Journal of Cultural Economics **20**: 207–214, 1996.

Why I Do Not Believe in the Cost-Disease

Comment on Baumol

TYLER COWEN
Department of Economics, George Mason University, Fairfax

William Baumol's paper "Children of *Performing Arts, The Economic Dilemma:* The Climbing Costs of Health Care and Education" makes two central claims. First, a cost-disease plagues relatively stagnant activities, such as the performing arts, health care, and education. Second, the cost-disease argument explains some of the public policy problems we have had in these areas. I will focus my attention on the first and more fundamental claim, drawing my examples from the economics of the arts.

What Is the Cost-Disease?

We find two distinct visions of the cost-disease in the writings of Baumol. In one account, rising real wages in the productive sector increase the opportunity cost of artistic production. If the arts cannot match these productivity increases, their costs will rise over time and the real quantity of artistic production will decline.

Oates and Baumol (1972) attribute much of the success of the English Renaissance theater to the relatively low level of real wages at the time. Later, when real wages rose, theater companies declined and downsized. Baumol and Bowen (1966), when rebutting Alvin Toffler's claim of a "culture boom," tell a similar story of how financial and cost pressures have induced cutbacks in artistic production and services. The bulk of the cost-disease literature has followed this track; in his comprehensive survey Throsby (1994, p. 15) writes: "In the 25 years following its initial presentation, this proposition (the cost-disease) has been widely seized upon in a number of countries as spelling doom for the live arts unless governments intervened..."

The decline in the quantity of real artistic output is reflected by the lower number of performances. If we measure output in terms of the number of performances times price, theatrical output may rise or fall as a percentage of GDP, depending upon elasticities. Fewer plays at higher prices may comprise either a higher or lower percentage of output, but we are nonetheless doomed to have fewer plays.[1]

Baumol offers a second, more optimistic vision in some later writings and in the paper written for this conference. Over time, the real output of the performing arts,

as measured by the number of performances, may increase. Even if the performing arts are less productive than other economic sectors, they will experience the benefits of positive income effects.[2]

Consider the polar case where we can produce all of the world's non-artistic output by investing a penny or by snapping our fingers. Human labor will be devoted to produce theater, art, music, and literature, and the arts will comprise nearly all of measured GDP. The arts will appear expensive in relative terms because everything else is virtually free. In this scenario positive income effects outweigh the substitution effect that otherwise switches labor out of the arts and into more productive sectors.[3]

I regard this second scenario as a cost-utopia rather than as a cost-disease. This version of the cost-disease is a fiscal illusion, as Baumol himself notes in his paper. In due time everyone could afford to be an artist, and we need not fear for the future of the arts. The cost-disease logic therefore may support either pessimistic or optimistic conclusions, from an artistic point of view.

In another work, *Enterprise and the Arts* (1996) I have defended cultural optimism. Not only do I see the second scenario as more likely than the first, but I see no pressure for declining productivity in the first place. In this comment, I will offer two reasons why I do not regard the performing arts as stagnant in terms of productivity, compared to other economic sectors. The performing arts enjoy innovations in process and innovations in product.

Innovations in Process

The now-famous example of the string quartet illustrates the operation of the cost-disease. Today's string quartet appears hardly more productive than a string quartet in the eighteenth century. In 1780 four quartet players required forty minutes to play a Mozart composition; today forty minutes of labor are still required.

The technology of electronic reproduction, however, has vastly improved the productivity of the string quartet. A given quartet performance now reaches thousands of listeners rather than just a few. Even if the number of musical performances does not rise, the quantity of performance output, measured in consumption units, has skyrocketed.[4]

Recording has not been a once-and-for-all boon to the performing arts. Rather, improvements in recording technology have been frequent and significant during this century. We have moved from the short-playing, easily breakable 78s to the more durable, better-sounding long-playing records, and now to the compact disc. The radio, jukebox, and public sound system also have lowered the costs of musical production. Someday we may have all the world's music at our fingertips through the information superhighway.

Baumol recognizes the productivity of recording but claims that new technologies only postpone decline. The new industry consists of a string quartet combined with the recording technology in fixed proportions. According to Baumol, the pro-

ductivity of this new industry is asymptotically stagnant.As the cost of recording falls with technological progress, the cost of the string quartet labor forms an especially high percentage of industry costs, setting the cost-disease in motion again.[5]

The musical performance sector is not "asymptotically stagnant," as Baumol has claimed. Musical production returns to asymptotic stagnancy only by growing relative to other endeavors and by implementing productivity gains. The potential for marketing and distributional improvements is exhausted only when the product is no longer scarce.

The irreducible labor costs involve with quartet production do not differ in kind from the irreducible labor costs involved in manufacturing. Short of complete automation of the entire firm, including upper level management, all production processes involve some irreducible amount of labor.[6]

Some cost-disease proponents claim that recording removes music from the category of a performing art (I am not suggesting that Baumol makes this move). This reply would trivialize the cost-disease a rgument through semantics. Electronic reproduction does make the performing arts more productive if we measure productivity in terms of consumption units. A given performance can now reach a larger number of consumers, and can substitute for a greater number of produced performances. We may cease to call recordings "performance," but consumers are receiving musical services nonetheless.

Product Innovations

The creativity of human labor challenges the logic of the cost-disease argument. Artists contribute to productivity by generating new ideas or by using their human capital. The discovery of new ideas belies the claim that today's string quartets are no more productive than string quartets in the day of Mozart. A string quartet in 1780 could play Mozart and Haydn. Today's string quartet also can play Beethoven, Brahms, Bartok, and Shostakovich. The Kronos Quartet plays Jimi Hendrix and other contemporary works. Creative musicians may take innovation further and eschew violins for the electric guitar. The growing diversity of musicial composition and performance represents a vast productivity increase.

The cost-disease argument assumes away productivity increases by comparing a Mozart performance in 1780 with a Mozart performance today. By taking both inputs and outputs as constant, the postulated comparison eliminates new ideas as a source of productivity improvement. The Mozart example makes the performing arts appear stagnant by treating artistic creation as a fixed, unchanging activity. Automobile manufacture also would be stagnant if we took the final product and the production process as given.

The point goes beyond the claim that creative labor can overcome the cost-disease by innovating. More fundamentally, "performing artists" – in a very general sense of that term – provide the ultimate source of all productivity improvements

(excepting changes in weather and other exogenous natural factors). The productivity improvements of agriculture, automobiles, etc. depend upon the performing art of the science and the engineer. Since all productivity increases rely on some irreducible quantity of creative labor, all economic sectors face a productivity problem similar in kind. We should not expect the arts to face special difficulties.

Baumol, in his remarks at the Cultural Economics conference, suggests that the cost-disease applies only to productivity improvements for goods and services of constant quality. This claim implies that only the older performing arts are subject to a cost-disease (*if* there are no process improvements, as discussed above). It does not support the argument that the performing arts in general suffer from a cost-disease. Since much of the music, literature, or art sold in a given year is of recent vintage, the cultural sector as a whole may still be healthy. Consumers place great value on the continental introduction of new artistic products, and the market responds in kind very effectively.

Product innovations bring productivity increases even when measured production costs are not falling. Our capital produces greater value than before. The cost-disease argument focuses too much on measured pecuniary costs, and not enough on the value added in productive processes. When the arts bring a succession of new and innovative products, value added and productivity is high, regardless of measured costs. If the cost-disease argument excludes quality improvements, it cannot show that the performing arts are less productive in net rate of return terms, it can only show that aggregate costs will increase.

To illustrate the significance of innovation, consider *decreases* in product diversity. We do not argue that abandoning the production of toothbrushes would increase productivity in that sector, even though the nominal costs of toothpaste production would fall to zero. For the same reason that we do not call sectors with falling product diversity and falling nominal costs "productive," we should not call sectors with rising product diversity and rising nominal costs "unproductive" or "stagnant."

Assume we have two sectors, oe where products rapidly cease to be produced (without replacement) and another sector where products remain in strong demand. We would not argue that the latter sector suffers from a cost-disease, even though its pecuniary costs would comprise a successively higher percentage of measured GDP. A proper comparison must account for the declining diversity in the first sector. In the more traditional cost-disease argument, a proper comparison must account for the increasing diversity in the arts sector.

When we examine long-term secular growth, most productivity improvements come in the form of new products, whether in the performing arts or in other sectors. The modern world does not produce the Model-T more cheaply, it produces a better car altogether. If the cost-disease argument is restricted to products of constant quality, it will be largely irrelevant for long-term growth, which brings new products in all spheres of life. Perhaps the white shirt has not changed much over the years, but I live in a modern house, eat Pad Thai, listen to Sonic Youth, and drive a 1987 automobile. Even the hardy potato is now cooked and served in forms

that were not popular twenty years ago. When the product is changing, cost-based productivity measurements are comparing apples and oranges.

Which Sectors are Stagnant?

Some economic sectors will grow more quickly than others. The laggard sectors, in many instances, will be cultural industries or the performing arts, if only through statistical distribution. Nonetheless we have no a priori reasons to expect lower rates of productivity growth from the arts, from health care, or from education.

Mens' barbers provide the paradigmatic example of the applicability of the cost-disease. The final product does not change much, suppliers cannot exploit the economies of mass production, and technology does not add much to the barber and his scissors. The cost-disease argument applies most appropriately to given, repetitive tasks performed with a fixed technology and with little prospects for future improvement. These features do not describe the performing arts.

Empirical Evidence

The empirical work on artistic production has accounted for much of the popularity of the cost-disease argument. The statistical evidence offered in support of the cost-disease, however, does not address the relevant empirical issues. Typically, economists select a cultural sector, such as theater, opera, or symphony concerts, and measure the path of per unit costs over time. Baumol and Bowen, in a number of studies (1966, chapter eight), found that such costs are rising.[7]

These studies do not measure productivity accurately for three reasons. First, the productivity measures do not account for increases in product quality. Second, the productivity measures do not account for increases in diversity. Third, cost-disease studies usually select opera, theater, and the symphony orchestra. Cost-disease proponents display an unjustified bias towards "high culture." We also should consider today's cultural winners, such as rock and roll, country music, and heavy metal.

Live performance has not declined in general, even if specific kinds of live performance have fallen out of favor. Concert performances of rave, techno, and rap are booming. Even the live performance of the classics has risen rather than stagnated. From 1965 to 1990 America grew from having 58 symphony orchestras to having nearly 300, and from having 27 opera companies to more than 150 (Bolton, 1992, p. 266). This expansion has been financed primarily by the private sector; NEA expenditures have not exceeded seventy cents per capita.

Robin Grier and I have conducted some alternate empirical tests of productivity in the arts. These tests show that the number of artists has been icnreasing as a percentage of the population and total labor force, artists' earnings have been rising faster than the national average, and artists have enjoyed superior educational opportunities over time. Since the cost-disease argument may predict either an

increase or a decline in the real quantity of artistic production, these results do not contradict the cost-disease argument *per se*, but they do discriminate against the first and more pessimistic vision of the cost-disease discussed above.[8]

The historical evidence also militates against pessimism. The wealthier countries – France, England, Germany, and the United States – have had the strongest reputations in music, the visual arts, and letters. The Renaissance was led by the Italian city-states, the richest part of the Western world at the time. Periclean Athens was a relatively wealthy trading city. The great cultural eras of China and Japan correspond roughly to the relative economic supremacy of these territories. Conversely, low-wage countries usually do not become cultural leaders. Modern India and China, while accounting for almost half of the world's population, have not achieved comparable positions as cultural leaders. Economic prosperity, rather than creating a cost-disease for the arts, usually helps the arts flourish.[9]

Notes

* The following comment draws upon co-authored work with Robin Grier; Grier, however, is not responsible for any errors or inaccuracies. I am grateful to William Baumol, Mark Blaug, Mark Crain, Alex Tabarrok, Ruth Towse and other seminar participants for useful comments.

1. For additional essays on the cost-disease argument, see Grant, Hendon, and Owen (1987), Hendon, Grant, and Shaw (1984), and Netzer (1978). Heilbrun and Gray (1993, chapter 8) and Throsby (1994b) survey the cost-disease debate; see also Hendon, Shaw, and Grant (1984).
2. Baumol, Blackman, and Wolff (1985, 1989, chapter six) offer two later statements; see also Baumol and Baumol (1984a), as well as Baumol's paper for this conference. The contrast between income and substitution effects is clearest in Baumol (1973).
3. Income effects have been cited by Peacock (1976, p. 75), Heilbrun and Gray (1993, pp. 133–4, Throsby and Withers (1989, pp. 51–2, 170–1, 291), and Throsby (1994a, 1994b). Cowen and Grier (1996) provide the lengthiest theoretical discussion, whereas Cowen (1996) provides case studies from art, music, and literature. For a formal model, see Cowen and Tabarrok (1995).
4. Throsby (1994b, p. 15), among others, also cites recording and radio in response to the cost-disease argument. These writings, however, do not rebut Baumol's response that the sector is asymptotically stagnant.
5. See also Baumol and Baumol (1984b) and Baumol, Blackman, and Wolff (1985, 1989, pp. 131–135). Heilbrun and Gray (1993, p. 136) also endorse this response.
6. Cowen and Grier (1996) discuss this point and consider whether "labor-intensity" is the fundamental factor behind cost-disease arguments. Baumol, in his spoken comments at the 1996 cultural economics conference in Boston, disavows attributing the cost-disease to labor-intensive sectors *per se*.
7. See also Baumol and Baumol (1984), Gapinski (1980, 1984), and Felton (1987). Peacock, Shoesmith, and Miller (1982) do not support Baumol's prediction of stagnation.
8. See Cowen and Grier (1996). Our data are taken from a recent study by the National Endowment for the Arts, entitled *Trends in Artist Occupations: 1970–1990* (1994), and cover American artists only, and are restricted to the 1970–1990 period.
9. On the link between prosperity and the arts, see Cowen (1996). Kavolis (1989) surveys numerous historical studies that have a strong link between economic prosperity and cultural achievement. See also Simonton (1984, p. 142).

References

Baumol, H. and Baumol, W.J. (eds.) (1984a) *Inflation and the Performing Arts.* NYU Press, New York.

Baumol, H. and Baumol, W.J. (1984b) "The Mass Media and the Cost Disease," in W.S. Hendon, D.V. Shaw, and N.K. Grant (eds.), *Economics of Cultural Industries,* pp. 109–123. Association for Cultural Economics, Akron, Ohio.

Baumol, W.J. (1973) "Income and Substitution Effects in the Linder Theorem," *Quarterly Journal of Economics* 87: 629–633.

Baumol, W.J. (1993) "Health Care, Education, and the Cost Disease: A Looming Crisis for Public Choice," in C.K. Rowley, F. Schneider, and R.D. Tollison (eds.), *The Next Twenty-Five Years of Public Choice,* pp. 17–28. Kluwer Academic Publishers, Dordrecht.

Baumol, W.J., Blackman, S.A.B., and Wolff, E.N. (1985) "Unbalanced Growth Revisited: Asymptotic Stagnancy and New Evidence," *American Economic Review* 75: 806–817.

Baumol, W.J., Blackman, S.A.B., and Wolff, E.N. (1989) *Productivity and American Leadership: The Long View.* MIT Press, Cambridge, Massachusetts.

Baumol, W.J. and Bowen, W.G. (1966) *Performing Arts – The Economic Dilemma.* Twentieth Century Fund, New York.

Bhagwhati, J.N. and Hamada, K. (1982) "Tax Policy in the Presence of Emigration," *Journal of Public Economics* 21: 291–317.

Bolton, R. (ed.) (1992) *Culture Wars: Documents From the Recent Controversies in the Arts.* New Press, New York.

Cowen, T. (1996) *Enterprise and the Arts.*

Cowen, T. and Grier, R. (1996) "Does the *Artist* Suffer from a Cost Disease?" *Rationality and Society* 8(1): 5–24.

Cowen, T. and Tabarrok, A. (1995) *An Economic Theory of Popular and Avant-Garde Culture.* Unpublished manuscript, George Mason University.

Felton, M.V. (1987) "Is Baumol's Disease Alive and Ill in Louisville, Kentucky?," in N.K. Grant, W.S. Hendon, and V.L. Owen (eds.), *Economic Efficiency and the Performing Arts,* pp. 31–43. Association for Cultural Economics, Akron, Ohio.

Gould, D.M., Ruffin, R.J., and Woodbridge, G.L. (1993) "The Theory and Practice of Free Trade," *Economic Review,* pp. 1–16. Federal Reserve Bank of Dallas.

Grampp, W. (1989) *Pricing the Priceless. Art, Artists, and Economics.* Basic Books, New York.

Grant, N.K., Hendon, W.S., and Owen, V.L. (1987) *Economic Efficiency and the Performing Arts.* Association for Cultural Economics, Akron, Ohio.

Heilbrun, J. and Gray, C.M. (1993) *The Economics of Art and Culture: An American Perspective.* Cambridge University Press, Cambridge.

Hendon, W.S., Shaw, D.V., and Grant, N.K. *Economics of Cultural Industries.* Association for Cultural Economics, Akron, Ohio.

Kavolis, V. (1989) "Economic Correlates of Artistic Creativity," in A.W. Foster, and J.R. Blau (eds.), *Art and Society: Readings in the Sociology of the Arts,* pp. 383–396. State University of New York Press, Albany.

Netzer, D. (1978) *The Subsidized Muse: Public Support for the Arts in the United States.* Cambridge University Press, Cambridge.

Oates, M.I. and Baumol, W.J. (1972) "On the Economics of the Theater in Renaissance London," *Swedish Journal of Economics* 74: 136–160.

Peacock, A.T. (1976) "Welfare Economics and Public Subsidies to the Arts," in M. Blaug (ed.), *The Economics of the Arts,* pp. 70–83. Westview Press, Boulder, Colorado.

Peacock, A., Shoesmith, E., and Millner, G. (1982) *Inflation and the Performing Arts.* Arts Council of Great Britain, London.

Simonton, D.K. (1984) *Genius, Creativity, and Leadership.* Harvard University Press, Cambridge, Massachusetts.

Throsby, D. (1994b) "The Production and Consumption of the Arts: A View of Cultural Economics," *Journal of Economic Literature* 32: 1–29.

Throsby, C.D. and Withers, G.A. (1979) *The Economics of the Performing Arts*. St. Martin's Press, New York.
Trends in Artist Occupations: 1970–1990 (1994) National Endowment for the Arts, Washington, D.C.