Calculating a measure of intra-generational equity for art museums

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Abstract

Some economists believe that not enough culture is consumed due to incompletely-formed preferences for art, classic examples are Scitovsky (1976) and Throsby and Withers (1979). Museums now offer educational programs in addition to exhibits. Educational as opposed to exhibition programming might be considered an intra-generational trade-off for taste formation. This paper examines the exhibition versus education trade-off in the USA’s top museums (measured by attendance and foundation funding) with the result being a measure of intra-generational equity. Museums gain considerable tax advantages as are exempt from federal income taxes and local real estate taxes. Thus our study offers insight into to what degree these not-for-profit organizations can be viewed as ‘educational’ and perhaps more justifiably as fulfilling a ‘public purpose’. Grampp (1989) writes that evaluating the economic performance of museums is difficult given generally-accepted accounting and reporting practices. Our paper takes this finding into account by using accepted practices and museum self-reporting to devise our measure for intra-generational equity. We find that most of the USA top museums do report education as a spending priority and thus do acknowledge their public purpose.

Keywords Art museums, Generational equity, Education, Taste formation, Political economy of art

JEL Classification Z11, H23, H52, D11, D63
Weber - 2

The yearning for new things and ideas is the source of all progress, all civilization; to ignore it as a source of satisfaction is surely wrong – Tibor Scitovsky (1988, p. 5)

I Introduction and methodology

There is no consensus agreement amongst cultural economist as to exactly what is a museum.¹ There is disagreement over what a museum’s purpose should be, what the functions of a museum are and should be and how each of these functions should be prioritized and actualized, and how therefore one can accurately measure the performance (both socially and economically) of a museum.² For example, do museums exist to preserve built culture for future generations? To collect and exhibit works of art to connect current generations with the past? To attract visitors and economic growth? To fulfill a “public good” role by stepping-in where the market cannot to make art available to everyone?

In a world of limited resources it is obvious that these goals for a museum can be in conflict. For example, there is a trade-off of spending priorities for current programs (intra-generational spending) versus the preservation of culture for future generations (inter-generational spending). If a museum’s limited resources are used for preservation then, one of the opportunity costs is expenditure for exhibitions.

¹ Elizabeth Merritt states in American Association of Museums (2006, p. 1), “In the grand American tradition of self-determination, pretty much anyone who wants to call his establishment a museum can do so. And often does.”

² See Grampp (1989) for a discussion on the competing priorities and functions that a museum faces. Of course some of these competing priorities within individual museums are resolved by an institution’s articles of incorporation and mission statement, as then interpreted by a board of directors, or, by political representatives if it is a public institution. Nonetheless, museums as living entities need to change with demand, just as any institution must to remain socially relevant. Johnson and Thomas (1998, p. 78) write, “Museums are not immune from the forces of market competition….Fashions and tastes change, unless a museum adapts through time it is unlikely to maintain its visitor attractiveness.”
This paper is an exercise in, for a lack of a better word, “positive”, economics where we are to evaluate the spending priorities as they currently exist for the top museums in the United States. Our concern is to what degree a museum prioritizes what might be described as the ‘public purpose’ aspects of expenditures for current generations given a museum’s existing constraints and competing priorities. We do not delve into “normative” economics by adding more to the discourse on whether the arts ought to be publically-funded and how and by whom, but explore empirically how museums view themselves as is in the provision of their services.

Tibor Scitovsky wrote that individuals do not consume enough “novelty” goods in their consumption bundles and instead prioritize less risk-averse consumption for comfort, and that this then leads to in the long-run an under-consumption of the finer things in life such as art and literature. Scitovsky (1979, p. 5) asks, “Could it not be that we seek our satisfaction in the wrong things, or in the wrong way, and are then dissatisfied with the outcome?”

Throsby and Withers (1979, p. 6), when discussing the performing arts, write that while the value of art and what constitutes art is ultimately a subjective, normative, opinion, some appreciation of the arts can only come through experience, “it can be claimed that what constitutes a demand for aesthetic quality in this area as opposed to others is aesthetic judgment based on acquired taste and not simple opinion”. For these cultural economists, and there are others with the same view, the reason for the under-consumption of art is due to the lack of adequate taste-formation for art consumption by the ‘average’ person.

If we view art as an experience good, which carries a risk-premium or risk-hurdle in taste-formation, then museums might play a role in reducing this risk, the opportunity cost of consumption, by making current expenditures on educational programs for those whose tastes for art are incompletely-formed. Thus education expenditures as opposed to exhibition expenditures by museums might be viewed as a transfer of equity to those whose tastes for art are not yet formed relative to those who are already consuming art. This notion of equity-transfer is relevant for museums in the USA because they receive tax-benefits and/or direct government funding relative to other institutions due to their defined public purpose. The next sections of this paper survey and place in context for our research the idea of generational equity for museums, followed by a discussion specifically on intra-generational equity. After this theoretical framework we introduce our empirical methodology and present our findings. In conclusion we discuss opportunities for further research.
2 The not-for-profit status of art museums in the USA

In this paper we focus on specifically the top not-for-profit art museum in the USA. The reason for choosing this subset of museums for analysis is that not-for-profit museums explicitly are chartered for a public purpose and therefore need adapt their spending priorities for this purpose. The Internal Revenue Service of the United States spells-out the requirements for an organization to be registered as a not-for-profit organization.

The exempt purposes set forth in section 501(c)(3) are charitable, religious, educational, scientific, literary, testing for public safety, fostering national or international amateur sports competition, and preventing cruelty to children or animals. The term charitable is used in its generally accepted legal sense and includes relief of the poor, the distressed, or the underprivileged; advancement of religion; advancement of education or science; erecting or maintaining public buildings, monuments, or works; lessening the burdens of government; lessening neighborhood tensions; eliminating prejudice and discrimination; defending human and civil rights secured by law; and combating community deterioration and juvenile delinquency.³

Art museums might be said to fulfill the “educational” requirements for tax-exempt status, and, tangentially perhaps, the scientific and literary purposes. However it is clear that education is the most applicable public purpose category for art museums to be granted the tax-exemption.⁴


⁴ In their 2005-2006 survey and statistical reporting exercise the American Association of Museums (AAM) report that there are approximately 17,500 museums in the USA, 24% of these are art museums, of which 79% are not-for-profits (AAM 2006, p. 40). Johnson (2003, p. 315) states that approximately 40% of the “well-over” 8,300 museums in the USA are “governed by public authorities”. Note that Johnson’s figures for the number of museums in the US are around half that as recorded by the AAM, giving credence to the position that there is debate not only as to what are the functions of a museum but as to how many there are and what are their governance structures exactly.
It is well-known that not-for-profit organizations in the United States receive many indirect subsidies due to their tax-exempt status. O’Hagan states that the deduction for charitable contributions is the most pronounced tax benefit given to not-for-profits in the USA, followed by the property tax exemption and the capital gains benefits for donations. “Most of the tax measures in the United States have particular relevance for art museums and as a result they appear to be the most favoured arts institutions in this regard” (O’Hagan 2003, p. 452). This benefit can be witnessed on “Museum Mile” on 5th Avenue in New York City along Central Park (prime real estate indeed) where one can find the Museum of Modern Art, the Metropolitan Museum of Art, the Jewish Museum, the Guggenheim Museum, the Museum of the City of New York, the Museum of Arts and Design and the Frick Collection, amongst others, all not-for-profits and all but the Met and the Jewish Museum founded after the permanent introduction of the income tax in the USA in 1913.

Grampp (1989, p. 189) makes the case that the museums are by their nature opposed to market forces, “the aversion of museum people to the market shows itself in various ways”, including that the people who staff and run museums are scholars and art experts and wish to pursue their craft as opposed to run programs for the public. In the construct of our paper moving forward in other words Grampp believes that museums have an innate tendency to prioritize future generations over current generations, a trade-off we address in Section 5. We would expect this anti-market bias to be less so in not-for-profit as opposed to government-owned museums, as the former after all depend on direct private voluntary support and thus are more likely to be influenced by decentralized public demand for providing a public purpose at the local level, not least due to their need for new private donations for continued operations as opposed to an on-going line-item in a centralized appropriations process.

The political pressure to resist change for government-owned, as opposed to not-for-profit, museums is expressed by Towse (2003, p. 6).

This [direct government subsidy of arts organizations] can easily mitigate against artistic [or in our case bureaucratic] innovation, especially when the organization is publically owned and staffed by state employees who favour old routines. The durability and size of an organization also determine the amount of attention it receives and the political pressure it can deploy when threatened with a reduction in public subsidy.
Johnson (2003, p. 316) has found that people who visit museums “tend to be drawn disproportionately from higher-income and better educated groups” with his data source being for the USA and further that many museums rely on 80 to 90 per cent of their visits as repeat visits. Goetzmann et al (2010, p. 25) make the case that historical increases in inequality are correlated with increases in at-market prices for museum-quality art, that “indeed it is the wealth of the wealthy that drive art prices.” This implies that the tax exemptions for not-for-profit museums are a transfer to the wealthy, and that therefore any educational programs a museum sponsors which reduces this reverse-subsidy is clearly an increase in intra-generational equity. However, this finding has been disputed (albeit just for the taste for abstract art and for consumption in the home, not for consumption at the museum) by Halle (1993).

In this paper we avoid the debate as to whether or not museums are for the rich and view art as an experience good, with the taste for art being a good into itself, following Scitovsky (1988, p. 5), “Culture comprises some of the best, most valuable things life has to offer.” Therefore museum expenditures for taste-formation (education) versus those for the exercising of already-existing tastes (exhibitions) increase equity when we view art as a good, whether or not these tastes are held by any member of any socio-economic category.

It is for the reasons outlined that we have chosen to use not-for-profit museums and educational expenditures in this paper for our attempt to derive positively a measure of intra-generational equity for art museums in the USA. This approach is not meant to imply that normatively we do not support government’s preservation of heritage nor that we support normatively the tax exemptions for not-for-profits in the USA, because as stated, this is an explicit exercise in positive economics. Whatever its methodological limitations this positive approach does allow us to evaluate how well (some) not-for-profit museums are fulfilling their public purpose as required by their tax-exempt status.
3 The difficulty in measuring performance of art museums

Many cultural economists have written on the competing demands on art museums and therefore the difficulty in measuring performance. Paulus (2003, p. 51) states, “a museum cannot be reduced to one function; its three basic functions are research, preservation and communication”. There are choices to be made between these competing goals. Expenditures for each could be reported, expenditure relative to revenue giving a measure of performance, but what is to determine the right trade-off between them?

Grampp (1989, 1996) is known for lamenting that museums are not required under generally-accepted accounting principles to report on the value of their collections, and thus do not report the capital costs related to these collections. After all, if it is not measured it cannot be reported let alone be evaluated. A corollary to this then is that this value, this opportunity cost, of a museum’s collection, is understated in a museum’s decision-making, and therefore a collection is not displayed to the public as much as it would be if its economic value was internalized by museums, this is the well-known Prado Effect as originally articulated by Alan Peacock. Grampp (1989, p. 202) writes that “more than half” of museum collections in the USA are in storage.

This phenomenon of collection “hoarding”, like the public choice ‘anti-market’ tendency for museum personnel discussed above, shows the inherent tendency for art museums to prioritize the conservation of (or in this case collection of) built heritage relative to expenditures for current generations. These endogenous incentives themselves create spending priorities but do not in themselves determine if it is “the right thing to do”.

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5 Museum mismanagement of collections should not be overstated, many museum do sell their artworks and report these sales in their financial statements as current revenues. In addition new acquisitions are often highlighted in museum annual reports.

6 A visit by the present author to the Man Ray retrospective at the Jewish Museum in New York City in March 2010 revealed that the museum was displaying none of its permanent collection, despite selling a book of its fine painting collection in the gift shop.

7 There can be public policy requirements that museums do not sell their works to cover operating expenses however defined, again encouraging the build-up of collections, see, e.g., Pogrebin 2010.
Most if not all museums report their attendance figures so attendance has become *de facto* a positive measure of museum performance, however as discussed above, much (most) of this attendance is repeat attendance. Thus how well does attendance measure public purpose? And as has been well-documented (see, i.e., Bailey and Falconer 1998) there is a trade-off between charging for admission, using a cost-recovery basis or not, and reduced or free admission for special socio-economic categories, itself an equity trade-off.\(^8\) Some of this is site-specific, for example, the Brooklyn Museum, a not-for-profit, requests a “recommended” admission fee, because it is located on city-owned land and therefore is not allowed under law to charge admission.\(^9\) If the idea is to maximize attendance then of course free admission is the answer, but if the goal is to measure consumer demand and earn revenue then it is best to charge an admission and report these proceeds as revenues. Again competing priorities mean competing and conflicting performance measurements.

The American Association of Museums (AAM) in their periodic surveys of museums report 35 financial ratios to evaluate museum financial performance. These range from “museum-related activities as percent of total operating expense”, “$ spent per museum visitor”, “$ raised per visitor”, “income from private sources as percent of total operating income”, and “building operations cost per sq. ft of interior space”. Given the heterogeneity of the missions and geographical locations of museums in the US it is hard to see what makes for a ‘universal’ analyses of performance. (For example, is it reducing costs? Not if our donors have given money specifically to support certain costs. How do you compare relative building or labor costs between Omaha and San Francisco? How do you compare the costs of storing oil paintings and sculpture versus storing and protecting antique or historical manuscripts and documents? ).

\(^8\) Darnell (1998), for example, analyzes the difficulty, and cost, associated with attempting to use price elasticity of demand market segmentation-type strategies for the pricing of museum visits.

\(^9\) Schuster (1998) states that perhaps it is best to view (some) museums as “hybrid” institutions, without a neatly-defined public or private governance structure. AAM (2006, p. 40) reports that 4% of art museums surveyed responded that they are under a “dual” governance entity (16% report being under government governance, and as stated earlier 79% report being private, of which 0.5% surveyed report they are private for-profit, leaving approximately 69.5% of art museums in the USA being not-for-profit organizations.)
The AAM financial ratios are reported per museum type (botanical gardens, art museums, children’s museums, general museums, historical sites, historical museums, natural history/anthropology museums, science museums, specialized museums and zoos) as well as in aggregate so no doubt the per-type reporting is helpful for museums to compare their ratios with their colleagues, but still does not give prioritization for competing expenditure categories, and this is, no doubt, a good thing given even differing institutional mandates within like-types.

Pignataro (2003, p. 371) states the dilemma and the ‘problem’ with performance measurement, which includes problems of both comprehensiveness and the distortion of governance incentives.

There is no such thing as ‘the performance’ of cultural institutions, or of the whole sector. There are different aspects of performance that can be evaluated also with the help of numerical indicators, but none that can provide an exhaustive representation of the functioning of arts organizations.

Performance indicators need to be used with great caution….Once used, indicators are not merely a computation exercise, since they tend to affect the behavior of institutions according to the incentives arising from the prediction about their possible utilization.

Finally, Towse (2010, p. 252) states that ultimately the measurement of performance is a cost unto itself, “Policies have to be costed directly by the responsible authority or, ultimately by their opportunity costs.” In our paper we take these problems with performance measurement to heart. Not-for-profits in the USA ultimately have to conform to their chartered public purpose under the tax-code and our measure of intra-generational equity (of reported ‘performance’ if you will) are stated as is in the Financial Statements for each museum studied under generally-accepted accounting standards. We are not recommending normatively that museums prioritize one type of expenditure over another. We are analyzing what current practices are, by analyzing how these practices are reported under as-is conditions.
4 Concepts of generational equity for art museums

One of the most obvious competing priorities that have resulted from the above discussion is that museums trade-off spending on future generations for spending on current generations. This can be visualized in Figure 1 below.

Figure 1 Inter- and intra-generational trade-offs for museum spending

In Figure 1 we show heuristically (and for our paper axiomatically) how museums face trade-offs in their spending priorities between future and current generations. We have seen from Section 2 that the not-for-profit charter in the USA tax-code requires that not-for-profit museums need prioritize educational spending, despite what some cultural economists see as an inherent bias within museums for prioritizing inter-generational expenditures.
Inter-generation equity is, of course, deemed by many cultural economists as an important function for museums.\textsuperscript{10} For example, Paulus (2003) writes “a central function of a museum is the acquisition, preservation and restoration of objects for the benefit of future generations” (51). Throsby (2003) states that, “In quantitative terms, respect for intergenerational concerns might suggest adoption of a lower discount rate than might be otherwise accepted on time-preference or opportunity cost grounds in the process of reducing both economic and cultural benefit streams to present value terms for any project involving cultural investment” (184).

However, Throsby further states that intra-generational concerns need be balanced with inter-generational concerns, “This principle asserts the right of the present generation to fairness in access to cultural resources and to the benefits flowing from cultural capital, viewed across social classes, income groups, locational categories and so on” (185). Again it is a question of decision-making within each museum on how these generational trade-offs are prioritized. Economics is about decision-making for the allocation of scarce resources, with each decision based on the opportunity cost of that decision.

4.1 Definitions of inter- and intra-generational equity

We are now able to derive the definitions for equity used in this research,

1) Given a set of resources, museums can spend for current or for future generations, these spending decisions might be seen as ‘equity’ decisions between current and future generations, or, \textit{inter-generational equity trade-off decisions}.

2) Given a set of resources for current generational spending, museums can spend on programs for those whose tastes for art are already formed, or, on education for those whose tastes for art are as of yet realized. These decisions are \textit{intra-generational trade-off decisions}.

\textsuperscript{10} The AAM (2006, p. 113) also deems the preservation of collections as a measure of financial performance, with one of their 35 key ratios being “collection expenses as percent of total operating expenditures”, and report that 75% of art museums surveyed “own or operate collections” and that 10% of total operating costs go toward “collections care.” The greatest cost for art museums as reported in the survey exercise is “personnel expenses” at 49% of operating expenses.
Next we explore the spending priorities along the intra-generation horizontal axis in Figure 1 where we find that museums face spending trade-offs intra-generationally between those whose tastes for art are already formed (exhibition expenditures) and those whose tastes for art are yet to be formed (education expenditures).

5 Intra-generational equity and taste formation

Dutton (2009) uses the work of David Hume, in particular “Of the Standard of Taste” (1757), to propose that all humans have a predisposition towards art appreciation and it is only through error (and/or mistake in judgment) that tastes differ. Dutton states, “Judgment can also fail because it is insufficiently practiced in actively experiencing and criticizing works of art.” “This fault goes along with unfamiliarity with a wide comparison base on which to make a judgment (the man who has only seen two operas in his life in not is a position to be an opera critic) and prejudice against an artist, or, perhaps, the work’s cultural background” (p. 36).

Grampp (1989, p. 76) further clarifies how tastes, consumption preferences, for art are created, or, more specifically, how they are changed as price and income change. Our concern in this paper relates to the ‘price’ of this taste for art and how this price is reduced through education.

The preferences which people have among styles of art depend on what they bring to it: their sensibility, understanding, knowledge, what tolerance they have for the unusual and the novel, how willing they are to risk disappointment, etc. These properties come together to form taste, and they are the product of intentional effort combined with the circumstances in which the effort is made. It is what I have called investment in taste. Taste governs the choices the individual makes, once prices and his income are given. But investment in taste is affected by income and prices, and taste changes when they change.

11 How Hume’s theory of the Test of Time for good art can be juxtaposed with the museum curator as taste-maker has yet to be addressed, at least as far as is known by the present author.
We can view then the appreciation for art as an acquired taste, or in economic jargon, as an experience good, which has a risk (a price) attached to its initial consumption. Scitovsky (1976) writes that there is an inherent discomfort level attached to consumption of the novel, which then can be alleviated by reducing the risk associated with this consumption. Art is a novel consumption good with a risk attached to its initial consumption by those who have yet acquired the taste for art, in our specific case, “art as experience”.  

Figure 2 shows the relationship between normal goods (Scitovsky’s ‘comfort goods’) and experience goods (Scitovsky’s ‘novelty goods’). At one point (time = 0) an uneducated “average” potential consumer of art (and again according to Hume we are all art consumers, even those of us whose tastes for art are yet to be realized) has preferences for experience goods below his or her tastes for normal goods due to the subjective risk-aversion against the new.

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12 The AAM does not survey directly education costs however does ask museums to report on “school group attendance” relative to overall visits. For art museums the median general overall attendance for 2005 was 54,831 visits, of which 5,943 were school groups, almost 11% (AAM 2006, p. 112). This in itself shows that education is a priority for art museums, or at least for the AAM. The AAM also surveys “marketing” costs (a median 5% of total operating costs for art museums), which might be considered outreach or even educational costs, but that would be too great of an assumption for our research, which uses educational expenses as reported directly in the audited financial statements to measure the intra-generational equity trade-off.

The education of school children in the arts, and the positive impact on museum visits later in life is consistent with Gray (1989), although Gray uses art lessons and art history classes as the education proxy, not museum educational programs. Gray finds that art classes after the teenage years also are positively correlated with museum visits. This latter finding is more consistent with the approach in this paper relating to consumer sovereignty, however we are hoping that museum education programs create a larger preference for art consumption than as measured by museum visits alone.
It might be argued that a ‘public purpose’ role for museums is in taste-formation through educational programs which reduce the risk associated with art consumption and which might equalize preference bundles for the average (uneducated) consumer. Museum education programs it may be proposed move the average consumer upward along the vertical axis, allowing the consumption of art as a preference-choice to equal that of the opportunity cost of the consumption of normal goods. In other words, museum educational programs can reduce the gap between normal and experience goods and set the consumer along a path where art can form part of his or her consumption bundle, and in fact creates a consumption-bundle choice which has the potential for bringing an increasing returns to scale for consumption utility relative to the constant returns to scale of utility for normal goods. There are increasing utility returns to consumption of experience goods over time, up to a certain point, at which there are constant returns. However the utility of consumption for these ‘finer things in life’ remain at a higher absolute level relative the consumption of normal goods.
As shown in Figure 2 it is this movement along the vertical axis for the average person (uneducated in terms of art) which creates an increase in intra-generational equity. Those who already are consuming art already experience a higher level of utility than the average person. By shifting expenditure from exhibitions to education, museums increase equity through creating a taste for art for those whose preferences are yet-formed. In the next sections we apply this theoretical foundation to museum practice as it exists today.

5 The museums used for analysis

For our paper we are evaluating the “top” museums in the United States, which, of course, is a subjective judgment. Is a “top” museum the big, famous, museums in the metropolitan centers, which attract the wealthy (and relatively, it is the wealthy who live in the major metropolitan areas where the cost of living is higher than average) and tourists living out of their day-to-day existence? Or is it indeed the local, smaller museums, who are more accessible to those living more ‘average’ lives and whose local museums may be more apt to cultivate a day-to-day appreciation for the arts?

13 Champarnaud, Ginsburgh and Michel (2008) use a neo-classical overlapping-generations model to argue that public arts education is not a direct substitution for subsidies to the arts.
Any analyst must make a judgment as to what methodological approach to take. For our current research we have chosen to define the “top” museums by their attendance and their ability to attract foundational funding. The set of museums for analysis has been chosen from two sources, “Exhibition Attendance Figures 2007” in *The Art Newspaper* (2008) and the Foundation Center’s 2008 report, “Top 50 Recipients of Foundation Grants for Museums, circa 2006”. Top attendance is for both total attendance per year per museum as well as for the largest attendance for specific exhibits compared across, and as reported by, the museums themselves.

We have focused specifically on modern and contemporary “art museums”, excluding other types of museums such as museums of history, science museums, children’s museums and collections of antiquity or libraries. Of course some museums feature not just modern or contemporary art in their collections or for specific exhibits but it is a requirement that modern and/or contemporary art be included in a museum’s focus to be a part of the universe of museums under study.

We are interested in those museums which are more “market-oriented”, and therefore more likely to be influenced by, and able to adapt to, changing public demand in the local communities in which they serve. Therefore we have excluded museums which are government-owned, be that at the local, state or national level.

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14 The ability for museums to attract foundation funding is consistent with Paulus (2003) who states that foundational funding is a measure of equity because the donor does not receive a direct benefit (unlike revenues from admissions and memberships, for example). Revenues representing direct benefit, on the other hand, is a measure of appealing to the market, showing again the competing and oftentimes conflicting opinions on how to measure performance.

15 It is debatable whether top per show attendance might represent exogenously a measure of taste-formulation, education, itself. After all a ‘blockbuster’ show reduces the risk and increases the taste for an otherwise marginal consumption of art.

16 This means that three of the most popular museums in the United States by total attendance, all in Washington, DC and ‘owned’ by the US Government, are excluded from this analysis; the National Gallery of Art, the Freer and Sackler Galleries, and the Hirshorn Museum. These are hybrid institutions as have considerable private for-profit activity in auxiliary services.
For our sample museums we begin with all museums which are on both the top attendance and top foundation grant lists (Table 1 lists the museums which meet the criteria chosen for the research in this paper). There were 12 museums found on both lists.\textsuperscript{17} In order to ensure that there are enough museums in the research to make a reasonably accurate conjecture on measurement we then expanded the survey to include museums that were on one list or the other as long as they feature modern or contemporary art in their exhibitions. Therefore, any US museum appearing on either list is included in the analysis of museum financial statements, with again twelve of the twenty-seven appearing on both lists.\textsuperscript{18} This methodology of course is skewed towards the larger museums in the USA so therefore may not be an accurate measure of the intra-generational spending priorities of all museums in the USA, and it may be that the smaller museums are more community-oriented than the “top” museums and thus hypothetically may be more education-oriented, however this analysis will have to wait until another day.\textsuperscript{19}

We use expenditures as a percentage of revenues for our analysis. This is in accordance with Paulus (2003, p. 53) who uses the concept of a “collectiveness index” for not-for-profit organizations, which is an organization’s “ability to attract public and private funding.” Paulus uses donations, grants and appropriations as a museum performance measure, with the conjecture being that these funds, as opposed to admissions and membership revenues, are given without any direct benefit received by the donor, and thus are an indicator of the museums ability to provide public goods. “Essentially, it [the measure of equity] is the gifts and subsidies portion of total revenues.” Ideally of course spending priorities based on organizational assets would be the most reflective measure of equity pay-out but given the fact that museums are not required to report the value of their collection holdings this measure is not possible.

\textsuperscript{17} The only museum which appeared on both the top attendance and foundation grant lists from which we were unable to obtain financial information for this research is the Museum of Fine Arts, Boston, despite several attempts at contacting the museum for this data.

\textsuperscript{18} The only exception here is the O’Keefe Museum in Santa Fe, NM, appearing on the foundation grant list, who did not respond to our repeated attempts to obtain the necessary financial information.

\textsuperscript{19} As a rough back-of-the-envelope analysis, this hypothesis does seem to be true in that as stated above in footnote 13 the average attendance of school groups versus regular attendance for the art museums reporting to the AAM under their 2005-2006 survey exercise report almost 11% of attendance being school groups, whereas as we shall see the average expenditure for educational activities as a percentage of revenues for our top museums is around 7%. It should be noted of course that these indicators are not directly comparable.
In addition, revenue as an empirical base then makes sense (and is in fact the only method possible) for positive analysis because expenditures as reported under generally-accepted accounting principles do not allow for direct intra- and inter-generational categorization (see the Appendix for a further discussion on data analysis as reported by museums.) It should be noted that our revenue base includes all revenue, from all sources, and is not confined to Paulus’ “collective index” revenues as we are interested in market flexibility as well as public good provision. It should be noted as well that our data is from Fiscal Year 2007, prior to the financial crisis of 2008, and therefore represents equity trade-offs in a time of ‘easy money’ (prior to the banking system bailouts and financial uncertainty of the Great Recession). Further research in this area might include post-crash expenditure priorities and a comparison between pre- and post-crash expenditures, e.g., a comparison between the prioritization of intra-generational equity-creation during times of “easy-money” and “business-as-usual”.

The fact that we are using expenditures for education as a percentage of revenues implies that our measure of intra-generational equity is a type of investment percentage of revenues, or perhaps, an “investment rate” in equity (taste-formation), as opposed to a discount rate-like measure, which would be based on educational expenditure current period as a percentage of total assets held for the period, however, as stated due to generally-accepted reporting requirements, the latter measure is not possible.
Table 1 Museums appearing on top attendance and grant lists

<table>
<thead>
<tr>
<th>Revenues ($'000s)</th>
<th>Museum Name</th>
<th>Gov % of Rev.</th>
<th>Educ % of Rev.</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>290,648</td>
<td>Met, New York</td>
<td>9.37%</td>
<td>4.82%</td>
<td>Both attendance and grant lists</td>
</tr>
<tr>
<td>258,346</td>
<td>Getty Museum, LA</td>
<td>0.00%</td>
<td>3.58%</td>
<td>Attendance list only</td>
</tr>
<tr>
<td>228,379</td>
<td>MFA, Houston, TX</td>
<td>0.43%</td>
<td>4.22%</td>
<td>Both attendance and grant lists</td>
</tr>
<tr>
<td>215,817</td>
<td>Art Institute Chicago</td>
<td>3.15%</td>
<td>-5.30%</td>
<td>Both attendance and grant lists</td>
</tr>
<tr>
<td>147,651</td>
<td>MoMA, New York</td>
<td>0.17%</td>
<td>0.00%</td>
<td>Both attendance and grant lists</td>
</tr>
<tr>
<td>76,248</td>
<td>Carnegie Museum, Pittsburgh</td>
<td>11.67%</td>
<td>0.81%</td>
<td>Both attendance and grant lists</td>
</tr>
<tr>
<td>72,216</td>
<td>Cleveland Museum of Art</td>
<td>0.00%</td>
<td>6.19%</td>
<td>Both attendance and grant lists</td>
</tr>
<tr>
<td>67,266</td>
<td>Guggenheim (NY, LA, Vénice, LV)</td>
<td>0.00%</td>
<td>4.02%</td>
<td>Attendance list only</td>
</tr>
<tr>
<td>66,956</td>
<td>LA County Museum of Arts</td>
<td>28.65%</td>
<td>5.41%</td>
<td>Both attendance and grant lists</td>
</tr>
<tr>
<td>53,031</td>
<td>Philadelphia MA</td>
<td>4.24%</td>
<td>8.88%</td>
<td>Both attendance and grant lists</td>
</tr>
<tr>
<td>52,681</td>
<td>Detroit Inst. Of Arts</td>
<td>12.19%</td>
<td>0.00%</td>
<td>Both attendance and grant lists</td>
</tr>
<tr>
<td>50,262</td>
<td>Fine Arts Museums, SF</td>
<td>19.53%</td>
<td>0.00%</td>
<td>Attendance list only</td>
</tr>
<tr>
<td>44,306</td>
<td>Indianapolis Museum of Art</td>
<td>0.72%</td>
<td>23.00%</td>
<td>Grant list only</td>
</tr>
<tr>
<td>39,834</td>
<td>Asian Art Museum, SF</td>
<td>16.89%</td>
<td>3.29%</td>
<td>Attendance list only</td>
</tr>
<tr>
<td>40,012</td>
<td>SFMOMA</td>
<td>0.00%</td>
<td>0.00%</td>
<td>Both attendance and grant lists</td>
</tr>
<tr>
<td>30,917</td>
<td>Denver Art Museum</td>
<td>7.15%</td>
<td>4.74%</td>
<td>Grant list only</td>
</tr>
<tr>
<td>30,903</td>
<td>High, Atlanta</td>
<td>0.00%</td>
<td>2.28%</td>
<td>Attendance list only</td>
</tr>
<tr>
<td>30,387</td>
<td>Brooklyn Museum</td>
<td>30.18%</td>
<td>0.00%</td>
<td>Attendance list only</td>
</tr>
<tr>
<td>19,539</td>
<td>Walker Art Center, MN</td>
<td>0.00%</td>
<td>8.06%</td>
<td>Attendance list only</td>
</tr>
<tr>
<td>18,894</td>
<td>MCA Chicago</td>
<td>4.96%</td>
<td>0.00%</td>
<td>Both attendance and grant lists</td>
</tr>
<tr>
<td>18,651</td>
<td>Seattle Art Museum</td>
<td>0.00%</td>
<td>5.47%</td>
<td>Grant list only</td>
</tr>
<tr>
<td>17,329</td>
<td>Joslyn, Omaha, NE</td>
<td>0.00%</td>
<td>4.70%</td>
<td>Attendance list only</td>
</tr>
<tr>
<td>13,413</td>
<td>Frist Center, TN</td>
<td>0.00%</td>
<td>14.52%</td>
<td>Grant list only</td>
</tr>
<tr>
<td>13,406</td>
<td>Phillips Collection DC</td>
<td>0.00%</td>
<td>0.00%</td>
<td>Both attendance and grant lists</td>
</tr>
<tr>
<td>11,010</td>
<td>Amon Carter, Ft. Worth</td>
<td>2.89%</td>
<td>7.27%</td>
<td>Grant list only</td>
</tr>
<tr>
<td>4,495</td>
<td>St. Louis AM</td>
<td>0.00%</td>
<td>36.54%</td>
<td>Attendance list only</td>
</tr>
<tr>
<td>4,439</td>
<td>Barnes Foundation, PA</td>
<td>0.00%</td>
<td>0.00%</td>
<td>Grant list only</td>
</tr>
</tbody>
</table>
From Table 1 we find that nineteen of the top twenty-seven museums (around 70%) report education expenditures (shown as a percentage of revenues). We also find that two museums (the Los Angeles County Museum of Art and the Brooklyn Museum) receive more than 20% of their revenues from government sources, although incorporated as not-for-profit rather than government entities. Only the LACMA reports a separate education expense category, nonetheless it should be excluded from our analysis as appears to be an outlier in terms of government support relative to the other museums in our survey. Therefore we have now have eighteen museums from which to draw our analysis of intra-generational equity.

5 Results

Table 2 shows the results of our compilation of the data found in the financial statements of the eighteen museums chosen to survey as described in the previous section. The museums under study report almost $1.5 billion in annual revenues for 2007 and more than $56 million in self-reported expenditures for educational activities. This gives a “top” museum total-average of self-reported intra-generational equity pay-out of 3.71%, e.g., 3.71% of the annual revenues of the ‘top’ museums went towards taste-creation in 2007. One way to look at this then might be that the investment rate for intra-generational equity for the top museums in the USA is 3.71%.

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20 The Art Institute of Chicago shows a negative percentage because it reports more income than expenses for “Education” programs.

21 $56,307,000 in education expenditures total for all the surveyed museums divided by $1,492,348,000 in total revenues for the survived museums equals 3.71% of revenues going towards educational programs.
It could be proposed that a perhaps more accurate pay-out percentage would be one based on total current-year programmatic expenditures (education expenditures as a percentage of combined yearly expenditures for both education and exhibition), however, the only proxy for current year programmatic spending reported by most museums would be curatorial expenditures. However, curators spend their time and budgets on both inter- and intra-generational activities so our current methodology, based on current financial reporting practices, is more functional and systematic.22

If a straight-average is used per museum, not aggregating the results, we find that the average pay-out for education programs as a percentage of revenues is 7.62%.23 This is the equity measure we prefer for our current study in that it is not unduly downward-adjusted by the Chicago Art Institute who has both relatively high revenues and a high negative investment rate in equity (their educational programs, listed as normal museum activities in the financial statement, actually make money). More than 7% of our top museum revenues go toward taste-formation and intra-generational equity transfer, this is perhaps acceptable given the institutional constraints toward these transfers.24

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22 Some museums do report a separate line item for ‘exhibitions’ however these museums are in the minority. Most, but not all, museums report a curatorial expense line-item.

23 The 7.62% figure is derived from averaging the “Educ % of Rev” column of Table 2. The reason the per-museum average is higher than the total average is because the Chicago Art Institute reports its money-making education programs under normal museum operations.

24 Whether or not this measure is worth the tax-breaks given to these not-for-profit organizations is beyond the scope of our current research.
Table 2 Aggregated and average education expenditures as a percentage of revenues

<table>
<thead>
<tr>
<th></th>
<th>Museum</th>
<th>Revenues ($ '000s)</th>
<th>Education Exp. ($ 000s)</th>
<th>Educ % of Rev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Met, New York</td>
<td>290,648</td>
<td>13,998</td>
<td>4.82%</td>
</tr>
<tr>
<td>2</td>
<td>Getty Museum, LA</td>
<td>258,346</td>
<td>9,246</td>
<td>3.58%</td>
</tr>
<tr>
<td>3</td>
<td>MFA, Houston, TX</td>
<td>228,379</td>
<td>9,635</td>
<td>4.22%</td>
</tr>
<tr>
<td>4</td>
<td>Art Institute Chicago</td>
<td>215,817</td>
<td>-11,428</td>
<td>-5.30%</td>
</tr>
<tr>
<td>5</td>
<td>Carnegie Museum, Pittsburg</td>
<td>76,248</td>
<td>617</td>
<td>0.81%</td>
</tr>
<tr>
<td>6</td>
<td>Cleveland Museum of Art</td>
<td>72,216</td>
<td>4,472</td>
<td>6.19%</td>
</tr>
<tr>
<td>7</td>
<td>Guggenheim (NY, LA, Venice, LV)</td>
<td>67,266</td>
<td>2,705</td>
<td>4.02%</td>
</tr>
<tr>
<td>8</td>
<td>Philadelphia MA</td>
<td>53,031</td>
<td>4,709</td>
<td>8.88%</td>
</tr>
<tr>
<td>9</td>
<td>Indianapolis Museum of Art</td>
<td>44,306</td>
<td>10,190</td>
<td>23.00%</td>
</tr>
<tr>
<td>10</td>
<td>Asian Art Museum, SF</td>
<td>39,834</td>
<td>1,312</td>
<td>3.29%</td>
</tr>
<tr>
<td>11</td>
<td>Denver Art Museum</td>
<td>30,917</td>
<td>1,466</td>
<td>4.74%</td>
</tr>
<tr>
<td>12</td>
<td>High, Atlanta</td>
<td>30,903</td>
<td>705</td>
<td>2.28%</td>
</tr>
<tr>
<td>13</td>
<td>Walker Art Center, MN</td>
<td>19,539</td>
<td>1,574</td>
<td>8.06%</td>
</tr>
<tr>
<td>14</td>
<td>Seattle Art Museum</td>
<td>18,651</td>
<td>1,021</td>
<td>5.47%</td>
</tr>
<tr>
<td>15</td>
<td>Joslyn, Omaha, NE</td>
<td>17,329</td>
<td>814</td>
<td>4.70%</td>
</tr>
<tr>
<td>16</td>
<td>Frist Center, TN</td>
<td>13,413</td>
<td>1,947</td>
<td>14.52%</td>
</tr>
<tr>
<td>17</td>
<td>Amon Carter, Ft. Worth</td>
<td>11,010</td>
<td>800</td>
<td>7.27%</td>
</tr>
<tr>
<td>18</td>
<td>St. Louis AM</td>
<td>4,495</td>
<td>2,524</td>
<td>36.54%</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>1,492,348</strong></td>
<td><strong>56,307</strong></td>
<td><strong>3.71%</strong></td>
</tr>
</tbody>
</table>

6 Summary of findings

In this paper we have referenced scholars who believe that human-beings have an innate tendency towards consuming the finer things in life, for consuming art, yet exercising these tastes carry a cost of moving from the known to the unknown and therefore our consumption towards art is not what it could be to maximize life-long utility. Museums can help to remove the risks associated with consuming art through the provision of educational programs which can help those who have not yet exercised their tastes towards art consumption gain more utility in their lives. In a world of scarce resources museums can spend their monies on programmatic activities for those whose tastes for art are already formed, or, can allocate resources for taste-formation.
It could be argued that when a museum allocates resources towards educational programs as opposed to exhibition-type activities they are engaging in an intra-generational equity transfer, a transfer of spending from the more “art-educated” towards the less “art-educated” in a given populace at a given time. Almost 70% of the museums in the USA are defined under the USA tax-code as not-for-profit organizations, whose tax-exemption is for the most part granted on the provision of education services seen as fulfilling a public purpose. We have chosen for this research to focus on the “top” museums in the USA in terms of attendance and the ability to attract foundation funding, and to evaluate, given generally-accepted accounting principles in the USA, their self-reporting of resources put towards this equity-building education spending.

We have found that approximately 70% of the “top” not-for-profit museums in the USA report expenditures for educational programs in their audited financial statements. This is perhaps underwhelming given that that their tax-exempt charters are based mostly on a public purpose of providing education services. Still given that this reporting is voluntary, and is not part of the financial indicators developed by the American Association of Museums, it is not an insignificant finding. We have also found that those museums who do report education expenditures spend on average more than 7% of their revenues on education. Given the institutional, public choice and otherwise, incentives for spending on collections and research versus for current programs let alone taste-formation, this again is not an insignificant current generation “investment rate” for taste-formation as a measure of intra-generational equity.

7 Further research

Our paper has introduced several avenues for further research into equity measures for not-for-profit museums in the USA. The first would be to evaluate smaller, more local museums to determine their spending priorities in taste-formation, these museums, after all, may be more indicative of art consumption in the day-to-day

25 It could also be argued that education in art museums might be a form of popular entertainment, one which detracts from the utility of those whose taste for art is already being exercised, see Roberts 1997 on the dialectic between curators and educators in museums. This is one reason why we have grounded this paper positively in the ‘public purpose’ aspects of the tax code as is.
lives of most Americans. A second avenue of research would be to evaluate the spending priorities of the museums used in our present analysis post-financial crises to determine any adjustment in spending priorities after the Great Recession-era, something which, as of the present research, we are still under-going. A third avenue for research might be to evaluate new art acquisitions as reported by museums and compare the expenditures for these acquisitions relative to expenditures on educational and/or other current year expenditures, which would give one positive indicator of priorities for inter- versus intra-generational spending.

Appendix  Notes on data methodology

All data for all museums taken from the FY2007 financial reports of each museum as prepared under generally-accepted accounting principles for not-for-profit organizations in the United States. Revenues and expenditure data are from the Combined Statement of Activities and Changes in Net Assets, sometimes referred to in the financial statements as Statements of Activities or Statements of Financial Activities. Revenue and expense items are both restricted and unrestricted funds, including permanently restricted funds, however, non-operating cash flows (i.e., acquisitions, investment returns in excess of policy goals, accounting changes, etc.) are excluded. Revenues also include sales of deaccessioned art work, investment income, and foundation transfers where reported as current income. Educational expenditures are net of student fees and student aid, if any. It is well known that there are difficulties in capturing the true asset values of museums due to the non-reporting of the value of collections (both as a capital asset and therefore as a capital expense), as is well argued by Grampp (1989) and (1996), so therefore Paulus (2003) recommendation that equity measures be based on revenues is a sound one and is followed in this paper.

26 The exceptions are that the financial statements for the Guggenheim and the St. Louis Art Museum are for 2006, and for MoMA, New York, the financial statements for FY2004 are used, a FY2007 financial statement for MoMA was requested but not received.
Government contributions (both grants and direct appropriations) are reported only as listed in financial statement line items. Most museums, as reported in the body of the paper, have a stand-alone line-item for education expenditures, sometimes labeled education and public programs. However the St. Louis Art Museum, the Philadelphia Museum of Art, the Cleveland Museum of Art and the Metropolitan Museum of Art (NY) report combined education and library expenditures. Although it could be rightly argued that library expenditures (net of revenues) would be better classified as inter-generational as opposed to expenditures for the current generation, to do so would lose the education expense portion so the present author had to make a judgment to report these combined items under ‘education’.

Where education and curatorial expenditures are reported under the same line-item, the line-item is not included as an education expenditure. Where separate line-items for schools are present (MFA Houston), it is taken to mean that these are considered as business units separate from the normal business of the museum so are excluded from the calculation of museum expenditures on education.
References


