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Cross Subsidies in the Arts

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# RESEARCH AND DEVELOPMENT IN CULTURE: A CASE FOR CROSS SUBSIDIES IN THE ARTS

Author

Christian Jaramillo H.<sup>1</sup>

## **Abstract**

Several types of arguments advocate state involvement in the promotion of culture. Many of them imply some sort of subsidy, usually to non-for-profit firms; none favors taxing cultural events. The tax literature, on the other side, discusses excise taxation on culture only as a way to redistribute income. However, to the extent that culture is a public good, taxing it is undesirable. Why are then excise taxes on public events extant in many countries? This paper argues that the development of profitable artists is analogous to R&D in the industrial organization literature, and that the excise taxation of public cultural events may be part of an efficient policy to fund it. Using a Stackelberg game to model the investment to develop an artist, I find that the optimal tax is a multiple of the expected surplus created by the artist that cannot be appropriated by the investor who funds her, and that progressivity plays a limited role at most.

*JEL Classification:* H23, H50, Z11.

*Keywords:* Excise taxes, cross subsidies, art, culture, public policy, artist development.

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# INVESTIGACIÓN Y DESARROLLO EN LA CULTURA: EN DEFENSA DE LOS SUBSIDIOS CRUZADOS EN LAS ARTES

Autor

Christian Jaramillo H.<sup>2</sup>

La promoción de la cultura por parte del Estado se sustenta en argumentos económicos de diversa índole. Muchos de ellos prescriben el uso de subsidios, usualmente canalizados a través de organizaciones sin ánimo de lucro; ninguno prescribe gravar eventos públicos culturales. La literatura tributaria en cambio considera tales tributos como mecanismos redistributivos válidos. En todo caso, en la medida en que la cultura es un bien público, es indeseable someterla a gravámenes. ¿Por qué razón entonces es frecuente encontrar impuestos sobre eventos culturales en muchos países? Este trabajo argumenta que el desarrollo de artistas comercialmente rentables es análogo a la investigación y desarrollo en la literatura de organización industrial, y que la tributación específica de los eventos culturales es una manera eficiente de financiarla. La decisión de los agentes privados de invertir en el desarrollo de un artista se modela como un juego de Stackelberg. El modelo prescribe un impuesto que capture el excedente creado por los artistas que no logra cosechar el inversionista. Adicionalmente, muestra que los objetivos redistributivos del formulador de políticas no afectan mayormente el nivel del impuesto.

*Clasificación JEL:* H23, H50, Z11.

*Palabras clave:* Impuestos específicos, subsidios cruzados, arte, cultura, políticas públicas, desarrollo de artistas.

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## Introduction

Several types of economic arguments advocate state involvement in the promotion of culture. Consumption of cultural products has positive externalities –it is even a public good– so absent state support culture is undersupplied (Frey, 2003b; Baumol, 2003). Because enjoyment of the arts requires an educated taste, (McCain, 2003; Throsby, 1994) a healthy demand for culture arises only after extended exposure to it; the state should assume the cost of this education. Fixed and sunk costs in the arts are often very large and imply serious risks; they require sponsors that assume them (Frey, 2003b; Baumol, 2003). Competition in some cultural industries is limited (Frey, 2003b). Artists are willing to work for low wages because of their dedication to their trade, (Abbing, 2003) a feature that slow productivity growth – Baumol’s cost disease– aggravates over time, especially in the performing arts (Frey, 2003b; Heilbrun, 2003; Taalas, 2003; the seminal discussion is in Baumol and Bowen, 1965). Moreover, Baumol’s cost disease renders culture very expensive and limits its consumption by low-income people, whom the state should thus grant access (Frey, 2003b; Baumol, 2003).<sup>3</sup> Many of these reasons for state sponsorship can be read to imply some sort of subsidy,<sup>4</sup> usually to be channeled towards non-profit firms; none favors taxing cultural events.

The tax literature, on the other side, discusses excise taxation on culture as a way to redistribute income. The implication that culture is a matter for the wealthy looks however less convincing today than it used to. Low-income people have probably more access to the arts, but more to the point, the definition of culture has expanded to include much of the entertainment services.

Why are then excise taxes on public events so common? One possible answer is that governments collect taxes where they can. While true to some extent, this answer does not preclude sound economic reasons for such taxes. This paper argues that the development of profitable artists is analogous to research and development (R&D) in the industrial organization literature, and that the excise taxation of public cultural events may be an efficient way to fund it.

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<sup>3</sup> A related argument whose standing is debated in the public economics literature is that culture is a merit good. Although the concept seems to have some intuitive appeal, merit goods –defined by Musgrave (1969, p.11-13 and 1973, p.65-66) as goods imposed by the social decision maker on society, interfering with or overriding individual preferences– do not fit well with modern economic theory, as attested by the disclaimers that commonly accompany their occasional invocation. See for instance Baumol (2003, p.275), Buchanan and Musgrave (1999, pp. 84 and 95) or Throsby (1994).

<sup>4</sup> Depending on what one means by the cultural output (Seaman 1981).

The idea of R&D in the arts is not foreign to the literature (see for instance Baumol, 2003). Copyrights, meant precisely to give incentives to innovate, have had ample discussion (Landes, 2003, or perhaps not ample enough: Towse, 2008). However, the creation of a new work and the development a new artist are two distinct forms of R&D. A new art work is akin to the usual concept of innovation, whereas new artist development is rather a mixture of prospecting and investment in human capital. Development of new art work is relatively short-term, while helping a new artist mature is a long-term commitment. Copyrights (or patents) may be effective incentives for an artist to write a new play or song, but the development of that artist in the first place is a different matter. State support is then very likely necessary for artist development. The new twist in the argument is that this state support involves excise taxes on public events.

### **The practice of taxation of cultural events**

In the developed world, explicit excise taxation of the arts is uncommon, although there have been occasional proposals in this spirit regarding mass media (Heilbrunn and Grey 2004, Ch. 16). Instead, state subsidies and tax deductions are the norm (op.cit., Ch. 13), and the taxes that pay for the subsidies are progressive (op.cit., Ch. 11, pp. 240-241).

That does not mean that there are no implicit excise taxes on culture. Purchase taxes on entrance tickets are common (Frey 2003a, p. 119). In the United States several cities and states have local amusement taxes –for instance the city of Chicago has an amusement tax with rates ranging from four to nine percent, the state of Maryland and the city of Pittsburgh have similar taxes with rates around five percent. Since the distinction between amusement and culture isn't made at all, cultural performances in public venues are thus taxed. Other OECD countries with similar taxes include Austria, Canada, Spain and Germany, according to the OECD Revenue Statistics of 2006.

Developing countries do tax public events as well: in the case of Colombia, national and local governments levy taxes on public events totaling 20% of gross ticket revenues. Ecuador, Mexico, Venezuela and Perú have similar taxes, usually at the municipal level, with varying rates.

In general, these entrance ticket taxes are not earmarked for the promotion of culture. In what follows, I argue that they should be, at least in part.

## Research and development in the arts

This essay is about artist development –long-term R&D, different from the development of new works of art, which is short-term R&D.

A first point to make is the distinction between short-term innovation (for instance a new song) and long-term artist development (a new singer). Both are like R&D. They require creativity and entrepreneurship to come up with an original product; they are risky, high-cost and the innovator probably won't reap the full reward of her effort.<sup>5</sup> However, artist development involves a longer time horizon: a new song album is the work of a year; an artist usually takes several years to mature. And there's more uncertainty: if the artist is already well-known, the chances of success are surely high –at least compared to the chances that an aspiring artist becomes a star. Moral hazard, a concern in both cases, is worse when the time horizon is longer and the uncertainty higher.

The type of investment itself is another difference. An innovative work of art, or a live performance of an artist, requires funding and skilled (presumably talented) labor. The artist's skills must be already honed, however. They must be available if a for-profit entrepreneur is to become interested in staging an exhibition or a concert.

Artist development on the other hand is about the formation of that skilled labor. The innovation is the artist herself. This human capital formation is associated in the economics literature with education, on-the-job training, learning-by-doing and work experience in general.<sup>6</sup> However, the economic decision to invest in artistic human capital involves an especially high element of risk, since the income distribution of artists is highly skewed. Prospecting by a sponsor (or self-confidence, if the artist funds herself) becomes important.<sup>7</sup>

A second point to make is that an exclusively for-profit cultural entrepreneur –of the sort that features, say, U2 in a football stadium– needs commercially profitable stars for his business to exist. Originality may be a plus, even a frequent one, but it is by no means the required ingredient. Innovative artists don't always become stars nor are stars necessarily

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<sup>5</sup> The inability to reap the full benefits stems in part from externalities in cultural consumption, but also from imperfections in institutions like copyrights.

<sup>6</sup> Perhaps developing a successful artist is like grooming a high-level executive, a task that some firms – like Jack Welch's General Electric– are known for.

<sup>7</sup> Alternatively, one might think that a strong inner calling is determinant. Either way, to the extent that external benefits of art exist, this additional willingness to take risks deserves special consideration.

innovative. If the entrepreneur were to sponsor an artist's development, success would be defined by stardom, not by the cultural or social value of the artist's opus.

Of course, this second point presupposes a certain specific view of culture, one in which stardom isn't perfectly correlated with social or cultural value. This separation of stardom and value is necessary for the model I present later. In contrast, I do not distinguish between cultural and social value. The cultural value is presumably linked to the artist's originality and creativity; the social value to the social impact of her work. Both imply externalities, so I treat them as the same—even though those externalities may be qualitatively different.

A for-profit sponsor of artist development aiming for a star will occasionally get the bonus of a superstar. This superstar phenomenon resembles an exogenous windfall income through ex-post rents.<sup>8</sup> It is likely that the possibility of a superstar encourages some additional investment. However, just as the expected return of a lottery ticket isn't likely to be the reason for buying it—it is negative—, it is unlikely that superstars are an important driver in most third-party for-profit investment in artistic human capital.

This does not mean that the desire for superstar fame is innocuous. It may of course give incentives for aspiring artists to invest in themselves. Such investment may be concurrent with external for-profit investment, an analog to the marriage of small entrepreneurs with venture capitalists. The artist provides hard work at relatively low wages and the entrepreneur provides funding.

The third point to discuss is that the process that generates original artists and stars is roughly the same. It is difficult to tell a priori whether a promising artist will develop into an innovator, a star, neither or both. Correspondingly, it is difficult to ascertain whether the main motivation for the sponsor of an artist's development was eventual profits or social value.

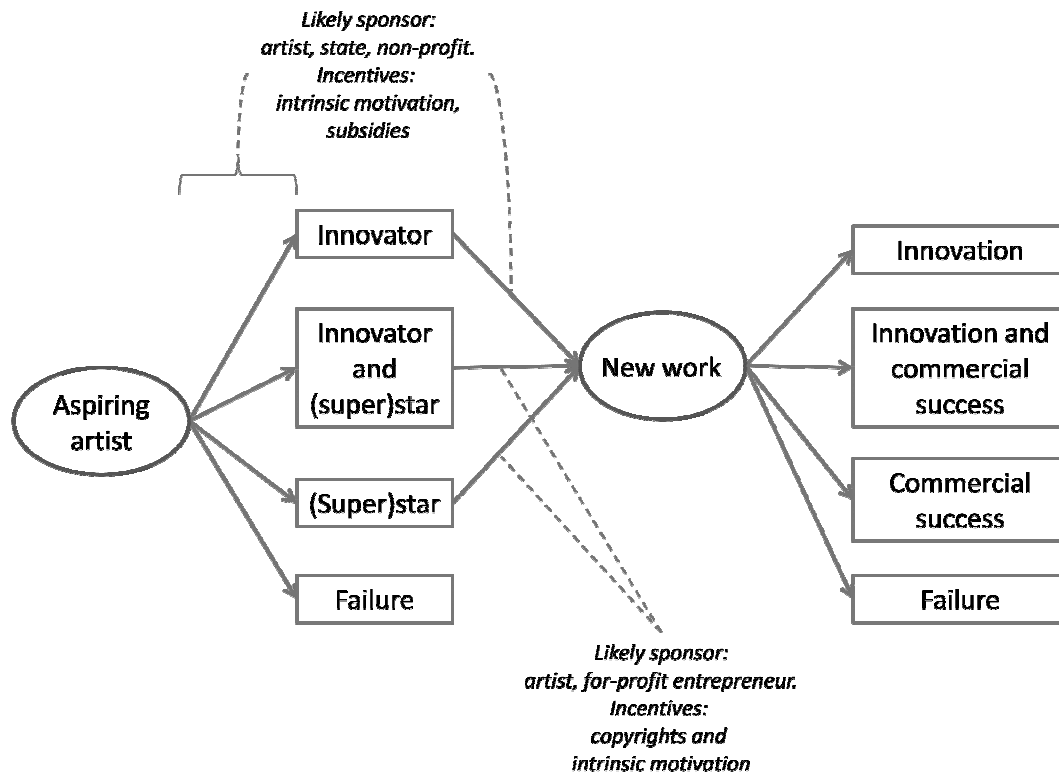
Figure 1 illustrates the two types of R&D and their place in the production of cultural output. The left part corresponds to the artist development stage, while the right part is new work creation. In truth both types of R&D overlap, as creating new work is an integral part of an artist's development. However, it is useful to separate them in the model because of the different time horizons and incentives involved.

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<sup>8</sup> Becoming a superstar is to some extent a matter of luck: the consumption technology happens to favor superstars (Rosen, 1981). Talent has a limited role; the evolution of fads is more important (Schulze, 2003).



Figure 1: R&D at different stages of the production of cultural output



The left part corresponds to the artist development stage, while the right part is new work creation. It is useful to separate them in the model because of the different time horizons and incentives involved.

This characterization suggests at least three (very simplistic) types of motivation for funding artist development: profit, fame, and pro-culture preferences. A profit-driven sponsor is likely to be risk-neutral, aim for stars, and take superstars as a windfall rent. A fame-driven sponsor, possibly the artist herself, is likely to aim for superstardom and even behave like a risk-lover. A pro-culture sponsor cares for the cultural or social value of the eventual cultural output of the artist.

The outcome of the investment (the mature artist) may then be a commercial failure, a star, or a superstar. From an artistic perspective, she may be innovative or not. Depending on the actual sources of funding and the correlation of outcomes (how often originality and success go hand in hand), a number of implicit cross-externalities materialize between the for-profit and the pro-culture camps.

Suppose for instance that only for-profit sponsors existed. Any innovative artists developed would imply private provision of a public good for the pro-culture camp (the

consumption or demand-side public good associated with art). If those innovative artists are commercial flops, this provision would even make the sponsor worse-off ex-post.<sup>9</sup>

But for-profit sponsors are not the only ones providing public goods. Suppose instead that all funding for artist development came from people interested in innovation, and in the process some stars were developed. Those stars are the input for the for-profit art (or show) entrepreneurs, who would then have acquired access to an economic rent: they could feature the star in public events and charge high prices. The sponsors of artist development would have thus provided a supply-side public good for the showbiz market.

In practice, a sponsor's motivation is complex and hard to discern. Policies that reward sponsorship of artist development should not focus on the sponsor's private aims but on the merits of the projects –the artists. How often such artists are innovative, how often they become stars (and superstars), how often a star is innovative and how often an innovator becomes a star: these should be among the questions the policymaker asks.

### **Are the usual ways to support R&D effective for artist development?**

In the absence of extra incentives, under-provision of (private) funds for artist development is the likely result of the two types of externalities of culture. How to address it?

Private support in the form of copyrights likely isn't an effective incentive for artist development. Even when the sponsor is interested in profit, copyrights seem better suited to give incentives for short-term innovation. The rents they create are linked directly to specific work, not to the artist. The artist and her sponsor share them according to each one's bargaining power at the time of their initial contract. Thus, either the artist enters the contract early in her career and lets the sponsor have the lion's share of the rents; or she funds her own development and then enters a contract on better terms. Moral hazard and ex-post renegotiation are likely to predate early-career contracts. If late contracts are the norm in the market, artist development hinges again on the artist's motivation alone, where profit expectations probably play a smaller role than in the decisions of for-profit sponsors.

It may also be that the rents available from stars –normal stars, as opposed to superstars– are simply too meager to make long-term artist development an attractive

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<sup>9</sup> This is part of the usual argument for copyrights: the rents from copyrights to successful work are meant to offset the sponsors' risks. But copyrights are well-suited for new work development, not new artist development.

investment. The natural relatives of copyrights are patents, given to encourage private R&D in other industries. The rents to be had from a patent like Viagra probably exceed those from most artists. They may be easier to appropriate by the innovator, too. Viagra is of course a superstar among its kind, but even less successful patents yield larger rents than artistic copyrights –the income distribution is not as skewed as with superstars in the arts. And all without the moral hazard and contract renegotiation hassle that come with long-term labor contracts.

The case is not necessarily straightforward, however. The life of a patent is usually shorter than that of copyrights –but the income stream may be steadier. And to the extent that the rents from stars stem from live performances, part of them disappears when the artist retires. How effective copyrights are as incentives for new work production in the arts is ultimately an empirical matter, and the answer seems to be changing fast with the development of the Internet (Rochelandet, 2003). A priori, however, copyrights would seem less effective in encouraging artist development than new work.<sup>10</sup>

Finally, copyrights are also wasteful in two additional ways. First, in generating rents they preclude the efficient level of consumption. Second, they fail to harness the incentives of the windfall rents from the occasional superstar.

The other main candidate for sponsoring long-term R&D, state support, has the potential to promote the development of all types of artist. In practice it isn't likely to be so. Direct state support tends to concentrate on large, well-established non-profit institutions (and not on individuals: Towse 2003, Introduction), who may favor specific types of arts and artists. Organizations are supposed to give the artists opportunities to hone and display talents. However, organizations have natural limits: they have accounting constraints, and their access to funding is related to their reputation –which tends to go hand in hand with an acquired clientele that may limit variety and foster rent seeking.

Indirect state support in the form of tax benefits for donations, on the other hand, favors the tastes of the donors. While this may foster variety, the donors do not necessarily prefer the type of cultural output that generates the most externalities. The public resources may then be inefficiently focalized. (I return to inefficient focalization later.)

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<sup>10</sup> And it's not altogether clear that they are very effective at encouraging new work, either (Towse, 2008).

Thus copyrights and direct state support are both second-best solutions. Copyrights appeal to the profit motive and state support appeals to the social motive. They are complements: state support helps the long-term development of the artist and copyrights give her short-term incentives for new work. But with regard to new work creation they are substitutes. Copyrights benefit the commercially profitable mature artist regardless of how she funded her development or whether she had aimed for originality or stardom. Commercially unprofitable artists must continue to rely on state or non-profit support to fund their new work, however.

Because copyrights and state support act at different stages of the production of culture, they address different externalities. Copyrights exploit the profit motive to help correct the demand-side externality –the rents are in effect a subsidy from the paying consumer to for-profit sponsors, to compensate them for privately funded work that is a commercial flop, a subsidy justified because some of those flops may be innovative. State support in turn is a subsidy from the taxpayer to artists in the first place; but also, by providing an input essential for commercial show business, it is a subsidy to for-profit sponsors of new work. The supply-side externality helps the creation of new work, too.

Two possible chains of events in this process are of particular relevance for the argument set forth in this essay. When support from the general public for artist development, be it direct or indirect state support or from private non-profit organizations, yields a commercially profitable but derivative artist, the resources –given to the star and ultimately shared with the for-profit entrepreneurs– have been wasted from the public’s perspective. The subsidy is inefficient ex post. The public economics literature suggests a solution for this failure of focalization of resources, provided there is a way to implement a narrowly targeted tax on the unintended beneficiaries.

The second chain of events is that which ends with a superstar, whether an innovative or derivative one. In this case the windfall ex-post rents exceed those strictly necessary to encourage private funding of new work. To the extent that the extra rents originate in the artist development R&D, they should ultimately accrue to the sponsors of artist development – but in practice they probably accrue to the artist and the sponsor of new work development. The optimal income tax literature prescribes that these pure windfall rents should be taxed away in any case.

## A simple model of private investment in artist development

Investment in artist development is a risky bet with four different possible outcomes: star, innovator, star and innovator, and failure. The profit-maximizing sponsor/investor faces a binary choice: he decides whether to fund the development of an aspiring artist, which entails an outlay of  $C$ .<sup>11</sup> If the artist becomes a star, and only then, the investor will receive a monetary payment  $\sigma R(N)$ .  $R(N)$  is the future rent associated with a commercially profitable artist and decreases as more such artists exist. The investor takes  $N$ , the number of existing stars at the moment of his decision, as given.  $\sigma \in (0,1)$  is the fraction of the rent appropriable by the investor. If the investor decides to promote the artist, the latter is assumed to accept the funding.

Additionally, if the artist becomes an innovator, she will create external value to society in the amount  $\Lambda$ . Notice that this is only the demand-side externality; the value of the supply side externality is the non-appropriable monetary rent  $(1 - \sigma)R$  which accrues to third parties (other showbiz entrepreneurs).

Each individual investor aims to maximize his expected utility from the bet. Let  $u(x)$  denote the investor's utility from a monetary payoff  $x$ , with  $xu(x) > 0$  for  $x \neq 0$ , and  $u' > 0$ . Assume the probability of each outcome to be exogenous and known in advance by the investor, and denote them as shown in Table 1. Define also for convenience of notation  $\varphi_I \equiv \pi_I + \pi_{SI}$  and  $\varphi_S \equiv \pi_S + \pi_{SI}$ .

Table 1: Exogenous probabilities of each outcome.

	Star	Commercial failure
Innovator	$\pi_{SI}$	$\pi_I$
Derivative	$\pi_S$	$1 - \pi_I - \pi_S - \pi_{SI}$

<sup>11</sup> One can think of  $C$  as the cost of investment, net of any sure returns, i.e. net of the revenue a commercial flop would yield.

The investor's optimal rule is then to choose the  $\max\{0, \varphi_S u(\sigma R - C) + [1 - \varphi_S] u(-C)\}$ , i.e. to invest if the ratio of state-contingent utilities is higher than the fair-odds ratio:<sup>12</sup>

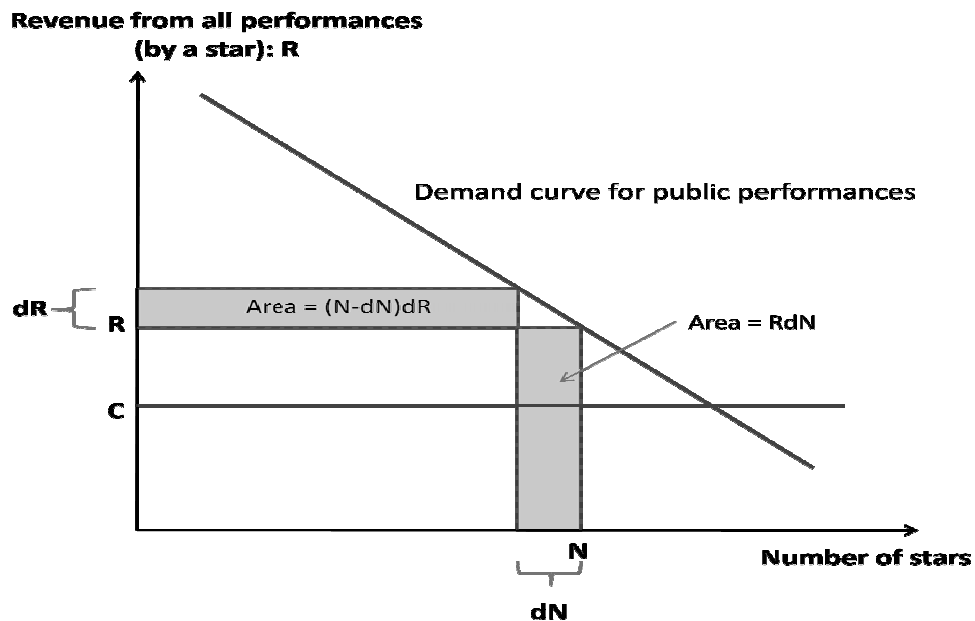
$$\frac{u(\sigma R - C)}{-u(-C)} \geq \frac{1 - \varphi_S}{\varphi_S}$$

For a risk-neutral investor the condition becomes:

$$(1) \quad \frac{\sigma R - C}{C} \geq \frac{1 - \varphi_S}{\varphi_S}$$

The funded artists that do become stars go on to perform in public events. The market for stars is depicted in figure 2, along with the change in surplus due to a change in a star's lifelong revenue, i.e. in the rents associated with her.

Figure 2: The market for stars



An increase in the lifelong revenue from a star's performances from  $R$  to  $R + dR$  implies a decrease in the number of such performances from  $N$  to  $N + dN$ . To a first order approximation, this change increases private revenue by  $N dR + R dN$  (not all to be appropriated by the investor) and decreases consumer surplus by  $N dR$ .

<sup>12</sup> The reader may remember the discussion on sponsor motivation. If the probabilities are given, this rule implies more investment the more risk-loving the sponsor is. The for-profit sponsor is usually assumed risk-neutral, I surmised that the self-sponsoring artist may be risk-loving.

The policymaker's job is then to foster social value, understood in the model as the social surplus –the sum of the privately appropriated surplus and all externalities. The model assumes that he takes this behavior of the investor as given and solves<sup>13</sup>

$$\max_M W = S(\varphi_S M) + \varphi_S MR(\varphi_S M) + \varphi_I M \Lambda - MC$$

where  $M$  is the number of funded artists (thus  $N = \varphi_S M$  is the number of expected stars and  $\varphi_I M$  the number of expected innovators);  $S(\cdot)$  is the consumer surplus from the stars and  $R(\cdot)$  is the inverse demand function for stars. Note that the rents generated by the stars enter the policymaker's objective function in full: he does not consider the non-appropriable star rents  $[1 - \sigma]R$  a loss. Differentiate with respect to  $M$  and use  $S'(N)dN = -N dR(N)$ . This yields the social planner's optimal rule, to increase  $M$  if the expected social benefit exceeds the expected cost. Rearranging suitably, the resulting rule calls for more funding for aspiring artists until:

$$(2) \quad \frac{R + (\varphi_I/\varphi_S)\Lambda - C}{C} \geq \frac{1 - \varphi_S}{\varphi_S}$$

This is precisely the usual result that underinvestment ensues when the marginal social benefit exceeds the marginal private benefit of the bet.

## Taxes may be good for you

Direct state funding of artist development is a well-known way to address the underinvestment problem identified in the previous section, but it is highly redistributive and open to criticism. Particularly in the case of arts that become profitable: because the (successful) artist and the entrepreneur that features her enjoy monopoly power,<sup>14</sup> state

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<sup>13</sup> Strictly speaking, only changes in consumer surplus are meaningful in the economic sense. Since  $S$  only appears differentiated in the rest of the paper on, this consideration does not affect the argument set forth here.

<sup>14</sup> The monopoly power of the artist and that of the entrepreneur are different and act in different moments. The artist exercises her market power on the entrepreneur at the time the contract is signed. The entrepreneur then extracts rents from the public. The moves are sequential. If the artist knows in advance the rents the entrepreneur will be able to extract, and if these rents do not depend on the dealing with a particular entrepreneur, this resembles a Stackelberg game, and the artist will end up with most of them.

funding effectively ends up subsidizing future rents of individuals. It is desirable that developing artists get subsidized, but those that eventually become highly profitable should return some of that subsidy for other developing artists. Better funding eases the financial strain of the artist's early career, and in exchange the artist surrenders some of the eventual rents should she become successful.

Pigouvian subsidies are a well-established alternative to correct positive externalities. This case features the additional element of ex-post rents accruing to some investors, which are ideal candidates for taxation. One should combine both instruments: tax the stars and earmark the revenue to subsidize the investment.

As a general rule, the public finance literature recommends that public goods be paid for out of the national or local budget. The taxes funding these outlays are thus to follow the traditional but oftentimes contradictory principles of efficiency, equity, simplicity and enforceability. I argue that the supply-side public good and the consumption externality in the arts call instead for a tax on the related showbiz sector –that they need not be paid for from the general budget, but rather from the proceeds of an earmarked excise tax on public events.

Efficiency, equity and simplicity find their support in different places of the modern public finance literature. The theory of optimal taxation lays down criteria for efficient taxation. Taxes should be levied where they get the most revenue while changing the decisions of economic man the least.<sup>15</sup> As a by-product, the theory also analyzes the determinants of tax incidence: taxes are paid mainly by those who change their decisions the least in the face of them –the relatively inelastic side of the market. This makes it theoretically possible for the policymaker to take into account redistributive concerns. The theory mostly assumes that no informational problems, administrative costs or frictions exist and thus remains silent on the matters of simplicity and enforceability.<sup>16</sup>

Excise taxes that do not involve externalities have no separate place in this theory of optimal taxation: they are desirable if the associated market response is inelastic, or if the tax falls on people the policymaker thinks should bear the tax burden.

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<sup>15</sup> Pigouvian taxes (or subsidies) are the exception: they are levied to correct externalities, with no regard for government revenue.

<sup>16</sup> The positive literature on tax evasion is a notorious exception to this indictment, but it mostly addresses the demand for evasion –when does economic man want to evade taxes. It does not so much discuss the technology of tax evasion. On the other hand, the rare models that directly address simplicity usually consider the administrative costs of the tax bureaucracy (see for instance Mayshar 1991).



In contrast to the theory of taxation, simplicity is a major concern of the tax administration literature. Simplicity is not, however, simple to define. It usually means few taxes, each with high revenue; few differential tax rates, special regimes or exemptions; and rules that define the base of each tax clearly.<sup>17</sup> As a result, simplicity presumably goes hand in hand with a relatively short tax code.

Simplicity improves the government's ability to determine how much tax it is owed and to actually collect those taxes –the enforceability of the tax code. It also lowers the cost of it all, both to the government and the taxpayer. Moreover, a simple tax system allows for an accurate assessment of the after-tax return of investment opportunities, thus reducing uncertainty and potentially increasing the tax base. Finally, it also lowers the return to elusion and evasion, reducing the resources devoted to them –and the uncertainty that comes with cheating. Less elusion and evasion also means fewer inequities stemming from differences in the avoidance opportunities available to different taxpayers.

In practice, tax administration is probably more relevant to tax policy than the theory of taxation; in developing countries this is almost certainly the case.<sup>18</sup> Within reasonable parameters, the state's ability to administer and enforce a given tax comes before its efficiency or incidence in the policymaker's mind. What is more, even when efficiency and equity are the matter, administrative concerns may dominate the theoretical prescriptions. The cost of managing and enforcing a complex system of differential tax rates may offset the gains in efficiency. An obscure tax code is an important source of inequities, as wealthier and more sophisticated taxpayers may be in a better position to exploit its ambiguities.

On the topic of excise taxes, the tax administration literature coincides with the theory of optimal taxation in that they are not awarded a special place. However, to the extent that a particular excise tax is easy to manage and enforce, an exception to the simplicity rule may be considered –and an extra article added to the tax code. Reasons for the exception may be that the tax corrects an externality, that it is very progressive or that it extracts pure economic rents, for instance. The first two reasons have made an appearance in the context of culture; I show below that the third may apply as well.

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<sup>17</sup> See for instance Vito Tanzi's rules for a healthy tax system (IMF 2002, p.98). A more comprehensive discussion of simplicity and enforceability can be found in Slemrod and Bakija (2000, Ch.5).

<sup>18</sup> The actual capacity of the tax man to collect a tax, minimize elusion and punish evasion is usually a stricter constraint on the Government than the inefficiencies stemming from taxes that do not accord with economic theory. Bird (1992) says that in developing countries "Tax administration is tax policy."

The first reason commonly advanced in defense of one or another excise tax –and perhaps the least controversial– is one of efficiency. If an activity inflicts damages on people who are not involved in it, a tax on the activities makes the parties internalize the damage (the externality). If instead of damage the externality is a benefit to the third party, a subsidy is advised. Indeed, if the consumption of culture yields external benefits to society, this argument favors subsidizing cultural activities, not taxing them.

The second common argument, and one that does advocate a tax on culture, is that it is mostly the wealthy who consume cultural products. The tax would be progressive (Reich, 2007). Leaving aside whether progressivity is a desirable aim, a broad definition of cultural events consistent with pop culture and show business would seem to dispense with the a priori idea that culture is for the very rich.<sup>19</sup>

I have argued that economic rents accrue to stars; it would seem straightforward that the third rationale for excise taxes would then apply to the arts. But care is advised: the rents are to be taxed only to the extent that they are not patent-like, that is, to the extent that they do not encourage the development of new work. The rents targeted should be those created for the showbiz entrepreneurs by the supply-side externality, and those accruing to the occasional superstar.

### **Cross-subsidies for artist development**

I model the government policy regarding the promotion of artist development as a Stackelberg game. The government plays first: it sets policy instruments (a tax or subsidy) fully anticipating the behavior of all other relevant players. The investor plays second.

Consider the model for artist development explained earlier. Let the government levy a tax in the amount  $T$  on all the (ex-post) rents to stars, to be devoted to fund artist development through a balanced-budget subsidy  $\varphi_S T$ . The investor's rule becomes

$$(3) \quad \sigma r - 1 + t(1 - \sigma) \geq \frac{1 - \varphi_S}{\varphi_S}$$

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<sup>19</sup> Further research may indeed show that the rich consume more of all types of culture, but it is not a straightforward case. With a narrower definition of culture –let's call it high culture– the statement that culture is for the rich does find support in the evidence (Heilbrun and Grey, 2004, Ch. 11).

where I have replaced  $r = R/C$ ;  $\lambda = \Lambda/C$ ;  $t = T/C$  for simplicity. The social planner's rule remains unchanged:  $r + (\varphi_I/\varphi_S)\lambda - 1 \geq \frac{1-\varphi_S}{\varphi_S}$ .

The optimal tax is such that the social and private marginal benefits (the left sides of both conditions) are equalized. Some rearrangement of the resulting equation yields:

$$(4) \quad \varphi_S t = \frac{\varphi_I \lambda + (1 - \sigma) \varphi_S r}{1 - \sigma}$$

The left side of (4) is the optimal subsidy as a fraction of the necessary investment. On the right side, the numerator is the sum of the expected demand-side or consumption externality  $\varphi_I \lambda$  and the expected supply-side externality  $(1 - \sigma) \varphi_S r$  (both positive by assumption). The denominator is the fraction of private rents that accrue to third parties.

Note that (2) guarantees that  $\varphi_I \lambda + (1 - \sigma) \varphi_S r = 1 - \sigma \varphi_S r$  at any interior social planner's optimum. Thus, a requisite for an interior solution is  $\sigma \varphi_S r < 1$ : funding artist development cannot be profitable.<sup>20</sup>

The analysis so far has focused exclusively on economic efficiency. There's been no room for redistributive taxation, one of the literature's arguments in favor of cultural taxes. The model can be extended to allow progressive taxes through differential weights on different types of surplus.

Besides the government, there are three parties in the model: producers, consumers, and the society at large. Normalize the relative weight of producer surplus to one, consumer surplus to  $\alpha$  and let  $\lambda$  stand for the product of the consumption externality and the relative weight of the society at large. The consumption externality and the redistributive motive become thus indistinguishable in this instance. The policymaker's problem becomes

$$\max_M W = \alpha S(\varphi_S M) + \varphi_S MR(\varphi_S M) + \varphi_I M \lambda - MC$$

The social planner's rule is then to increase M as long as:

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<sup>20</sup> This need not mean that in the absence of government intervention no developing artists receive private funding from for-profit investors; with fewer stars around each would earn higher rents (at least  $\sigma \varphi_S r = 1$ , more if the investors are risk averse).

$$(5) \quad r \left( 1 + \frac{1 - \alpha}{\eta} \right) + \left( \frac{\varphi_I}{\varphi_S} \right) \lambda - 1 \geq \frac{1 - \varphi_S}{\varphi_S}$$

and the optimal subsidy becomes:

$$(6) \quad \varphi_S t = \frac{\varphi_I \lambda + (1 - \sigma) \varphi_S r + (1 - \alpha) \frac{\varphi_S r}{\eta}}{1 - \sigma}$$

The origin and interpretation of the term  $(1 - \alpha) \varphi_S r / \eta$  need some discussion. In the previous derivation of the social planner's optimum a term shows up of the form  $\varphi_S r / \eta$ , with  $1 / \eta = NR' / R$ , the inverse of the own-price elasticity of the market demand for stars. This term appears twice, as a decrease in producer surplus and as an increase in consumer surplus. The decrease in producer surplus appears because, to implement the social optimum, the social planner has "granted" an optimal amount of expected private rents to stars by allowing them an expected price  $\varphi_S r$ . The social planner is in effect deciding the level of profit –and of associated deadweight loss– in the market. It is useful here to think of the social planner as a benevolent cartel coordinator: as the cartel creates room for new stars it lowers the rent associated with the existing ones. The new stars enhance social efficiency, but the decrease in the rent is a pure wealth transfer to consumers. The expected value of this transfer is  $|\varphi_S r / \eta|$ .

Since the social planner previously weighed consumers and producers of culture equally, the wealth transfer had no net efficiency effect. However, now that the loss of one unit of surplus to producers means a gain of  $\alpha$  units to consumers, the wealth transfer has a net expected effect of  $(1 - \alpha) \varphi_S r / \eta$ .

A meaningful way to interpret equation (6) is to say that the subsidy is a multiple of a part of the expected surplus created by an additional artist: the part that cannot be appropriated by the investor who funds the artist. The first term in the nominator goes to the society at large, the second to other entrepreneurs in show business, and the third to (paying) consumers.

If the paying consumers of culture are relatively wealthy –the usual assumption– and the policymaker wants progressivity,  $\alpha$  should be smaller, and the subsidy, too (keep in mind that  $\eta$  is negative). The effect of progressivity is to lower the subsidy. Interestingly, what matters for the net contribution of progressivity is whether the consumers are wealthy relative to the

producers (stars and investors in the stars' new work), not their standing relative to the society at large. This suggests that progressivity should play a small role in this type of cultural policy if the revenue from the excise tax is earmarked for culture.

## Conclusion

Excise taxes are commonly (but not always explicitly) levied on cultural activities, both in developing and developed countries. The explicit motive for those taxes is either that they are progressive or easy to administer.

On the other hand, art and culture commonly receive state support, albeit the exact manner of this support varies with the country. The reasons given are usually positive consumption externalities and market imperfections of various kinds, and one suspects that the idea that culture is a merit good plays a role as well.

This paper develops an economic model to argue that these apparently conflicting state attitudes towards culture need not be inconsistent. Indeed, to the extent that some of the externalities generated by investment in culture stay within the general economic sector of culture (understood to include show business), cross-subsidies within cultural activities may be efficient. Excise taxes should be levied on public performances, with their revenues earmarked for support of the training and development of younger artists.

The level of the cross-subsidy depends mainly on the extent of the externalities involved. Progressivity plays a small role: what matters for progressivity is whether the consumers are wealthy relative to the producers (stars and investors in the stars' new work), not their standing relative to the society at large. The scope for redistribution is thus limited; progressivity concerns should not play a large role in this type of policy for the promotion of new artists.

## References

- Abbing, H., 2003. El apoyo a los artistas. In Towse, R. (2003).
- Baumol, W., 2003. La economía del bienestar aplicada. In Towse, R. (2003).
- Baumol, W., and Bowen, W., 1965. On the Performing Arts: The Anatomy of Their Economic Problems. *The American Economic Review* 55(2), pp. 495-502.

- Bird, R., 1992. Tax Policy and Economic Development. The Johns Hopkins University Press.
- Buchanan, J., and Musgrave, R., 1999. Public Finance and Public Choice: Two Contrasting Visions of the State. The MIT Press.
- Frey, B., 2003a. Arts & Economics. 2nd edition. Springer-Verlag.
- Frey, B., 2003b. El apoyo público a las artes. In Towse, R. (2003).
- Heilbrun, J., 2003. La enfermedad de los costes de Baumol. In Towse, R. (2003).
- Heilbrun, J., and Gray, C.M. (Eds.), 2004. The Economics of Art and Culture. 2<sup>nd</sup> edition. Cambridge University Press.
- International Monetary Fund, 2002. Programación Financiera: Métodos y aplicación al caso de Colombia.
- Landes, W., 2003. Los derechos de autor. In Towse, R. (2003).
- Mayshar, J. 1991. Taxation with Costly Administration. Scandinavian Journal of Economics 93(1), 75-88.
- McCain, R., 2003. La formación del gusto. In Towse, R. (2003).
- Musgrave, R., 1969. Fiscal Systems. Yale University Press.
- Musgrave, R., and Musgrave, P., 1973. Public Finance in Theory and in Practice. 2<sup>nd</sup> edition. The MIT Press.
- Reich, R., 2007. Why Charity Doesn't Begin at Home. (Oct 3rd). <http://robertreich.blogspot.com>. Visited April 2nd, 2008.
- Rochelandet, F., 2003. Internet: Economía. In Towse, R. (2003).
- Seaman, B., 1981. Economic Theory and the Positive Economics of Arts Financing. The American Economic Review 71(2), pp. 335-340.
- Schulze, 2003. Las superestrellas. In Towse, R. (2003).
- Taalas, M., 2003. Los costes de producción. In Towse, R. (2003).
- Towse, R. (Ed.), 2003. Manual de economía de la cultura. Edward Elgar Publishing Limited. (Original English title: A Handbook of Cultural Economics. Translation by Blanco, V., Prieto, J., and Wall, A. Madrid: Fundación Autor.)
- Towse, R., 2008. Why has cultural economics ignored copyright? Journal of Cultural Economics, 32(4), pp. 243-259.
- Throsby, D., 1994. The Production and Consumption of the Arts: A View of Cultural Economics. Journal of Economic Perspectives, 32(1), pp.1-29.



