The Industrial Revolution could shed light on modern productivity

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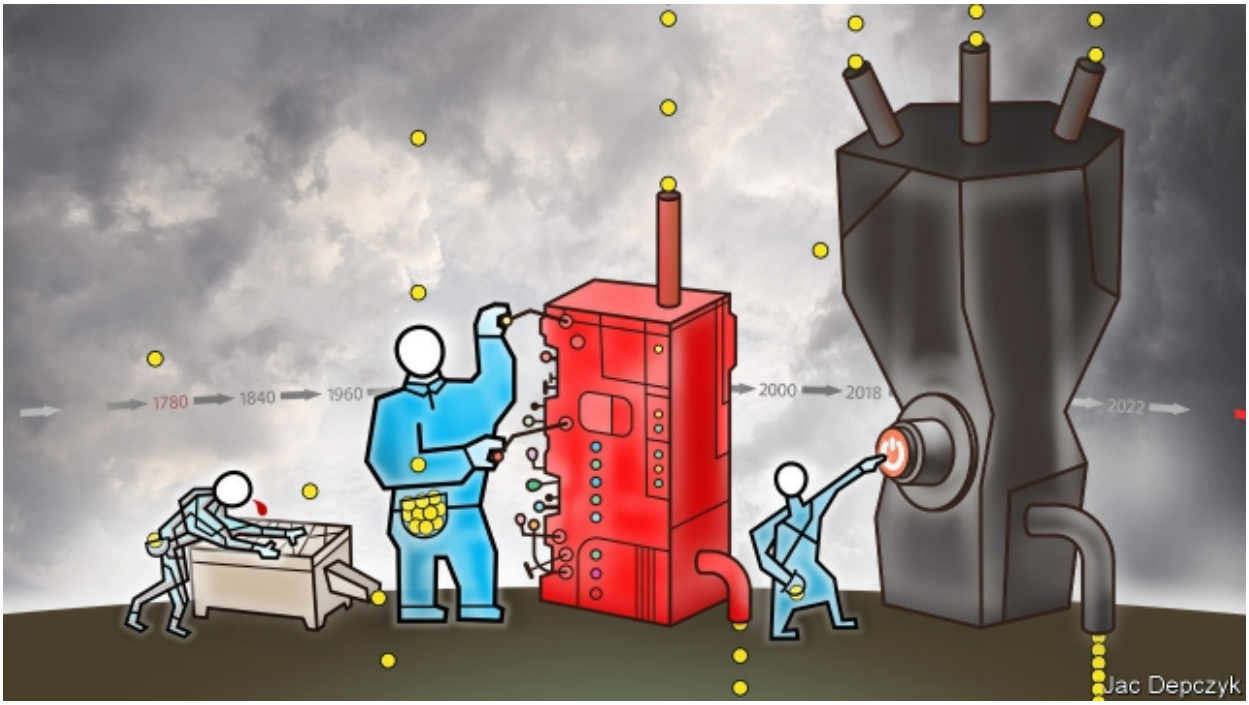
Researchers differ on whether rising wages gave the impetus to industrialise



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HOW much yarn per day could an 18th-century British woman spin? Such questions are catnip for economic historians, whose debates typically unfold unnoticed by anyone outside their field. But a running debate concerning the productivity of pre-industrial spinners, and related questions, is spilling beyond academia. Each probably produced between a quarter of a pound and a pound of yarn a day, the historians have concluded. But at issue is something much more profound: a disagreement regarding the nature of technological progress that has important implications for the world economy.

Economic growth of the sort familiar today is a staggering departure from the pattern of pre-industrial human history. More than a century of study has not resolved the question of why it began where and when it did. This is a matter of more than historical interest. Weak growth in productivity has economists asking whether humanity is running out of ideas, and whether it is losing its ability to turn new technologies into rising incomes. A clearer understanding of what exactly happened in 18th-century Britain could shed light on the matter.

Those studying the productivity slowdown typically focus on supply-side factors such as workers' skills and investment in research and development. Explanations of the Industrial Revolution often draw on similar factors, namely the characteristics of Britain that made it a fertile place to apply new technologies to production. Some scholars emphasise institutional features such as the emergence of stable parliamentary democracy, the rule of law and secure property rights. Others credit Britain's capital markets, communities of skilled tinkerers and cultural habits that encouraged disciplined effort and entrepreneurial ambition.

But if such factors are necessary for industrialisation, they do not appear to be sufficient. Though other parts of north-west Europe shared many such features with Britain, it was in Britain alone that industrialisation began. Economic historians have therefore considered the "demand side" of industrialisation: the conditions under which firms found it worth experimenting with unproven technologies. In particular, scholars are embroiled in a debate concerning the "high-wage hypothesis" put forward by Robert Allen.

Over the past two decades Mr Allen has argued that the key to Britain's industrialisation lies in the expansion of commerce and trade that preceded it. That had pushed up wages for British workers, while pay elsewhere in Europe stayed flat. On the eve of the Industrial Revolution, British firms operated in a market where coal was cheap but labour was dear. It thus made sense for firms to seek ways to use coal-fired machines to wring more out of their workers. At British wage rates, tinkering with new spinning or weaving equipment made sense, Mr Allen writes, whereas in France, say, new modes of production were less likely to pay off. Not until decades of mechanisation and innovation in Britain had boosted the efficiency of new equipment was it worth adopting on the continent.

Mr Allen's work has prompted a wave of research delineating the contours of the high-wage argument. No systematic income data existed at the time. Scholars must instead glean wage information wherever history chanced to leave it. They must determine how productive workers were (hence the debate about daily spinning rates), and whether they were typical of most labourers. And then they must work out what such workers bought with their earnings, and at what price. Consumption of expensive wheat bread might imply that real wages (that is, adjusted for living costs) were low—unless those workers could have bought cheaper bread, made from oats or barley, which would suggest they earned enough to afford a luxury.

This work has galvanised efforts to understand a critical period in economic history. New research by Jane Humphries and Benjamin Schneider, for example, reveals information on the economic role of women and children, who earned less than men, in the spinning industry. Judy Stephenson has uncovered new details about construction workers in London and shown that many estimates of working hours are probably too high.

Those who disagree with Mr Allen's thesis try to find evidence to support a rival, older, theory that the impetus to industrialise came from low wages rather than high ones. In this story vast pools of cheap labour in pre-industrial societies were a potentially lucrative resource and anyone who could put it to better use stood to benefit enormously. In Mr Allen's narrative, spinners' wages, though very low by modern standards, were high

enough to motivate the development and deployment of equipment like the spinning jenny. For Ms Humphries, however, capitalists found the spinning jenny attractive because it enabled them to squeeze more out of the cheap labour of women and children.

Tinker tailor

For now Mr Allen's theory looks more compelling, though further work might easily alter the balance. Yet the central role of labour costs in both theories has lessons for economists studying productivity growth today. They tend to treat wage growth as a function of technological progress, rather than an influence on it. The ability to produce new ideas surely depends upon supply-side factors, from the number and quality of engineers a society produces to the competitive environment facing large firms. But if productivity is growing slowly, that might also be because labour costs discourage experimentation with new technologies.

Such experiments are slow, risky and expensive. When profits are high and wages stagnant, they are hardly worth the trouble. Until wages become too high, human burger-flippers and call-centre workers, like hand-spinners, will do.

Sources:

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