



Total factor productivity growth on Britain's railways, 1852–1912: A reappraisal of the evidence [☆]

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Received 24 January 2005

Available online 26 February 2007

Abstract

This paper revisits the issue of the productivity performance of Britain's railways with an improved dataset and modern cliometrics. We find a slowdown in TFP growth between 1850 and 1870, after which it stabilized at about 1.1%. An analysis of company-level productivity performance reveals large discrepancies in TFP growth and substantial cost inefficiency. The evidence suggests that there was managerial failure in companies with agency problems in a context of collusion and high entry barriers. A wider implication is that the neoclassical exoneration of late-Victorian British management may be less convincing for the services sector than for manufacturing.

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Keywords: Total factor productivity; Railways

[☆] Financial support from the Economic and Social Research Council under Grant R000239536 is gratefully acknowledged. We wish to thank Brian Mitchell for generously making available to us his data and Peter Cain for helpful advice. We have benefited from comments by Tony Arnold, Dudley Baines, Steve Broadberry, Terry Gourvish, Peter Howlett, and three anonymous referees. The usual disclaimer applies.

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1. Introduction

Before the new economic history came along, it was commonplace to allege that late nineteenth century Britain experienced ‘entrepreneurial failure’ and a climacteric in productivity growth (Landes, 1969; Saul, 1968). Now these claims are much more muted or nuanced as it has been recognised that the quantitative evidence offers relatively little support for them (Crafts, 2004a). Indeed, as the excellent summary in Nicholas (2004) makes clear, the neoclassical view, backed up by substantial cliometric research, is that the economy was growing as fast as exogenous constraints allowed with no serious evidence of failure to maximize profits and competition eliminating entrepreneurial failures. Moreover, the suggestion originally made by Phelps-Brown and Handfield-Jones (1952) that there was a climacteric in industrial productivity growth resulting from the exhaustion of steam as a General Purpose Technology has been rejected (Crafts and Mills, 2004).

However, railways have not received the exoneration that has been given to most other sectors of the economy and the quality of their management and their productivity performance are still seen as, at best, deficient and, at worst, dismal. The best-known textbook account concludes that “there was waste and inefficiency in the railway system of Great Britain between 1870 and 1914” (Cain, 1988, p. 120). The most recent assessment of railway management based on financial performance is that of Arnold and McCartney (2005). They conclude that returns to investors were consistently disappointing and that any increase in the net return on capital after 1900 was slight as mean returns on capital employed for the industry as a whole were below 4% throughout the period 1892–1912. Arnold and McCartney argue that management incurred unnecessary costs and paid relatively little attention to creating shareholder value. The most recent review of productivity performance stresses that British railways were greatly inferior to their American counterparts and attributes this largely to managerial failure facilitated by weak shareholders and barriers to entry: “total factor productivity growth...declined continuously after 1870 becoming negative in the Edwardian period”, and “organization and customs that had been appropriate to one epoch of railway technology persisted when opportunities and challenges changed. Inertia was encouraged by an absence of competition...” (Foreman-Peck and Millward, 1994, pp. 88, 90).

It is important to recognize that the exoneration of the late Victorian and Edwardian British economy from the allegation of entrepreneurial failure announced by new economic historians is problematic in the case of railways. The general argument stressed by McCloskey and Sandberg (1971) was that competition punished firms that failed to perform well. It is striking that the one well-established case of entrepreneurial failure in the manufacturing sector, the non-adoption of the Solvay process in alkali production, occurred in a cartelized industry largely sheltered from foreign competition (Magee, 2004). Railways differed from the typical sector represented in the neoclassical exoneration. In particular, agency problems arising from the separation of ownership and control were relatively severe and competition, a potential antidote to such problems, was relatively weak compared with manufacturing. In these aspects, railways are precursors of a more general problem that was central to British relative economic decline after World War II (Broadberry and Crafts, 2003).

In recent discussions of British relative economic decline, the pivotal role of the service sector, in which the initial British productivity lead was later reversed by Germany and the United States, has been highlighted. Broadberry (2006) stresses that Britain did

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