CHAPTER SIX

THE PHILOSOPHERS AND THE REVOLUTION OF THE PRINTING PRESS

Introduction

The price of the skills of common workmen – prescriptive knowledge in Mokyr’s terminology – was relatively low in Western Europe in the centuries before the Industrial Revolution. But would it also be possible to measure the price of the knowledge of ‘philosophers and men of speculation’, of Mokyr’s propositional knowledge? And what do we know about the long-term development of literacy, which forms a crucial link between the two elements of the knowledge economy? Economists who model the emergence of the Industrial Revolution have identified the growth and productivity of the sector producing ‘theoretical’ knowledge as one of the key elements in generating a cumulative process of knowledge creation and human capital formation (Cervelatti and Sunde, 2005). Is it possible to test these ideas and measure the cost and production of this kind of knowledge in a way similar to the one we used for pricing the skills of common workmen?

Chapters 2 and 3 identified key moments in the history of the system of knowledge production in Western Europe: the growth of the monastic movement and the establishment of universities in the high Middle Ages were crucial steps in the developing ‘knowledge economy’. In combination with other developments, such as the growing importance of the written word in place of memory as the most reliable sources of information, this sparked a very significant expansion in the demand and supply of propositional knowledge, as can be seen from the growth of book production and consumption during the high Middle Ages.

Here we take up the story of the growth and accumulation of knowledge and try to measure the output and cost of propositional knowledge, focusing on book production. Books and journals, which only started to appear in the seventeenth century, were the most important carriers of knowledge in the period before the Industrial Revolution – besides the scholars who wrote them. As in the previous chapter, where data on the skill premium from different parts of Europe were analyzed in
a global perspective, we will again try to find out how exceptional the levels of book production in Western Europe were: how they compared with book output in Japan, China, and other parts of Eurasia. Moreover, the demand for books is clearly related to another measure of human capital formation, literacy. Estimates of the level of book consumption per capita, therefore, make it possible to chart the long-term evolution of literacy in the centuries before 1800. Through this connection it is also possible to analyze the causes behind the increase in book production and consumption: how important was income growth, urbanization, and Protestantism in explaining the strong growth of book output from 1450 to 1800? And is there a link between book production – as a measure of human capital – and economic performance? Can we use the estimates of book production in various parts of Eurasia to explain the ‘Great Divergence’?

The Economic Consequences of Mr. Gutenberg

Book production was revolutionized in the centuries before 1800, especially following Gutenberg’s invention of moveable type in the 1440s and 1450s in Mainz. Historians working on ‘the coming of the book’ explain that this innovation was related to broader trends in society and economy in post-Black Death Europe; the rise in income (in particular of real wages) led to a diversification of demand and a growing market for books. At the same time, stimulated by the favourable climate for investment in human capital, literacy was increasing, certainly in the more urbanized parts of Europe. This is also demonstrated by the rise of new religious movements, such as the Modern Devotion in the Low Countries, which stressed individual reading of devotional literature and in particular the Bible. Before the 1450s, the supply of books was somewhat inelastic because the price of hand copying was high. As we have seen in Chapter 3, however, there is clear evidence that following a decline in the 1350s–1370s, manuscript production in the fifteenth century increasingly surpassed previous output levels. New ways of copying books were introduced – such as the pecia system used in universities – to reduce costs and increase output. At the same time, the use of paper as a medium for writing was growing rapidly, and economies of scale and learning effects gave rise to a decline in the real price of paper in these years (see Febvre and Martin, 1976, pp. 29–77). Books continued nonetheless to be high-priced items, often worth more than the annual income of a craftsman.