

The Smithsonian Institution and General Admission Fees

Office of Policy and Analysis (OP&A)¹
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We want many more Americans to see the Smithsonian as belonging to them, as serving their needs. Some of the carbon atoms in the Hope diamond belong to each of us. The Spirit of St. Louis is ours. Admission charges would diminish this sense of real ownership and perhaps, in the long run, of commitment.

Foreign visitors, who do not support the museums through taxes, would probably pay admission fees willingly. Indeed, many are now surprised at the free entry. They are also impressed. Free access is a symbol to foreigners of many of the fundamental aspects of American society.

Commission on the Future of the Smithsonian Institution, 1995

Introduction

Whether or not to charge the public a general admission fee to visit a museum is a question that has been debated for centuries. As early as 1784, a sum to enter the British Museum was proposed but free admission prevailed. (O'Hagan, 1994.) No simple question, it involves issues of social equity and access, cultural economics, behavioral psychology, financial management, politics, and the fundamental role of national museums.

The Smithsonian Institution—free of charge to the visiting public for all of its 162 years²—formally considered the question six times in the past 50 years, and six times concluded that the benefits of not charging general admission outweighed the costs of lost revenue and other opportunity costs. (See Table 1)

¹ Office of Management and Budget (OPMB) staff contributed to this report.

² The Smithsonian's Cooper-Hewitt National Design Museum in New York charges admission. The Smithsonian has charged admission to special exhibitions in the past (e.g., *Dinamation*; *Amber*); it recently instituted a fee for the Live Butterfly Pavilion at the National Museum of Natural History. In addition, visitors must pay to park at the NASM Udvar-Hazy Center in Chantilly, VA.

Table 1. Smithsonian General Admission Fee Studies

Year	Impetus and study group	Upshot
1954	Congress requested feasibility study of nominal admission charge (10 to 25 cents) to pay for building construction and renovation	<ul style="list-style-type: none"> ▪ Estimated \$75,000 from admission fees ▪ Incompatible with the Smithsonian as an educational and cultural institution and as a national shrine ▪ Contrary to charging practices among major museums in the United States ▪ Potentially adverse to the Smithsonian and the national interest; far outweighing financial gain.
1986	In response to Federal budget cuts tied to Gramm-Rudman Hollings deficit reduction proposal, Regents established ad hoc Committee on Museum Admissions. <i>SI Management Analysis Office(MAO)</i>	<ul style="list-style-type: none"> ▪ Estimated \$11.5 million net revenue from admission fees ▪ Financial conclusions tentative due to lack of demographic data and adequate testing ▪ Budget cuts did not materialize and issue tabled
1994	Admission Fee Pilot Project at NASM <i>Commission on the Future of the Smithsonian</i>	<ul style="list-style-type: none"> ▪ Estimated \$3.5 million net revenue at NASM for non-automated admission collections program ▪ Commission states that overall, it does not support mandatory admission fees
1996	Congress requested study to include feasibility of weekly and annual passes and pricing schedule responsive to different visitors.	<ul style="list-style-type: none"> ▪ Estimated \$11.3, \$15.6, \$19.1, and \$25.3 million net revenue from admission fees based on four scenarios using two visit counts and two pricing schemes with constant expenses ▪ The Smithsonian occupies an essential part of a unique historical and cultural landscape in the Nation’s Capital that includes national monuments, shrines, repositories, and related institutions that are places of pilgrimage for Americans and free of charge to the public ▪ The Institution is perceived as the embodiment of the Nation and its history and as <i>the</i> place where people can go to experience their history and culture. It should be as accessible as possible ▪ The Smithsonian was only just beginning to explore other avenues of untapped sources of philanthropic and commercial funding

Table 1. Smithsonian General Admission Fee Studies (continued)

Year	Impetus and study group	Upshot
2001	Smithsonian Business Ventures requested feasibility study of suggested admission fee system in wake of dramatic decrease in business revenues following September 11. <i>Office of Policy and Analysis</i>	<ul style="list-style-type: none"> ▪ Estimated \$32.1million (<i>suggested fee</i>) and \$43.5 million (<i>mandatory fee</i>) net revenue from admission fee + memberships ▪ A mandatory fee system would not generate enough revenue over a suggested fee system to justify additional negative effects, e.g. explicit barrier to access for lower income visitors ▪ The timing, soon after 9/11, might delay recovery from depressed visitation levels ▪ Startup and operating costs significant and uncertain; might exceed assumption of 20% ▪ Risk of harm to Smithsonian’s image. A core of visitors, staff, and members of Congress would be seriously displeased, especially given that other federal cultural institutions do not charge an admission fee
2006	Per GAO recommendation, ad hoc Committee on Facilities Revitalization explored nine funding options to address facilities backlog. <i>Office of Planning, Management and Budget.</i>	<ul style="list-style-type: none"> ▪ Estimated \$50.7 million from admission fees + \$6.9 million in new membership revenue ▪ Free admission is central to the mission of the Institution ▪ Visitors would react badly ▪ Visitation would drop and income from Smithsonian businesses would decline ▪ Admission fees penalize visitors in lower income brackets ▪ Potential for political backlash

Experience of other National Museums

In 1997, the Museums and Galleries Commission (MGC) commissioned a study of admission fee practices at national museums in the United Kingdom. (Bailey 1998). The findings about museums in Great Britain are descriptive of the patchwork of admission fee practices still found across national museums in the U.S. and other countries today:

- Wide variation in the levels of admission charges throughout the museum sector.
- Museums in general did not have well articulated charging policies; rather, admission charges were justified primarily due to financial necessity.
- Virtually all public sector museums offered reduced rates for children and students, many waiving them altogether.
- Half of national museums imposed charges for special or temporary exhibitions. In some cases, revenue generated from special exhibitions at “non charging” museums exceeded revenue generated by “charging” museums.

Table 2 summarizes the experiences of various countries with charging admission fees at government sponsored museums. A more detailed listing of museums and current charging practices is found in Appendix A.

Table 2. Charging Practices at Government Sponsored Museums

Country	Experience with Admission Fees
Australia	<ul style="list-style-type: none"> ▪ 1992 study found 50% to 80% drop in visits following introduction of fees at Australian Museum, Sydney; Powerhouse Museum, Sydney; and Museum of Victoria, Melbourne ▪ 1996. Newcastle Regional Museum in New South Wales removed fees and visit numbers quadrupled ▪ May 2000. Museum of Contemporary Art, Sydney dropped admission fee and visit count doubled ▪ Today, about half of national museums charge (e.g., Powerhouse Museum, Australian Museum) and half are free (e.g., National Gallery of Art, and Museum of Australia). Charging museums have free and/or discounted rates for members, children, seniors, etc. ▪ Most free museums charge for special exhibitions.
Canada	<ul style="list-style-type: none"> ▪ Canadian national museums charge; most offer free days
China	<ul style="list-style-type: none"> ▪ March 2008. Ceased admission charges to all national museums and provincial comprehensive museums
France	<ul style="list-style-type: none"> ▪ January 2008. Began six month experiment with free admission to 18 national and regional museums' permanent collections on one night a week for visitors ages 18 to 25 (under 18 always free)
Germany	<ul style="list-style-type: none"> ▪ German national museums charge; some offer free days
Scotland	<ul style="list-style-type: none"> ▪ April 2001 introduced free admission as result of financial support from the Scottish Executive Assembly (National Museum and National Galleries are free; other national museums charge)
Sweden	<ul style="list-style-type: none"> ▪ 2005. Removed all charges from most state and state-supported museums (most in Stockholm) and number of visits nearly doubled. ▪ January 1, 2007. Reintroduced admission charges. According to Swedish Arts Council, attendance at 19 national museums (16 in Stockholm) decreased by 40% in 2007 compared to 2006.
United Kingdom	<ul style="list-style-type: none"> ▪ Historically no admissions ▪ 1980s. Half of national museums instituted admission fees. The other half, including British Museum, Tate & National Gallery remained free. Visitation at free museums grew; it declined at charging museums. ▪ December 2001. Free entry introduced across England's national museums (owing to government financial incentives). From 2001 to 2006, museum attendance increased overall by 30% -- 83% increase at former charging museums (e.g., Victoria and Albert, National Museums, Liverpool and Museum of Science & Industry, Manchester) and 8% increase at "always free museums." (DCMS 2006)
United States	<ul style="list-style-type: none"> ▪ National museums and cultural institutions in Washington DC (e.g., Smithsonian, National Gallery of Art, Holocaust, Archives, Library of Congress) and monuments maintained by National Park Service historically free. The National Aquarium (Dept. of Commerce) in Washington, DC charges nominal general admission with discounts
Wales	<ul style="list-style-type: none"> ▪ April 2001 introduced free admission as result of financial support from the Welsh Assembly (all national museums are free)

Three Assumptions

Much of the literature on museum admission charges questions three common assumptions:

1. *Charging or not charging is an all or nothing proposition (free admission vs. compulsory fixed charges)*

Only a minority of museum visitors pay the full rate for admission. A useful framework in thinking about admission charges is “who pays what, when and how?” (Bailey and Falconer, 1998). Likewise, O’Hagan describes various pricing systems. (O’Hagan, 1995).

- No entrance fee + no donation box
- Voluntary entrance fee/donation box: no stipulated level of donation
- Voluntary entrance fee/donation box: suggested level or range of donations
- No entrance fee; charge for special exhibitions and programs
- Mandatory, fixed entrance fee with reduced rates for certain categories, e.g., children; school groups; elderly; members; frequent user/family/group passes; other discounts, e.g., AAA; local residents; free admission on certain days/weeks.³

2. *Imposition of an attendance charge will result in lower visitation; conversely removing charges results in higher visitation*

Evidence of the effect of admission fees on the level, patterns, and duration of attendance at national museums is inconclusive. A fall in numbers after introduction of charges may be compensated for by an increase in the duration of visits. Conversely, more visits after lifting admission fees might be attributed to shorter repeat visits. (O’Hagan, 1995; Falconer and Blair, 2003).⁴

Studies show that quality characteristics are much more important influences on demand than price. (Kirchberg, 1998). UK museum managers were cautious about the government’s assertion of a positive link between removal of general admission in 2001 and an increase in visit numbers – they maintained that free admission was one of several factors including opening of new exhibitions; improvements to museum buildings; and improved transportation links making museums more accessible. (Falconer and Blair, 2003).

In terms of access (as differentiated from on-site visits) some would argue that a general admission fee actually improves access if receipts are used to keep the

³ Free admission to the Louvre obtains to visitors under the age of 18; unemployed individuals and visitors receiving benefits (proof of entitlement required, dated within the last six months); disabled visitors and their guests or helpers; teachers of art, art history, and the applied arts (valid proof required); and artists affiliated to the Maison des Artistes (in France) or the AIAP (Association Internationale des Arts Plastiques). In addition, admission is free for visitors under the age of 26 every Friday from 6 p.m. to 9:45 p.m. (except for exhibitions in the Hall Napoléon).

⁴ In addition, practices of recording number of visits may vary between museums that charge and free museums, i.e., charging museums may not count members; free museums may over count due to staff entering the museum.

museum open longer hours, improve outreach efforts, or add educational interpretation that makes the material more accessible. (Bailey and Falconer, 1998).

3. *Charging for admission will result in a disproportionate decrease in attendance by lower socio-economic groups.*

Various survey studies reveal that reasons such as lack of interest and lack of time are more important “barriers to access” than admission charges. The decision to participate is a matter of lifestyle and not driven by the level or existence of an entrance fee. (Falconer and Blair, 2003). For the DE social classes⁵ – the prime target for the UK Department of Culture Media and Sport’s inclusion strategies – 11% cited “Admissions charges are too high” as a reason for not visiting. Top reasons were “Not interested” (27%); “No time/too busy” (20%); and “Nothing in particular I want to see” (20%). (MORI, 2004)

Other studies, notably a 1995 survey in Germany, do demonstrate that the variables of income, education, and occupational status have a combined impact on the assessment of price as a barrier to museum attendance – people in the lowest income bracket were five times as likely to regard entrance fees as a barrier as people in the highest income bracket. (Kirchberg, 1998).

As a result of the UK Government’s policy to enable free access to its sponsored museums, the number of visits from people of lower socio-economic groups rose from 5.4 million in 2002-2003 to 6.5 million in 2004-2005, an increase from 16% to 18% of total visits. (DCMS, 2007).

⁵ D = Working class, semi and unskilled manual workers comprising 16.9% of the population and E = those at the lowest levels of subsistence, e.g., state pensioners with no other earnings comprising 11.7% of the population.

The Case For and Against Charging

Table 3 summarizes the most prevalent financial, economic, ideological, political and practical arguments for and against charging a general admission fee found in Smithsonian and other reports and the academic literature.

Table 3. Arguments For and Against Instituting a General Admissions Fee

<i>Social equity and ideological</i>	<i>A general admission fee would be an additional financial barrier for visitors, although effects could be mitigated somewhat</i>
Arguments against charging	<ul style="list-style-type: none"> ▪ National collections belong to the citizens and should be available to them without charge. Charging admission contradicts the notion of inclusion. ▪ Free admission enables the widest public access. Admission charges are a potential barrier to participation of lower income individuals and families. ▪ The Smithsonian and most other national museums (e.g., NGA, Holocaust), monuments and cultural institutions (e.g., National Archives, Library of Congress) in Washington DC have traditionally been free ▪ Charging for admission might encourage more emphasis on entertainment and commercialism and less on education and cultural enlightenment.
Arguments for charging	<ul style="list-style-type: none"> ▪ User-pay notion where direct users/ beneficiaries of Smithsonian museums and Zoo pay a larger share of the cost. ▪ Through price variability, i.e., discounts or free admission for certain visitor groups (e.g., children, students) and specified free days, museums can provide access to those for whom the admission fee is a barrier ▪ Museums are disproportionately attended by the affluent; charging is a way of mitigating this inequality ▪ Admission charges can be used to promote physical and intellectual access: <ul style="list-style-type: none"> ○ Finance longer operating hours and outreach programs (e.g., SI exhibitions in affiliate museums and community sites) ○ Pay for more education/interpretation staff to serve visitors

Table 3. Arguments For and Against Instituting a General Admissions Fee (continued)

<i>Financial</i>	<i>A general admission fee would be a source of unrestricted revenues, but with the possible loss of philanthropic contributions and sales in museum stores and restaurants</i>
Arguments against charging	<ul style="list-style-type: none"> ▪ The amount of revenue that could be collected from a general admission fee could be more effectively and efficiently obtained from other sources ▪ Philanthropic contributions might drop due to disaffected donors ▪ Startup costs of admission booths and cost of administering admission fee program ▪ Reduced sales in stores and restaurants and for auxiliary services/activities (e.g., IMAX, simulators) due to decreased visitation and/or unwillingness to pay more above admission (Approx. ¼ of visitors said they would spend less in 2001 OP&A survey) ▪ Revenues from new memberships are offset by loss in revenues due to store discounts ▪ Increased revenues from alternative sources could lead to offsets in Federal funding (but note, Congress stressed no offset policy with 1996 Recreation Fee Demonstration Program with National Park Service and Forest Service)
Arguments for charging	<ul style="list-style-type: none"> ▪ Institution generated and controlled stream of unrestricted revenues from admissions to address critical funding shortfalls ▪ Increased memberships with benefit of free admission ▪ Increased sales in stores and restaurants and for auxiliary services/activities (e.g., IMAX, simulators) with longer visits ▪ Allows establishment of promotional packages with travel industry partners ▪ Sponsorship opportunities for free days, e.g. Target sponsorship of free admission to CHNDM during National Design Week ▪ Shorter visits and greater numbers (with free admission) mean greater maintenance costs due to wear and tear on facilities and extra staff to cope with crowds

Table 3. Arguments For and Against Instituting a General Admissions Fee (continued)

<i>Economic</i>	<i>The demand for museum visiting is generally inelastic.</i>
Arguments against charging	<ul style="list-style-type: none"> ▪ National museums are a public good (i.e., contribute to sense of national identity and belonging) that should be paid for out of general taxation. Charging admission to a federally-financed public institution could be perceived as a double tax on visitors. ▪ Visitors to Washington, DC might visit other free national museums and monuments rather than come to SI ▪ Decrease in visitation could be substantial. Other national museums, e.g., in the UK and Sweden, have experienced drops in attendance after instituting admission charges, and increased attendance after removing them.
Arguments for charging	<ul style="list-style-type: none"> ▪ Imposing a charge will not substantially reduce the number of visitors (low price elasticity of demand) because there are no close substitutes to iconic objects in SI collections – you cannot see the Hope Diamond, Washington’s uniform, etc. elsewhere. ▪ Admission charges as a proportion of total vacation budget is very small, therefore out of town visitors are less sensitive to price. 75% of SI visitors are not local and have budgeted for the trip; it is unlikely that an admission fee would be a factor in the decision to visit. ▪ Presumably would not deter most SI visitors because they can afford an admission fee based on their demographics ▪ Per December 2001 OP&A survey, 2 out of 5 first-time visitors to the Smithsonian expect to pay for admission

Table 3. Arguments For and Against Instituting a General Admissions Fee (continued)

<i>Political and legal</i>	<i>General admission charges could generate negative reactions although user fees have been approved for recreational use of national parks and forests</i>
Arguments against charging	<ul style="list-style-type: none"> ▪ Adverse public reaction and negative media publicity could damage public image. ▪ Political opposition from some in Congress, e.g., objection to fees for special exhibitions; H.R. 5424 Smithsonian Free Admissions Act. ▪ Four SI museums—NPG, HMSG, NMAfA, and FGA—are prohibited from charging admission by statute, wills, or bequests. Could result in public confusion and irritation at being charged at some museums and not others, especially where museums with and without restrictions share building (NPG/SAAM and NMAfA/FSG/Ripley Center).
Arguments for charging	<ul style="list-style-type: none"> ▪ Some members/officials in Congress and Administration have encouraged examination of admission fees. ▪ User fees for federal recreation (e.g. National Park Service and US Forest Service) are generally accepted as means to address deferred maintenance. ▪ Strong indicator to Congress that SI is trying to overcome funding shortfall problems, in particular as relates to facilities maintenance backlog. ▪ Admissions fees will not be seen as a negative by stakeholders if well communicated that they will be used to improve services, e.g., longer hours, more outreach, more educational interpretation.

Table 3. Arguments For and Against Instituting a General Admissions Fee (continued)

<i>Behavioral and practical</i>	<i>Facility modifications would degrade museum aesthetics although services may be more visitor centered</i>
Arguments against charging	<ul style="list-style-type: none"> ▪ Physical space changes to accommodate admission fee program (e.g., ticket sales, admission counter) would impact traffic flow, security/crowd control and museum aesthetics ▪ Visitors can come back as many times as they like and explore as much of the museum as possible. (But note this would hold true for members and those visiting at a free time <i>with</i> admission charges.) Charging for admission changes the orientation from casual and repeatable (much like a library) to an occasion.
Arguments for charging	<ul style="list-style-type: none"> ▪ More audience-centered operations: imposition of charges may make museum staff more accountable and responsive to the “customer” ▪ Increased perception of value: when visitors pay they may value the visit more than if it were free. ▪ More engagement by visitors and less transient time in exhibitions. For example, in study of <i>Amber</i>, on average visitors spent 25% more time in exhibition with admission fee (ISO, 1997). ▪ Reduction in number of itinerant visitors who come in, e.g., to cut through the building or use the bathrooms ▪ Congestion costs of museums with free access may negatively impact the value of the museum visit

Estimating the Revenue Effect of Admission Charges

Appendix B contains a detailed description of the steps and considerations used to estimate the range of possible revenues from different charging schemes. In short, the exercise includes:

- Estimating the number of visitors who will pay an admission fee
- Estimating gross revenues from admission fees based on a table of charges and fee levels to demographic groups
- Estimating the net admissions revenue by subtracting annual operating costs and amortized costs of start-up from the estimated gross revenues
- Estimating the effect of admission fees on other streams of revenue
- Applying a cost deflator such as the Consumer Price Index (CPI) for comparison across years

Table 4 shows the types and levels of charges and demographic groups considered in the prior six Smithsonian studies.

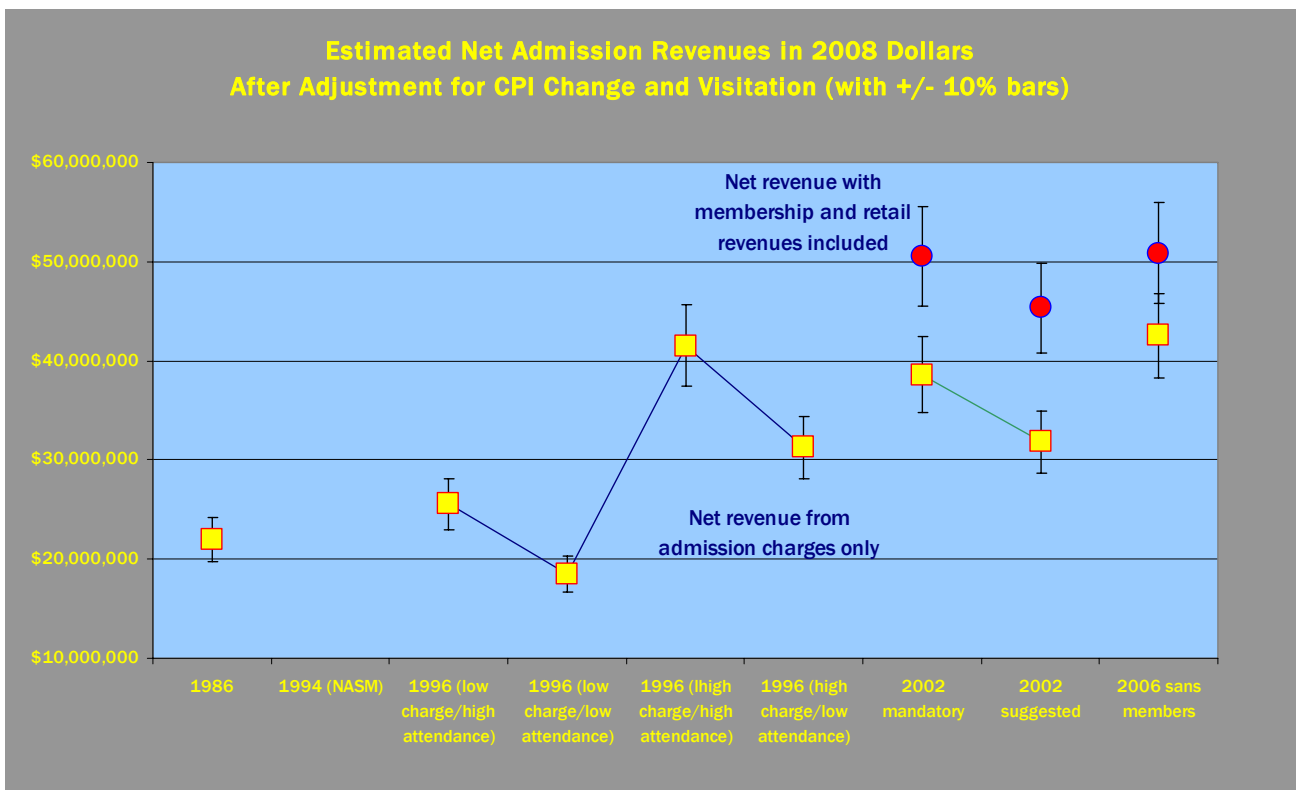
Table 4 Admission Fees by Study

Visitor Characteristic	1954	1986	1994 NASM	1996 (low)	1996 (high)	2002	2006
5-day pass full	-	\$4.00	-	-	-	-	-
5-day pass reduced	-	\$3.00	-	-	-	-	-
7-day pass full	-	-	-	\$5.00	\$7.00	*	-
7-day pass reduced	-	-	-	\$4.00	\$6.00	*	-
Regular	\$0.25	\$2.00	\$1.00	\$2.00	\$3.00	\$10.00	\$10.00
Discount	\$0.10	\$1.50	\$0.50	\$1.50	\$2.50	\$7.00	\$7.00
Child	-	free	free	free	free	free	free
School group	-	free	free	free	free	free	free
Tour group	-	-	\$0.50	-		\$3.00	\$3.00
Member	-	free	\$0.50	free	free	free	free
Free days	-	2/mo.	-	2/mo.	2/mo.	-	-
Affiliate members	-	-	-	-	-	-	50%

* Fees covered the entire visit that could be multi-day.

The estimated amounts of revenue depend on the level of admission fees and projected attendance. When the estimates in the previous studies are compared using constant dollars and identical visit count expectations, the estimates are remarkably consistent. In 2008 dollars and adjusted to 27 million visits, the estimates of net revenues from admission fees arrived at in Smithsonian studies (excluding the 1994 pilot study of NASM only) range from a low of \$18.4 million to a high of \$50.8 million (taking into account purchases of new memberships and estimated net effects on income from auxiliary business operations such as stores, restaurants, IMAX theaters, etc.) (See Chart 1.)

Chart 1 Estimated Net Admission Revenues in 2008 Dollars



Conclusion

The dilemma of whether or not to charge for admission to a national museum is echoed in the area of public recreation fee policy:

“There has been a pervasive impulse to depend upon a strictly economic paradigm to answer public lands fee and pricing questions though there are huge social science issues of equity, public trust, government subsidies for public goods, and fair pricing that extend beyond traditional economic models.” (Watson and Herath, 1999).

Arguing for free art museums, Smith describes the intangible worth of museums that is not easily monetized or quantified. (Smith, 2006):

“While the art world often wonders out loud if art can change society, it seems fairly certain that museums can. They put us in touch with the world and its history. They reveal to us our own feelings, talents and capacities, shaping our idea of what we can become. They give us the visual equivalent of things sorely needed today: an understanding of difference, and therefore, of tolerance.”

As outlined above, the arguments and counter arguments to implementing a precedent setting general admission charge at the Smithsonian have been extensively deliberated on at least six occasions in the Institution’s recent history. In the final analysis, the intangible advantages to the Institution of maintaining its policy of not charging, together with economic and financial considerations that would reduce net return from admission charges, far outweighed the potential financial or other gains, even in times when the Institution was facing severe funding shortfalls and uncertain economic climates.

Ultimately, the Smithsonian has decided that the social equity of not placing any additional financial barrier on access by all Americans is more important to the Institution than benefits that might accrue from revenues resulting from a policy of charging general admission fees.

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Appendix A: Admission Fee Practices of National Museums outside the U.S. (Fees in currency of country)

Country	Museum	Free General Admission	Member	Family	Domestic-Adult fee	Domestic-Child fee	Free child	Domestic-Pensioner fee	Special exhibition charge
Australia	National Gallery of Art	Free							Yes
	National Gallery of Victoria	Free							Yes
	National Portrait Gallery		Free	5	2	1		1	
	National Museum of Australia	Free							Yes
	National Science and Technology Centre		Free	49	18	11.5	Under 5	13	
	Powerhouse Museum		Free	25	10	5	Under 14	6	
	Australian Museum		Free	25	10	5	Under 5	5	Yes
Canada	Canadian Aviation Museum		Free	14	6	3	Under 4	5	
	National Gallery of Canada		Free	18	9	5	Under 12	7	Yes (includes admission)
	Canada Science and Technology Museum		Free	18	7.5	3.5	Under 4	5	
	Canadian Museum of Civilization	Some days	Free	25	10	6	Under 3	8	Yes
	Canadian War Museum	Some days	Free	25	10	6	Under 3	8	
	Canadian Museum of Nature	Some days	Free	13	5	5	Under 3	5	
China	National Museum of China	Free							
Denmark	National Museum of Denmark	Free							

Appendix A: Admission Fee Practices of National Museums outside the U.S. (continued)

Country	Museum	Free General Admission	Member	Family	Domestic-Adult fee	Domestic-Child fee	Free child	Domestic-Pensioner fee	Special exhibition charge
France	Centre Pompidou	First Sunday	Free		10 or 12		Under 18 (normally 13)	8 or 9	
	Museum of Air and Space	Free					Under 18		
	Museum of Natural History (Gems and Minerals)		Free		7	5		5	
	Museum of Natural History (Zoological Park)		Free		5		Under 4		
	Museum of Natural History (Museum of Man)		Free		7	5	Under 4	5	
	Museum of Science and Industry				11	8	Under 7	8	
	Les Invalides		Free		8	6	Under 18	6	
	Louvre	First Sunday	Free		9 or 6		Under 18		Yes
Germany	German Museum of Technology				4.5	2.5		2.5	
	Germanisches Nationalmuseum			9	6	4			
	Deutsches Museum		Free	17	8.5	3	Under 6	7	
	Pinakothek der Moderne	1 on Sundays	Free		9.5	6	Under 18	6	

Appendix A: Admission Fee Practices of National Museums outside the U.S. (continued)

Country	Museum	Free General Admission	Member	Family	Domestic-Adult fee	Domestic-Child fee	Free child	Domestic-Pensioner fee	Special exhibition charge
Japan	National Museum of Ethnology (MINPAKU)	Some days	Free		420	250 or 110			Yes
	Tokyo National Museum	Some days	Free		600		High school	Free (over 70)	Yes
	Kyoto National Museum	2nd & 4th Saturdays	Free		500	400	Middle school	Free (over 70)	Yes
	National Museum of Art, Osaka		Free		420	130	Under 19	Free (over 65)	Yes
Scotland	National Museum	Free							
	National Galleries Scotland	Free							
	National War Museum	Free with Edinburgh Castle (EC)	10%		11 (EC)	5.5 (EC)	Under 5 (EC)	9 (EC)	
	National Museum of Costume		Free		3		Under 13	2	
	National Museum of Rural Life		Free		5		Under 13	4	
	National Museum of Flight		Free		8.5	2 (12 and under)		6.5	
Sweden	National Museum		Free		100		Under 19	80	

Appendix A: Admission Fee Practices of National Museums outside the U.S. (continued)

Country	Museum	Free General Admission	Member	Family	Domestic-Adult fee	Domestic-Child fee	Free child	Domestic-Pensioner fee	Special exhibition charge
United Kingdom	British Museum	Free							Yes
	Imperial War Museum	Free							Yes
	Imperial War Museum Duxford		Free		16	12.8	Under 18	Several	Yes
	National Gallery	Free							Yes
	Tate Modern	Free							Yes
	Victoria and Albert	Free							Yes
	Natural History	Free							Yes
	Science Museum	Free							Yes
Wales	National Museum, Cardiff	Free							
	St. Fagans: National History Museum	Free							Park 2.5
	Big Pit: National Coal Museum	Free							
	National Wool Museum	Free							
	National Waterfront Museum	Free							

Appendix B: Estimating the Revenue Effect of Admission Charges

1. Estimate the number of visitors who will pay an admission fee
 - a. Specify the base visitation count. In the case of Smithsonian museums, visit counts are based on hand-counts by security officers of all persons exiting or entering through a building door. In the case of the National Zoo, in recent years visit counts are estimated as a percentage of a hand-count of persons exiting the Giant Panda exhibit. The Zoo has never reported hand-counts of entering or exiting visitors like other Smithsonian facilities. Hand-counts are inaccurate since some exiting persons are employees, contractors, itinerant visitors using restrooms or passing through a building to get to the other side, and those who enter to eat or shop, but not visit exhibits. In the case of four Mall venues (Freer Gallery, Sackler Gallery, Ripley Center, and African Art), it is possible for a visitor to visit all four venues, but be counted only once. Some visitors enter and exit the same venue more than once during a specific visit. All studies have decreased the number of visits reported by the Office of Protection Services by careful guesstimates to account for over-counts.
 - b. Smithsonian Mall museum visitors have typically visited more than one venue on a visit. Based on previous research, the typical Mall visitor will visit between 2.5 and 3 venues. Additionally, some visitors will visit more than once over the year. The number of unique visitors is significantly lower than the reduced visitor count mitigating the effect of over-counting.
 - c. The composition of the Smithsonian visitor population is estimated using a combination of statistics from visitor surveys and guesstimates of persons not included in visitor surveys, e.g., school groups and organized tour groups for which the Smithsonian has never reported official statistics.
 - d. All studies except the 2002 study used gross demographic categories. The 2002 study used visit group composition and residence to estimate annual revenues.
2. Estimate gross revenues from admission fees
 - a. Establish a table of charges: full, reduced (one or more level), and free.
 - b. Assign fee levels to demographic groups, e.g., members are free, adults pay the full fee, seniors and students pay reduced fees, children and school groups are free, tour groups pay a reduced fee, visitors on free days, etc.
 - c. Some visitors, faced with an unexpected admission fee, may choose to not visit at all or visit on a free day if available. Studies have reduced the number

of visitors by the rejection rate or incorporated them into free day attendance if available.

- d. To estimate the gross admission revenue, multiply the percentage of visitors (from 1c) by the estimated number of visitors by the fee that that group will pay.
3. Estimate the net admissions revenue by subtracting amortized estimated costs of start-up (building fee booths, purchasing equipment, etc.) and annual operating costs (personnel, supplies, charge card services, etc.) from the estimated gross revenues.
 4. Estimate the effect of admission fees on other streams of revenue.
 - a. Some visitors who pay an admission fee will spend less on auxiliary retail services in museums (stores, IMAX theaters, simulators, food services, etc.).
 - b. Some visitors will purchase a Smithsonian membership instead of paying an admission fee. Those visitors will probably be admitted free on later visits during the year.
 5. The total effect of admissions fees on the Smithsonian's income is the net revenue adjusted by increases or decreases associated with the sales of memberships and use of auxiliary services during visits. Early studies did not include revenues from new memberships.
 6. For comparison across years, net revenues and total effects can be estimated by applying a cost deflator such as the Consumer Price Index (CPI). Differences between years are due to slight differences in estimated demographics and reductions for over-counts.