

Measuring Railway Productivity in Ireland: A Reply

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Barrett's (1995) comments raise several issues which are readily addressed.

1. Barrett suggests that traffic unit per staff member is the standard one used to measure railway labour productivity. The purpose of my paper was to point out the inadequacies of *any* partial approach compared to the more superior approach which includes all inputs and outputs. Use of partial methods in the transport area has variously been described as "naive" (DeBorger, 1984) and "narrow in focus" (Berechman, 1983). On the other hand total factor productivity has been stated to be "the most widely accepted means by which productivity can be compared across firms, over time or across firms over time" (Andriuliatas, *et al.*, 1986).
2. Barrett argues that international data involves "... no more risks than using any other data". Recent attempts at measuring rail productivity across European operators have been somewhat sobering. For example, Nash (1985) concluded that:

One of the themes of this paper has been to stress the difficulties involved in comparing the efficiency of Western European Railways. Nor is this simply due to the inadequacies of published data — a whole host of factors unique to the countries concerned in terms of economic

geography, government intervention and the competitive position influence the performance of the railway concerned (p. 266).

The inadequacy of the data alluded to by Nash suggests that the data which are published is partial in nature and there is a lack of standardisation in the various railway accounts. In particular, considerable problems arise in the measurement of depreciation and capital stock, interest charges, pensions and Social Insurance.

In passing it should be noted that whereas the European Conference of Ministers of Transport (ECMT) publish data for railway companies they do not, in the reference cited by Barrett, give any measure of labour productivity nor advise on a method for its measurement.

3. Barrett claims that cost targets set by the Government were "to reduce overall rail costs by close to one-fifth over five years, but the reduction achieved was only 6 per cent". It would appear that Barrett has now moved away from his original productivity measure to one where productivity is measured in terms of Government targets for reducing costs. Two points should be noted in this context. First, the targets which were set by Government in 1983 referred specifically to *mainline rail operations* only. In his book, which he refers to, Barrett applied the Government targets to both mainline operations and the Howth/Bray suburban system. This of course leads to a considerable degree of error regarding targets and actual out-turn. Using Barrett's own figures from Table 55 (p. 119) and applying them to mainline rail only would suggest that cost reductions were 17 per cent and not 6 per cent. Second, the target subvention and cost cutting formulae were abandoned by the Government in October 1988.
4. Barrett suggests that my "claimed" increase in total factor productivity can be tested by reference to the cost data of Irish Rail published in its Annual Reports. Although there is a decided difference in costing resources between the accountancy and economics professions which Barrett ignores, his use of a productivity measure as a substitute for measuring profitability is confusing. The total productivity method which I outlined merely serves to underline how Irish railways have converted inputs into outputs. If Irish Rail produced a homogeneous product in a perfectly competitive environment then higher productivity would lead to higher profitability (see Windle, *et al.*, 1992). However, the market is not characterised by perfect competition, and has differentiated products which leads to high market segmentation and price discrimination.

Market power, regulatory controls (such as fare increases) and the markets to serve are not part of the total factor productivity measure.

Barrett uses a partial productivity approach to perform some financial calculations which leads him to the conclusion that my "claimed" 77.4 per cent increase in total railway factor productivity between 1985 and 1992 would have led to a profit of £30m for Irish Rail. However, as was shown in my paper, using Barrett's partial approach and applying it over time suggests that rail productivity increased by over 50 per cent between 1985 and 1992. As a consequence, Barrett would no doubt agree with his final statement (slightly amended) that "A *partial* productivity increase of this magnitude would have been a considerable boost to the railway finances but the evidence from the CIE accounts is that it did not occur."

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