45 Orchestras

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Baumol and Bowen (1966), in their groundbreaking book *Performing Arts – The Economic Dilemma*, painted a dismal future for the performing arts in general and symphony orchestras in particular. In their view, costs of staging performances would increase at a faster rate than would their earned income because opportunities for cost reductions are limited. Contributions would not likely increase at a rate sufficient to cover this growing 'income gap'; hence the presence of a 'cost disease' affecting organizations in the performing arts. Consequently, private and government subsidies are inevitable if orchestras are to continue to operate as in the past. The authors noted that subsidies to the arts could be justified: 'If one agrees that the performing arts confer general benefits on the community as a whole . . . the arts are public goods whose benefits demonstrably exceed the receipts one can hope to collect at the box office' (ibid., pp.385–6).

Hansmann (1981) disagrees, arguing that organizations in the performing arts are not-for-profit because they face high fixed costs and a relatively small demand. Moreover, their fixed costs have risen faster than their variable costs and revenues. They must therefore rely on a system of price discrimination if they are to cover their costs, because there is no one price that will exceed their average total cost. Consequently, a system of price discrimination has developed whereby the price is set in the inelastic range of demand with the expectation that patrons will voluntarily make a tax-deductible donation to the organization.

Cost disease: empirical tests and evidence

Although their argument for the inevitability of the income gap appeared persuasive, Baumol and Bowen underestimated the ability of non-profit performing arts organizations to adjust. Throsby (1994) cited studies examining whether organizations in the performing arts experienced what has come to be known as Baumol's 'cost disease' and found that 'the combined impacts of production adjustments, increased demand, and generally rising levels of unearned revenue have countered any tendency towards a secular rise in deficits among performance companies, suggesting that although the cost disease will doubtless continue to present the performing arts with difficult problems, it is unlikely to be terminal' (ibid., p.16).

Felton (1994–5) addressed the issue of whether symphony orchestras

suffered the 'cost disease' and found that, because of productivity lags, orchestras have temporarily suffered budget deficits. By increasing the number of ensemble performances, touring more frequently and offering summer concerts, for example, the orchestras have been able to overcome this problem. Volpe (1991) constructed a growth model to test whether the composition of orchestra output affected the 'income gap'. Using data from the American Symphony Orchestras League's (ASOL's) comparative reports and controlling for demographic variables, he found that the income gap was decreasing for all orchestras in his sample, which included orchestras in all of ASOL's budget classification. Volpe also found that the deficit for all but the smaller market orchestras was sensitive to the mix of concerts offered, and concluded that there is strong evidence that orchestras to some extent can exert control over their deficits. Arthur Brooks (2000) argued that opportunities to overcome any income gap facing orchestras differ according to their relative size. Drawing on empirical research, he concluded that larger orchestras should diversify product lines, use technological innovations and expand audiences through education programmes, whereas smaller orchestras would be served by expanding their philanthropic base.

Economies of scale and scope

Sources of productivity increases can result from scale economies as research by Baumol and Bowen (1996), Globerman and Book (1974) and Lange *et al.* (1985) have shown. The latter study found that the number of concerts required to achieve minimum average cost were significantly fewer than shown by the other studies and that, while orchestras performing fewer concerts have higher average costs, they may have been at minimum costs given their market size.

Symphony orchestras offer a variety of concerts: regular concerts, summer concerts, concerts on tour, ensemble concerts, and other offerings, such as youth and other concerts. Studies that use concerts or attendance as output measures result in an amalgamation variable, which is not homogeneous. The mix of 'outputs' offered by symphony orchestras reveals them to be multi-product non-profit enterprises; consequently, cost studies focusing on economies of scale are misdirected.

Lange and Luksetich (1993) noted that focusing on scale economies directs attention on whether services provided by firms in markets where demand is limited are more expensive. The question therefore arises, 'Should they be combined with other firms producing similar services, resulting in specialization and greater efficiency?. The authors argued that, in multi-product firms, the concern also is the interaction between the cost of one service and the amount of other services provided; that is, whether

economies of scope exist in the provision of the multitude of services offered. This study, 'The Cost of Producing Symphony Orchestra Services', revealed that scale economies were not a usual source of efficiency for symphony orchestras. On the other hand, orchestras serving major markets benefit from scope economies to a far greater extent than those serving smaller markets. Consequently, policies encouraging the diversification of services of the larger orchestras and encouraging the specialization of services offered by smaller orchestras would be efficient, if the only concern was costs. Moreover, as Felton (1994–5) noted, the increased diversification of services offered by major orchestras has been a source of increased efficiency, while Volpe (1991) showed that it also results in greater revenues.

Pricing of orchestra services

Hansmann (1981) noted that firms in the performing arts face significantly high fixed costs relative to their marginal costs. Consequently, there may be no one price that covers average total costs. Ticket revenues can be increased by price discrimination. Because of the difficulty of identifying demand elasticities of individual patrons or groups of patrons, orchestras may set ticket prices below the revenue-maximizing price in an effort to induce patrons to make a voluntary tax-deductible contribution to the orchestras – a system of voluntary price discrimination.

Attempts to find evidence that symphony orchestras rely on price discrimination to enhance their revenues have taken two routes. One route has been to determine whether orchestras set their price in the inelastic range of demand. Those taking this approach conjectured that if they do so, orchestras are attempting to induce patrons to make a voluntary tax-deductible contribution to the orchestra. In their initial tests of this hypothesis, Lange and Luksetich (1984) estimated price and other demand elasticities for three sets of symphony orchestras as classified by the ASOL as major, metropolitan and urban/regional, based on their budget size.

Using data from the ASOL comparative reports, the authors found that the 30 orchestras classified as major orchestras on average charged prices well below revenue-maximizing prices, that is, in the inelastic range of their demand curve. Prices charged by the other groups of orchestras tended to be in the elastic range of demand. From this and other evidence, it was argued that the price-inelastic demand facing major orchestras was not due to the lack of substitutes but was a deliberate strategy to induce patrons to donate.

Felton (1992) also found that larger orchestras tended to price in the inelastic range of demand and that smaller orchestras had higher price elasticities. She estimated the price elasticity of demand facing individual orchestras and found a wide range of price elasticities of demand, which

largely reflected differences in market characteristics and pricing strategies of the individual orchestras. In a second paper (1994–5), Felton's estimates show price elasticities of demand much closer to those reported by Lange and Luksetich (1984) and that orchestras could increase revenues significantly from ticket sales by increasing ticket prices. She did not speculate on whether this strategy would affect donations.

Two studies took a second route and attempted to test directly whether symphony orchestras practise price discrimination to increase donations. Seaman (1987) examined whether firms in the non-profit arts sector offered a greater number of price selections for their performance than those in the for-profit arts sector. He found that non-profit arts firms, including symphony orchestras, charged a greater variety of prices than for-profit arts organizations and that, in the non-profit arts sector, only operatic organizations discriminated in price more than symphony orchestras.

In an effort to tie the number of price categories to donations, Seaman examined whether the number of price categories was correlated to the number of donor categories (each category presumably offered different amenities to donors). Very few of the symphony orchestras tied the purchase of subscription tickets to a particular donor category. He did find that price discrimination is more prevalent among those art forms, specifically opera and symphony orchestras, which have higher fixed costs. Moreover, high fixed cost organizations exhibit a greater correlation between the number of prices charged and the number of donation categories. Seaman concluded that the evidence he presented was largely consistent with Hansmann's argument concerning price discrimination in the arts.

In their paper, 'A Simultaneous Model of Symphony Orchestra Behavior', Lange and Luksetich (1995) used time-series data from ASOL's Comparative Reports to examine the behaviour of symphony orchestras. They tested whether prices charged by the various classes of symphony orchestras were in the inelastic range of demand and whether this resulted in increased gifts from private individuals. For the major orchestras, on average, lower than revenue-maximizing prices increase donations. However, revenue losses, from the lower prices were not completely offset by the gain in donations: the price was set too low. There was no relationship between price charged and donations for metropolitan orchestras. For orchestras classified as urban/regional (orchestras serving smaller markets), lower prices resulted in lower revenues from donations. It was speculated that, for these orchestras, ticket price was a signal of quality, and higher prices would result in an increased willingness to donate. The results indicated that, on average, all orchestras in all size classifications could increase their net revenues by increasing ticket prices and only the largest would suffer any decrease in revenues from donations.

Goals and fundraising

Economic theory assumes that individuals are maximizers and private for-profit business firms are profit maximizers. Since non-profits cannot distribute any surplus over costs to the owners or organizers of the institution, it is generally assumed that they are likely to maximize their output, quality, budget or some combination of these goals. Hansmann argued that the goals of non-profit firms in the arts could be ascertained by examining how they spend funds they receive that do not require specific services to be performed (lump-sum grants in his parlance).

Lange *et al.* (1986) presented results showing that major orchestras spent unrestricted funds in a manner consistent with quality-maximization goals. Although these funds were used to increase administrative expenses, the increased administrative expenses were in turn positively related to quality-enhancing expenditures (as measured by artistic, production, promotion and other expenses per concert). It appeared that budget maximizing and quality maximizing were complementary goals in the case of the major orchestras. Estimates showed that both the metropolitan and the smaller market orchestras had output maximization as their major goal. In both cases, the unconditional grants received by orchestras were positively related to the number of concerts, which in turn resulted in greater attendance.

Studies concerned with the fundraising activities of symphony orchestras generally conclude that they do not follow Steinberg's (1986) admonition that they spend up to the point where the marginal benefits from fundraising expenditures equal their marginal costs (for example, see Lange *et al.*, 1987). An examination of the efficiency of symphony orchestra fundraising efforts using Data Envelopment Analysis showed significant inefficiencies in fundraising efforts. Moreover, it showed that orchestras could learn much about fundraising by examining how orchestras in their 'peer group' conducted their fundraising efforts. See Luksetich and Hughes (1997).

Brooks (1999) investigated whether government grants to symphony orchestras 'crowded out' private giving or whether they enhanced private donations. The latter would occur if private donors believed that National Endowment for the Arts grants provided a stamp of excellence on the grantee. His results showed that government grants and private donations were independent of each other. Lange and Luksetich found that, for major orchestras, grants from governments requiring services enhanced private donations, while unconditional grants appeared to replace private giving. They presumed that the former types of grants had a matching provision. Their estimates indicated that both types of grants offset private giving for metropolitan orchestras and that conditional grants crowded out private giving to the small market orchestras.

Concluding comments

There has developed a substantial body of literature on the economics of symphony orchestras since the mid-1960s. This chapter has tried to highlight research touching on the major economic issues facing symphony orchestras. Space limitations prevent a comprehensive discussion of what is contained in that research. Readers are encouraged to peruse the research discussed above to better understand the economics of symphony orchestras in particular and the performing arts in general.

See also:

Chapter 11: Baumol's cost disease; Chapter 17: Costs of production; Chapter 43: Non-profit organizations; Chapter 57: Tax concessions.

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