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An introduction to 'Cost Disease'

Whilst technological improvements benefit the arts in some ways, it still takes four musicians to play a Beethoven string quartet, even if other sectors of the economy have experienced massive productivity gains. It is this relatively slow productivity growth that two economists, Baumol and Bowen, coined as 'Cost Disease'. William Baumol has argued for over forty years that the arts require subsidisation in order to offset the

impact of cost disease, otherwise the arts will become amateur activity to the detriment of society. Chris Carey, an economist at PRS for Music, provides a timely reminder of this controversial theory and considers how it can be applied to music in a digital age where supply has exploded whilst price points have imploded. Importantly, cost disease helps one think about the critical question of how to invest in talent in 2010.

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Suggested citation

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Footnotes

- ¹ *Performing Arts - The Economic Dilemma*, W Baumol and W Bowen, 1966
- ² *The Journal of Economic Perspectives*, Vol. 15, No. 3, W Baumol, Summer 2001
- ³ *Can 1,000 fans replace the music business?* Will Page, *The Register*, 28th March 2008
- ⁴ Will Page and Chris Carey, *Adding up the music industry for 2008*, *Economic Insight*, July 2009
- ⁵ *Baumol's cost disease*, J Heilbrun, 2003
- ⁶ *A World of Hits*, *The Economist* Joel Budd, 26 November 2009
- ⁷ *Why I do not believe in the cost-disease*, *Journal of Cultural Economics*, T Cowen, 1996
- ⁸ *BERR consultation on illicit P2P file sharing*, June 2008

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Introducing the arts: Some economic anomalies

The Creative Economy and Creative Britain are currently high on the UK political agenda, but placing a financial value on creativity has always proved problematic. Manufacturing, and to a lesser extent services, sit comfortably within the existing structure for government accounting, whilst concepts like intrinsic value and cultural value are far less tangible. When it comes to valuing an individual's personal experience of a song it becomes more complex still. Can you reasonably place a comprehensive value on being part of the rain soaked crowd when U2 sung *Beautiful Day* at Slane Castle in Dublin? That value could be defined as the ticket revenue, total consumer spend, the economic gross value added or the enjoyment of any individual present. The context changes the value, and each person will value the experience differently.

The process for creating and monetising the arts can be unconventional too. Most artistic creations require high upfront expenditure, whether that is on set design for a theatre production, or the touring costs for a professional band, there is a significant outlay of costs before any revenues can be recovered. If, for any reason these ventures are not completed the invested capital cannot be

recovered. A further difficulty the arts face is that success can be very hard to predict, meaning that the optimal level of investment is impossible to calculate and can lead to many big hits off-setting a long tail of misses. Finally, revenues are somewhat constrained by external factors including the price a retailer is willing to pay for a CD, and what they are willing to sell it on for. Similarly, the necessity to have a crowd of people in the same place at the same time (often paying the same price) in order to profit from a live event.

Recognising that artistic inputs and outputs have different characteristics to commodities, what can the existing economic literature teach us about cost, revenue and investment in the digital age?

Cost Disease: Productivity grows more slowly in the arts

In 1966 Baumol and Bowen published a book entitled *Performing Arts: The Economic Dilemma*.¹ Within this text they discuss how the economics of the arts fundamentally differ from other economic goods. During an interview in 2001 Baumol summarised the theory, "Basically...there are sectors that experience rapid productivity growth and other sectors that experience slow productivity growth. That's no surprise.

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But what's interesting is that the sectors that experience slow productivity growth tend to persist in that.² Put another way, those sectors that experience low productivity growth, including the arts (as well as healthcare and education) continue to experience low productivity growth and will not catch up with those that have grown faster.

The characteristic that links healthcare, education and the arts is their inherent labour intensity and as such they experience slow productivity growth compared to other industries. Computing, for example, has revolutionised the banking system. The automation of clearing cycle functions and instantaneous “computer says” lending criteria have revolutionised retail banking. Moreover, the introduction of internet banking has helped improve the profitability of retail banking by empowering customers with the self service capability. These developments have also reduced the need for staff in branches, improving the relative productivity of remaining staff. At the other end of the banking spectrum, computing in investment banking means that innovation can take place, enabling high yield products such as credit derivatives, options and swaps to become mass market products. These products exploit a higher value from the market, increasing the value (productivity) of labour.

Without doubt computers bring benefits to the arts too – better lighting equipment, more efficient ticketing solutions and better customer analytics offer just three examples – but the difficulty the arts face is that you cannot mechanise the creative process in the same way. Creating something takes human involvement and delivering that creation as an experience for a live audience can require a large amount of human time, energy and effort – which cannot be substituted for a cheaper technological solution.

There is another implication here. Wages are generally accepted to be a reflection of a person's productivity and as such a pay rise suggests a growth in productivity. Having said that productivity grows more slowly in the arts an anomaly arises, because other sectors wages will rise naturally (as productivity increases) and in order to maintain relative purchasing power of employees the arts are paying higher wages in spite of low or no productivity gains. Or, as Will Page noted in *The Register* in March 2008, “if the music industry pays its musicians 19th century style salaries, the musicians may decide to quit and get a job at an automobile factory where salaries are commensurate to high labour productivity. Hence, musicians' salaries are increased not due to labour productivity increases in the music industry, but rather due to productivity and wage increases in other industries.”³

Growing costs and shrinking revenues: A vicious circle

Whilst other media and manufacturing can improve their productivity in line with market rates (or at least in line with inflation) in order to not suffer when margins get squeezed, the arts have to absorb the additional costs or simply go without. More concerning is that productivity gains in the arts might not keep pace with inflation, meaning that their real value is eroded over time, or rather that wages have to grow at a faster rate than the productivity of each worker, inflating the cost base within the arts. According to published accounts, average employee costs within the recording sector have grown at an average of 4.4% and within the publishing sector have grown at 3.6% on average since 2000. By contrast sales revenues have fallen 3.7% each year over the same period.

Sunk Costs: Allocating resources in a slow growth sector

Sunk costs are costs which cannot be recovered if a venture fails. If you buy a car and you don't like it, you can sell it at a lower price,

but some of that value will never be recovered, that lost value is the 'sunk' cost. Within our *Adding up the Music Industry* publication we draw attention to the growth of revenues paid to 'heritage acts' and raise concerns about a possible under investment in new talent.⁴ The growing concern for the investor is the falling return on that investment. Moreover, considering sunk costs, which are often large and paid up front, it makes rational sense for a profit-driven record company to exploit its existing asset to the full, as the marginal cost of each additional unit will fall.

A review of the economic literature suggests that these pressures will be exaggerated as record sales continue to be squeezed. A further concern is that this increasingly short run approach to art as a product will lead to what James Helibrun described as an 'artistic deficit' whereby artistic expression is squeezed out by a need to cut cost.⁵ By means of example, there will be fewer bands in a financial position to use an orchestra on a recording and as such the final recording is poorer for it. In the same way, bedroom music can suffer from the absence of a professional sound engineer or producer leading to a band not fulfilling their artistic and creative potential.

Uncontrollable Costs: Dependency on other sectors

A number of costs experienced by the arts are dependent on other media or retail sectors and outside the scope of the creative industries. For example, the cost of advertising a CD on television did not fall because the music industry was struggling to sell CDs. The consequence of this is that reduced music sales reduce the money available for TV advertising, and so less advertising takes place. This reduced consumer attention further depresses sales, which means that there is less money available to advertise on television, which in turn accentuates the decline in trade.

Unknown Revenue: Making money in unproven markets

The same could be said of online advertising funded music in the current climate. The intrinsic value of music did not fall because the advertising market fell, but the revenue that can be generated from streaming a single track will fall, hindering the development of nascent services offering legal, licensed music to consumers, dampening growth in legal music consumption.

Fixed Revenue: with high fixed costs you need to shift volume

In situations where high fixed costs exist, the cost of producing the first unit (album) is huge, but the average cost of producing two units is much smaller. The average cost per unit falls the more units are produced, meaning the profitability of each additional sale grows. Having stated clearly that there are large upfront costs and that it is important to sell large volumes of a product in order to break even it is not surprising that the music industry has always been very much a hit centred business. What is surprising though, is the recent observation from *The Economist*, which is stated that, 'Ever-increasing choice was supposed to mean the end of the blockbuster. It has had the opposite effect'.⁶

Supply and Demand: Two forces, moving in different directions

There has been a massive increase in the supply of music to consumers. However, this increasing supply of music might have made it more difficult for emerging bands to gain traction as that classic trade-off whereby 'a wealth of information gives rise to a poverty of attention' kicks in. Furthermore, the average transaction value for both online and offline consumption continues to decline, meaning that scale matters even more than ever. All of which is leading to an interesting anomaly, as 'noise' in the market has increased. The investment needed to stand out from that 'noise', therefore becomes more costly as a result, yet point values have decreased which makes the return on that investment even riskier.

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Academic criticism: Two economists, three opinions

Cost disease is not without its critics, and some critics argue that relative productivity is cyclical. Advertising and the economy will return to some steady state equilibrium and that the margins freed-up by productivity gains in service sector can be priced back in by ticket prices in leisure and entertainment sector. In his paper, *Why I do not believe in the cost-disease*, Tyler Cowen offers valuable insights on the measure of cost disease, pointing out that a reduction of performances might not be bad for the arts if each remaining performance achieves a higher value⁷. In fact, it might be beneficial to the arts. On the other hand, this also highlights the need for better analytics as a growth in the number of shows performed would not necessarily be good for the arts. If the productivity of a band is measured by how many people have access to their music technology has radically grown productivity. Measuring the quality, rather than quantity of output becomes more complex still.

Tyler Cowen also, quite rightly points out that technology has brought cost savings to the arts, for example the recording costs for an album have fallen. Baumol acknowledges this point, but argues that these developments delay the impact of cost disease rather than offering a cure. He adds that streamlining of technological costs serves to exaggerate the additional cost of human input. By means of illustration, if it previously cost £30,000 in equipment costs, and £30,000 in labour costs, the reduction in equipment costs to, say, £10,000 means that labour now accounts for 75% of the total costs, not 50%. Whilst the total cost has fallen, the relative cost of additional human input, thinking of our strings section, increases to the detriment of the art.

Can cost disease help governments understand the arts?

Having stated that record companies need to sell in large volumes, and that it is economically rational to invest finite funds into established acts, it seems unreasonable and contradictory for the UK government to pull record companies up for not pursuing 'originally creative composers and artists' whilst at the same time as anticipating a significant and growing financial contribution from the creative industries to UK plc.⁸ Whilst the former suffers from subjectivity, it would be unwise to ignore the UK music's achievements in the latter.

UK music performs strongly overseas, with one in ten albums sold in the US in 2008 coming from a British act. Coldplay achieved the second highest album sales whilst Leona Lewis achieved the most downloaded track and most played track on radio in the same year. From a songwriter's perspective, *PRS for Music* is one of three net exporters of repertoire, receiving more song writing royalties from abroad than is sent to other nations. British music is enjoyed the world over, yet the way in which its export value is calculated by the government is questionable. Based on the last available records, The Department for Culture, Media and Sport calculated the export value of music and the visual performing arts to be £270 million in 2006. The fact that *PRS for Music* (who collect for the author, and not the artist) brings in more than half of this figure alone, suggests this official estimate of music's economic value could be a little on the low side.

Culture can be somewhat difficult to define but most definitions include some commentary on excellence in the arts. It could be argued that there is no need for government support within the arts given the success stories listed above, and at the very top end, amongst the big four record companies and the four major publishers that is fair. However, for the four most successful companies there are over five hundred independent labels and independent publishers who do not have such a favourable position. These smaller companies are often those on the coalface trying to carve out a niche that enough people will enjoy in order to make their recording profitable, so that they can reinvest in their next niche success. The worry is that infinite choice will make investment more concentrated, and creativity more monoculture as a result.

William Baumol has argued for over forty years that the arts required subsidisation in order to offset the impact of cost disease and that the arts would become amateur activities otherwise, to the loss of society. Now the theory is not without its critics, and more work must be done here, but if diversity is a priority for government, and if economic growth within the creative industries is to be a driver of economic recovery then it might be time to revisit cost disease and consider whether free market success in the creative industries in a digital age can only be achieved at the expense of its cultural diversity.