money Stock and Liquid Assets: 1980–1997,” 525.
174. Howgego 1992:6.
175. Goldsmith 1987:37.
176. Goldsmith 1987:37.
177. It began at 900 HS and under Trajan was 1,200 HS. But retirement was reduced from thirteen to ten years’ pay, leaving total compensation little changed; Hopkins 1983:75 and Goodman 1997:118.
178. Crook 1967:211.
179. W. Harris 1993:21.
180. Goldsmith 1987:44; Brunt 1988:169, 175; and Crook 1967:211. For higher rates under the Middle Eastern empires and in Europe after Rome, see Baskin and Miranti 1997:318.
181. Howgego 1992:15.
182. That is, one could purchase goods on a layaway plan, by making a deposit and paying later; Crook 1967:218–20.
183. Howgego 1992:14.
184. Durant 1944:331.
185. Crook 1967:233.
186. Crook 1967:232.
187. Duncan-Jones 1982:2.
188. Goldsmith 1987:43.
189. Goldsmith 1987:43. These first came into existence at Rome before 100 B.C.E., but had been known in the East for a long time.
190. Goldsmith 1987:44.
191. CAH 1994:634.
192. Howgego 1992:28.
193. Morley 1996:78.
194. Brunt 1988:169.
195. Bogaert 1966:345.
196. Aubert 1994:1.
197. “One reason for the lack of sophistication of Roman financial institutions could be that they were not regularly used by the elite”; Morley 1996:78.
198. For rent, see Finley 1976:109. For dowries, see Veyne 1987:146–47.
199. Veyne 1987:149.
200. Andreau 1999:12.
201. Finley 1992:64.
202. L. Casson 1980:26–29.
203. Quoted in Goodman 1997:260–61.

204. On the number of bars, inns, and hotels, see Kleberg 1957.
205. Applebaum 1992:161.
206. Veyne 1987:305.
207. Information about entertainment that is otherwise not footnoted is from Goodman 1997.
208. Dodge 1999:230, 237.
209. Potter 1999:258. My description of entertainment relies mainly on Aubert 1994; Potter 1999; and Toner 1995.
210. A. Cameron 1993a:117–18.
211. Potter 1999:296–301.
212. Norwich 1997:199.
213. Collins 1991:116.
214. Potter 1999:321.
215. Toner 1995:45.
216. Toner 1995:36.
217. Toner 1995:37.
218. Hibbert 1985:70.
219. Kling and Schultz 2009:38 (exhibit P). Eighty percent of the wealth per capita in high-income countries now derives from intangible capital, as opposed to natural resources and capital goods.
220. That perspective may appear to clash with the distrust of finance engendered by the current Great Recession. But the two phenomena are unrelated. While various new tools and institutions have made it much easier to predict repayment, and thereby permitted a tremendous expansion of purchasing power based on credit, predictions of repayment can be thwarted by misbehavior if the regulatory mechanisms for catching and punishing misbehavior work badly. The financial problems that generated the Great Recession came about not because financial tools and concepts are defective, but through the failure of regulatory mechanisms, both internal as in corporate governance and incentive pay, and external as in the operation of unsupervised markets and lax regulatory enforcement.
221. Statistical Abstract of the United States 2010, Table 653, <http://www.census.gov/compendia/statab/2010/tables/10s0653.pdf> (accessed April 12, 2010).

13. The Downfall of Ancient Business

1. For the description in the following paragraphs I have used mainly Brown 1973; A. Cameron 1993a, 1993b; Grant 1974; MacMullen 1988; Millar 1993; Peters 1970; Rostovtzeff 1957; and Williams 1997.
2. McNeill 1977:103.
3. Williams 1997:9; and Millar 1993:117.
4. Howgego 1992:8. For gold, see Goldsmith 1987:41.
5. Ste. Croix 1981:468.
6. Rostovtzeff 1960:266. See also “Commodus” and “Pertinax” in Grant 1985.

7. Quoted in Rostovtzeff 1960:267.
8. Ste. Croix 1981:491; and Garnsey and Saller 1987:88, using three hundred thousand for Augustus's army and four hundred thousand for Septimius Severus's. These numbers are highly controversial, but the direction of change seems clear.
9. Grant 1990a:203. Septimius's imperious wife came from the ruling high priests of Emesa's sun god Gabal.
10. Brown 1973:19–20, 160.
11. Grant 1990a:57.
12. A. Cameron 1993a:6.
13. Aubert 1994:325–26.
14. Ferrill 1986:495.
15. Bagaudae in MacMullen 1988:22–23. Egypt and Anatolia in Peters 1970:526.
16. A. Cameron 1993a:5 and Webber and Wildavsky 1985:139.
17. Ste. Croix 1981:478.
18. Lewit 1991:27.
19. On bandits and pirates, see Ferrill 1986:526. On city economies, see Brown 1973:43. See generally Duncan-Jones 1990:46. Still, by 400 c.e. there were still more than eighty towns with populations over 5,000; MacMullen 1988:21.
20. Brown 1973:22.
21. Williams 1997:18.
22. Peters 1970:594–95; quotation in Brown 1973:20.
23. Grant 1974:37 and Peters 1970:600.
24. Adams 1993:104.
25. Adams 1993:104; and Grant 1974:67–68.
26. Grant 1990a:54.
27. Williams 1997:135.
28. For a study of this practice in the Middle Ages, see Ellenius 1998.
29. Applebaum 1992:118.
30. Alston 1998:184.
31. Grant 1974:54, 62; and Williams 1997:24–25.
32. Grant 1974:66.
33. By one estimate, the empire lost 15 percent of its productive acreage during the third century; Grant 1974:56.
34. Garnsey and Saller 1987:39–40.
35. Anderson 1978:96, 99.
36. Webber and Wildavsky 1985:111.
37. Williams 1997:132.
38. Grant 1974:84.
39. Brown 1992:25–26.
40. MacMullen 1988:195.
41. MacMullen 1988:139–40.
42. See generally MacMullen 1988.
43. Lewit 1991:49, 63.
44. Brown 1973:34.

45. Brown 1997:44–45; and Hicks 1969:104.
46. Finley 1983b:147.
47. MacMullen 1988:28.
48. Ste. Croix 1981:381.
49. Brown 1973:34; see also A. Cameron 1993a:118.
50. Morley 1996:6.
51. Olympiodorus, quoted in Grant 1990a:73.
52. Brown 1973:34.
53. Anderson 1978:115; and A. Cameron 1993b:48–49.
54. Brown 1992:26; see also Alfoldy 1988:169.
55. Brown 1973:36; Grant 1974:88; and Finley 1983a:147.
56. Whittaker 1993:14.
57. Ste. Croix 1981:250.
58. Alfoldy 1988:187.
59. A. Cameron 1993b:89, 121; see also Morley 1996:6.
60. Lebecq 1990:73.
61. Based on the reasonable assumption that there was a direct relationship between the quantity of shipping and the number of shipwrecks discovered.
62. Brown 1973:112.
63. Whittaker 1993:14.
64. Grant 1974:62.
65. Grant 1990a:16.
66. On senators estates, see Grant 1990a:79. On food, see Barnish 1987:164.
67. The following account is drawn largely from Collins 1991.
68. Collins 1991:97.
69. Northwestern Europe experienced at least sixteen civil wars and major invasions between 200 and 400; Europe south of the Danube suffered more than thirty; Lewit 1991:34, 87.
70. Much of the discussion of Diocletian is based on Williams 1997.
71. A. Cameron 1993a:107.
72. The U.S. federal government had about fifteen times the number of federal civil servants per capita, according to the Census Bureau's estimate for the year 2000; www.census.gov/statab/freq/98so676.txt. See also A. Cameron 1993a:106.
73. MacMullen 1988:79–80. For staff sizes, see Keay 1988:179–80.
74. Grant 1990a:54.
75. Williams 1997:31.
76. Williams 1997:120. Except where otherwise stated, the facts in this section come from Williams 1997.
77. Peters 1970:508–9. Land taxes were based on *juga*, the area that a yoked ox team could plow, which varied in size depending on the land, and a head tax on the capita, the residents, under which one man = two women = several livestock.
78. Alfoldy 1988:203.
79. For early Christianity generally I have relied mainly on Brown 1992; A. Cameron 1993a; Grant 1974; MacMullen 1986; Peters 1970; and Ste. Croix 1981.

80. Alfoldy 1988:180.
81. North 1981:53.
82. A. Cameron 1993a:12.
83. Ammianus Marcellinus, quoted in Grant 1985:243.
84. Neal 2000:330 observes: "The role of religion in establishing and especially maintaining the legitimacy of the governance structure in any society tends to be overlooked in this secular age. The very word religion, derived from the Latin *religare*, to tie together, and the exercise of religion has been an extraordinary force for the cohesion of people and the eventual metamorphosis of their societies and economies."
85. Ste. Croix 1981:395.
86. Alfoldy 1988:183.
87. There were 70,000–80,000 Christians in Rome in 312, when its population was probably about 800,000; Grant 1974:303. MacMullen 1986:83 estimates there were 5,000,000 Christians in total.
88. Goodman 1997:326.
89. Quoted in Peters 1970:612.
90. MacMullen 1986:101.
91. Duncan-Jones 1990:122; and Ste. Croix 1981:495.
92. Collins 1991:73.
93. Finley 1992:101–2.
94. Brown 1969:340.
95. The temples, always previously considered sacrosanct, yielded so much gold that Constantine could issue a sound gold coinage, the 99% pure solidus, worth about 25 of Augustus's denarii. It remained much in demand for hundreds of years afterward; C. Mango 1994:40; Brown 1973:27; and MacMullen 1986:49–50.
96. Quoted in Brown 1973:34.
97. Its clergy were exempted from taxes, military service, and penal servitude, and church members received preference in the imperial service. Constantine also provided the bishops a substantial and enduring source of revenue by authorizing them to judge civil litigation, much of it involving business; MacMullen 1986:56.
98. Collins 1991:61.
99. I take my understanding of Arianism and the controversy from Brown 1997:71 and 1973:90. See also Colish 1997:7.
100. Brown 1997:83–85; and Alfoldy 1988:188.
101. Rostovtzeff 1957:149.
102. MacMullen 1988:56.
103. C. Mango 1994:36.
104. This was the Patriarch Cyrus of Alexandria; Bowman 1989:81.
105. Veyne 1987:305.
106. Property taxes averaged about 10 percent, as did the tithe; Webber and Wildavsky 1985:110 and Hopkins 1978:16.
107. Ste. Croix 1981:496.
108. On hundreds of thousands, see Brown 1997:32. On austerity, see Brown 1997:66 and Ste. Croix 1981:434. On hoarding, see A. Cameron 1993a:121.

109. Sirks 1991:21, for one, argues that regulation applied only to activities connected with the *annona*. Consequently, he says, the view that Rome was highly regulated should be dropped.

110. See generally Barnish 1987:168, who argues that the capture of North Africa by the Vandals in the early fifth century led to a monetization of the economy around Rome.

111. Brown 1992:27.

112. A. Cameron 1993a:53–54, quoting Zosimus 2.38, writing after the tax's abolition in 499.

113. Brown 2008b.

114. See generally Barnish 1987:168.

115. Grant 1974:62.

116. Ste. Croix 1981:488.

117. MacMullen 1988:151.

118. Unless otherwise noted, this discussion of corruption is drawn from MacMullen 1988.

119. C. Mango 1994:33; and MacMullen 1988:148.

120. Quoted in MacMullen 1988:156.

121. McNeill 1977:109–14.

122. J. Wallace-Hadrill 1988:45.

123. Norwich 1997:223; and J. Wallace-Hadrill 1988:40.

124. Hibbert 1985:74.

125. Norwich 1997:263. I have relied for the balance of this paragraph mainly on Brown 1973; Collins 1991; C. Mango 1994; and Norwich 1997.

Concluding Note

1. Throughout this discussion of “wealth,” I mean material wealth, not the social assets or spiritual wealth that the term sometimes encompasses.

2. The focus of this remark is on the practice and role of business, not on the political, social, and economic conditions that have been so much the focus of this study. Economic historians have, of course, described various dramatic and important changes in those conditions, changes without which the modern economic environment could not exist. See, e.g., Polanyi 1944 and many others.

3. Nelson 1996:118: “It is organizational differences, especially differences in abilities to generate and gain from innovation, rather than differences in command over particular technologies, that are the source of durable, not easily imitable, differences among firms.”

4. Friedman 2009:52–53.

5. Sometimes, however, desire fails. If those who accumulate purchasing power find no use for it, and like the Persian rulers just hoard it in their treasuries, the result is depression. That happened to the Persian Empire, and Japan's stagnation during the last twenty years has a similar cause. Through trade surpluses Japanese firms

accumulated huge amounts of purchasing power in the late twentieth century. They found no desirable uses for their money and, in the functional equivalent of hoarding, invested it in unproductive assets like U.S. real estate and low-yielding bonds in depreciating currencies. Recent U.S. war expenditures have a similar look. This seems to be an endemic problem of empires. See Kennedy 1989.

6. It is fairly easy to see why securitizing mortgages is valuable, since that process provides purchasing power to the mortgage market by letting investors buy not risky single mortgages, but bundles of mortgages that, as a portfolio, enjoy a somewhat lower risk. Spreading the risk even further through the “fund of funds” device of bundling mortgage-backed securities into even larger bundles may be justifiable as a way of further reducing risk by spreading the investment across diverse security classes. Credit default swaps, as the insurance contracts on these securities are called, make sense in the way that all insurance makes sense. I base my description on M. Lewis 2010.

7. Technically, to maximize their return on investment, a calculation that “discounts” future benefits by some percentage to reflect its lesser value. Nor does the concept of maximizing profit, when taken in the fairly broad way I am speaking, conflict with the economic concept of “satisficing,” which holds that managers seek a satisfactory level of return instead of maximization. That is true, but when managers do so they are in effect capturing some of the company’s profit for themselves, in the form of leisure and simplicity of work.

8. North 1981:47.

9. North 1990:35: “The returns on opportunism, cheating and shirking rise in complex societies.”

10. Nelson 2009:1159.

11. Noted economist Paul Romer, husband of the Council of Economic Advisers chairwoman Christina Romer, has formed a company to create “charter cities,” markets like Ugarit or Hong Kong, ports of trade, in underdeveloped countries; Mallaby 2010.

12. Friedman 2009:73.

13. *Citizens United v. Federal Election Commission*, 558 U.S. 50 (2010).