

# The Economics of Museums

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## 1. Introduction

Museums are more important than ever before. They play a substantial role in people's leisure activities and belong to one of the most important tourist attractions. Substantial amounts of money are spent in museums, both in terms of entrance fees and in expenditures in museum restaurants and shops. The visitors have a strong effect on the local economy, especially in tourist locations. Not surprisingly, therefore, more and more museums are being founded, usually in spectacular new buildings.

There are many different types of museums. It is useful to distinguish four aspects: *Content*. Most important are art works, historical artefacts and scientific objects. But some museums focus on a number of other exhibits of general and sometimes very specific interest; *Size*. Some museums take up a huge amount of space, employ a large number of staff and have many thousands of visitors per day; others are of local interest only, are small, have very restricted opening hours,

are run by amateur staff, and have few visitors; *Age*. There are museums with a long and distinguished history, while others are new foundations; and *Institutional form*. Traditionally, most European museums have been public museum, even forming part of the normal government administration. But there have always been private museums. Most museums lie somewhere in between public and private. Thus, for instance, almost all private museums receive some form of government subsidy, often in the form of contributions made by donors and exempt from taxes.

However, all museums share some particularities and similar functions.<sup>1</sup> This survey analyses all the different kinds of museums, and points out where differences in the above mentioned aspects are crucial for the analyses of the specific museums.

The term “Economics of Museums” may be understood in two different ways:

Museums may be looked at as an *economic unit*, or as a firm providing certain services. An analysis can then be made of the relationship between the input (exhibits, manpower etc.) and output (in terms of revenue). Moreover, the effect of museums on the economy is analysed, e.g. how much employment and how much added value is created in other sectors.

*The economic approach to thinking* is applied to the case of museums: individuals are assumed to pursue their utility within the constraints imposed by institutions and the environment, especially where scarce resources are concerned. This methodology has been applied to many different areas, such as politics, law, history, sports, or religion (see Becker, 1976; Frey, 1999; Lazear, 2000). The economics of museums thus clearly distinguishes itself from other approaches to studying museums, in particular the sociology of museums or the art historic points of view (e.g. Bourdieu, 1979; Moulin, 1986; DiMaggio, 1986; Foster and Blau, 1989; Blau, 1995).

The economic approach to museums may rely on *standard* or rational choice theory (neo-classical economics). Individuals are then assumed to be completely rational and selfish, and the analysis focuses on well functioning market relationships. With respect to institutions, in the context of museums it is crucial to go beyond the market. *Political economy* (public choice)

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<sup>1</sup> A museum might have five different functions: to collect, to conserve, to study, to interpret and to exhibit (see Noble, 1970). At the end of the 80s, these five activities were condensed into three: Preservation, Research and Communication (see Weil, 1990a). Ginsburgh and Mairesse (Ginsburgh and Mairesse, 1997) look empirically at the mission statement of Belgian museums and propose an alternative definition of a museum.

analyses the behaviour of governments and public administrations. These political actors greatly affect museums through their subsidies and taxes, but also through a web of regulations.

The Economics of Museums has been the topic of a number of publications (e.g. Montias, 1973; Peacock and Godfrey, 1974; Feldstein, 1991; Bayart and Benghozi, 1993; Frey, 1994; Martin, 1994; Robbins, 1994; O'Hagan, 1995; 1998b; Johnson and Thomas, 1998; Schuster, 1998a; 1998b; Benhamou, 1998; Meier and Frey, 2003; Weil, 2002). It has been treated in more general surveys (Throsby, 1994; Blaug, 2001), monographs and textbooks (see Frey and Pommerehne, 1989; Frey, 2000; Heilbrun and Gray, 2001; Benhamou, 2000; Throsby, 2001) and readers (Blaug, 1976; Peacock and Rizzo, 1994; Ginsburgh and Menger, 1996; Towse, 1997) of the Economics of Culture. Early contributions in German are Kindermann (1903) and, in English, are Robbins (1963; 1971), Baumol and Bowen (1966) and Peacock (1969).

This survey proceeds by looking first at the demand and supply side of museum services. Museum behaviour is analysed from a neoclassical and then from a more institutional perspective. The institutional approach is used to analyse behaviour in three important museum activities: the management of their collection, questions to do with pricing and decisions to provide ancillary services. The last section discusses current trends in the museum world from an economic point of view.

## **2. Demand for Museums**

There are two types of demand for museums. The first is the *private demand* exerted by the *visitors*. These may be persons interested in the exhibits as a leisure activity or as part of their profession as an art dealer or art historian. The second type of demand comes from persons and organisations benefiting from a museum, but not expressing their demand at the cashier's office. This *social demand* is based on external effects and/or the effects of art organisations on other economic activities.

### *2.1. Private Demand*

By far the largest number of museum visits can be attributed to leisure time activity; the specialists play a relatively minor role and can therefore be neglected here.

The number of visits can be analysed by a traditional *demand function*, capturing the major factors determining the number of visits in any given period of time. Its characteristics can be determined by maximising individual utility functions subject to budget and time constraints. Its features can be empirically measured by using the data on museum visits and the factors included in the demand function, normally by using a multiple regression analysis.

There are three major determinants related to *prices* or *costs*:

- *Entrance fee*. Together with the number of visits, it determines the respective revenue.<sup>2</sup> The price elasticity indicates by how many percent the number of visitors decreases when the entrance fee is raised by a given percentage. Econometric estimates for a large number of different museums in different countries suggest that the demand for museum services is price inelastic. However, most studies are limited to case studies of one or two museums. Goudriaan (1985) found an average price elasticity of  $-0.1$  to  $-0.2$  for four Dutch museums. Darnell (1992) found a higher elasticity of  $-0.55$  for one particular museum in Great Britain. Luksetich and Partridge (1997), using data from the *1989 Museum Survey*, estimate demand functions for different types of museums. Their estimated price elasticity ranges from  $-0.12$  to  $-0.26$ , depending on the type of museums. Zoos, science museums and natural history museums show the largest price sensitivity, probably due to stronger competition from other leisure pursuits. The elasticity for art museums is  $-0.17$ . Overall, the low price elasticities suggest that museums can increase their revenues significantly by raising admission fees.
- *Opportunity cost of time*. This indicates what alternatives visitors have to forgo when visiting a museum. In order to measure the monetary value, one must identify how much additional income could have been gained during that period. For persons with high income and a potentially high number of working hours (often self-employed), the opportunity cost of time is higher than for people of low income and fixed working hours. The latter are therefore expected to visit museums more often, all other things being equal. The opportunity cost of a museum visit not only depends on the time actually spent in the museum, but also on how

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<sup>2</sup> Apart from the question how sensitive the demand is to increases in price, there is a large discussion about the effect of an entrance fee. For a general discussion about the question of charging, see O'Hagan (1995). Been et al. (2002) summarise the empirical research on the effect of free admission on attendance.

much time is required to get to the museum, i.e. the location, the parking facilities etc. For tourists, the opportunity costs of time tend to be lower than for local inhabitants, because they often go to a city with the explicit purpose of visiting the respective museums. Econometric estimates find no clear pattern between income and attendance (Luksetich and Partridge, 1997). This is in line with Gapinski's (1986) findings for the lively arts. The increased opportunity costs of time for wealthy persons attending art performances is offset by a positive income effect. One has to separate the two effects to find a positive income and a negative opportunity cost effect on demand (see Withers, 1980 for estimations for the performing arts).

- *Price of alternative activities.* These are, most importantly, substitute leisure activities, such as other cultural events (theatre, cinema), sports, dining out in a restaurant, time spent with friends at home etc. Even within the industry, a particular museum may constitute a substitute for another museum. The higher the price of such alternatives, the higher is museum attendance, *ceteris paribus*. But complementary costs also systematically influence the number of museum visits. The costs incurred through travel, accommodation and meals are important. The higher the costs are, the lower is the rate of museum visits, *cet. par.* These complementary costs constitute a high percentage of the total costs of a visit: more than 80 percent (Bailey et al., 1998). Cross-elasticities have proved to be empirically significant for the arts (see Gapinski, 1986; 1984 for estimations for the performing arts). Estimations of demand functions for museum services, which incorporate such variables, are still missing.

*Income* is another "classical" determinant of the demand for museum visits. Econometric estimates reveal an income elastic demand, i.e. increasing real disposable income favours museums (see e.g. Withers, 1980). Persons with higher income can better afford to cover the costs associated with museum visits. However, opportunity costs rise with income, as discussed above. Estimates of income effects are therefore often ambiguous. Another important factor is the high correlation between income and *education*. Better educated people have the human capital necessary to more fully enjoy museums than people with lower education (for the influence of art lessons on museum visits, see Gray, 1998). This factor plays a major role for museums of (modern) art and history, but plays a minor role for museums of science and technology, especially for museums of transport (railways, cars, or space travel).

There are many *other determinants* that must be included in a well-specified museum demand function.<sup>3</sup> One is, of course, the quality of the collection or special exhibition mounted. Luksetich and Partridge (1997) estimate that the value of the collection increases attendance figures, especially for art museums. Or, as Oster and Goetzmann (2001: 9) state: “In fundamental terms, these results suggest that art matters.” Other determinants for visits are the attractiveness of the building, the level of amenities provided by a museum, i.e. the general atmosphere, the extent of congestion in front of the exhibits, the cafés and restaurants, and the museum shop. The marketing efforts made by a museum are also important, especially through using systematic and eye-catching advertising.

A final determinant of the frequency of museum visits is individual preferences. They are difficult to measure independently. Econometric studies of museum demand functions often indirectly capture them by introducing past visits as a determinant. In all empirical estimates, this factor proves to be highly significant and large: persons who visited museums in the past are more likely to do so in the present and future. Visits to museums can therefore be characterised as an ‘addictive’ good.

## 2.2. *Social Demand*

Museums affect people not actually visiting the museums. These benefits cannot be captured by the museums in terms of revenue.

### 2.2.1. **External Effects**

Museums create *social values*, for which they are not compensated in monetary terms. As a consequence, the decision-makers in museums tend not to produce these values, or not enough. Five types of such external effects may be conveniently distinguished:

- *Option value*. People value the possibility of enjoying the objects exhibited in a museum sometime in the future.

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<sup>3</sup> A number of studies analyse visitor surveys in museums to characterise their visitors (see e.g. Dickenson, 1997) and to measure the value a visitor gets from their visit (Ashworth and Johnson, 1996).

- *Existence value*. People benefit from knowing that a museum exists but do not visit it themselves now or in the future.
- *Bequest value*. People derive satisfaction from the knowledge that their descendents and other members of the community will in future be able to enjoy a museum if they choose to do so.
- *Prestige value*. People derive utility from knowing that persons living outside their community cherish a museum. They themselves need not actually like the museum, nor even visit it.
- *Education value*. People are aware that a museum contributes to their own or to other people's cultural heritage and therefore value it.

This list of “*non-user benefits*” indicates that museums may indeed provide many social values for which they are not compensated by revenue. Museums may also produce negative external effects, the costs of which are carried by other persons. An example would be the amount of congestion and noise museum visitors inflict on a community.

The non-user benefits and costs have been empirically measured by using three different techniques:

- An obvious possibility is to conduct *representative surveys* of both visitors and non-visitors of a museum. The questionnaires have to be carefully designed in order to elicit the true willingness to pay for the various social values provided by a museum. In particular, the persons surveyed have to be faced with trade-off questions, making clear to them what other goods and services have to be given up in order to provide these non-user effects. *Contingent Valuation Studies* are highly suitable. They were first developed to capture environmental values, but have done well to capture cultural values (see, for example, Martin, 1994; the extensive empirical literature is surveyed in Noonan, 2002, and for a critical discussion from a behavioural point of view, see Sunstein, 2002).
- Another technique relies on the *revealed behaviour* of individuals. The value of a museum for the non-visitors is captured by observing how they act. One well-developed procedure is to estimate how much property increases in value in a city containing a museum. The idea is that people are willing to pay more for a house or apartment situated in a location with a

museum, compared to an equivalent house or apartment in a location without such a museum. In order to isolate the induced increase in property values, other influences on property prices have to be controlled for. This can be achieved by running carefully specified multiple regressions. The same “compensating variation” can be computed by analysing wages. The idea here is that persons are willing to work for lower compensation in a location housing a museum. Again, the many other determinants of wages have to be controlled for in order to be able to isolate the monetary effect of having a museum. The compensating variation method has been used, for example, by Clark and Kahn (1988).

- A third technique to capture social values is to analyse the outcome of *popular referenda* on expenditure for museums. In Switzerland, with its many referenda, this approach has been successfully used to identify option, existence and bequest values of buying two paintings by Picasso for a museum (Frey and Pommerehne, 1989, chapter 10). In the case of the performing arts, Schulze and Ursprung (2000) have analysed a referendum in Switzerland to gauge the amount of support for the opera house in Zurich. They could also identify external effects.

### **2.2.2. Effects on Markets**

Museums produce *monetary values* for other economic actors. They create additional jobs and commercial revenue, particularly in the tourist and restaurant branches. These expenditures create further expenditures (e.g. the restaurant owners spend more on food) and a multiplier effect results. *Impact studies* (see e.g. Seaman, 1997; 2002, and for two special exhibitions, Wall and Roberts, 1984) measuring the additional market effects created, are popular with politicians and administrators, because they provide them with reasons for spending money on museums. However, these studies have to be interpreted carefully:

- Impact studies tend to focus on the wrong issue. The *raison d'être* of museums is to produce the unique service of providing a certain type of cultural experience to its visitors, as well as providing the non-user benefits discussed above.
- A museum's task is *not* to stimulate the economy; there are generally much better means to achieve that goal. For example, a theme park or an exhibition of industrial machinery may be much better in stimulating the economy. If one follows the line of argument of impact

studies, one would have to give preference to whatever expenditure leads to more economic stimulation.

### **3. Supply of Museums**

The production of museum services shows some peculiarities. In the following, we look at the cost structure, discuss how cost may vary with output and finally analyse the variety of organisational forms of museums.

#### *3.1. Cost Structure*

Museums have a cost structure which differs from other firms in the service industry and which explains some of their distinctive features. Museums have (i) high fixed costs and low variable costs. This leads to a diminishing average cost curve. (ii) The marginal cost of a visitor is close to zero. Efficient pricing close to marginal cost therefore never covers the costs involved. (iii) The costs of museums have a dynamic component which is disadvantageous for the enterprises. Due to a productivity lag, museums, like most cultural organisations, face constantly increasing costs over time. (iv) Opportunity costs constitute a substantial part of the costs of a museum. The exhibits of a museum generate high opportunity costs, but are seldom taken into account by the museum. For data about the financial aspects of museums in the United States, see Rosett (1991).

(i) *High fixed costs.* Museums in general operate with considerably high fixed costs: buildings, collection, staff, insurance, technical outfits etc. cannot be varied in the short run. Independent of the output (e.g. numbers of visitors or numbers of exhibitions), the costs of running a museum remain the same. Moreover, the costs for the acquisition of paintings increased when the art market prices exploded in the 80s. The insurance premiums for paintings rose accordingly. High fixed costs have consequences for the structure of the museum organisation and the pricing of the services they produce. Because variable costs, which vary with the output produced, constitute a relatively small fraction of the total costs, museums face decreasing unit costs.

(ii) *Marginal costs are close to zero.* To determine how much should be produced, the marginal costs of a museum constitute crucial economic information. They indicate how costs vary with output.

The cost of an additional visitor is close to zero most of the time.<sup>4</sup> If a museum sets up an exhibition, the basic operating costs are for opening the museum on a particular day. When more people visit the museum, the fixed component can be divided by an ever increasing quantity. Average costs therefore decrease. This decreasing average cost curve has consequences for the production of the museums service – depending on the demand curve. When the demand of visitors is sufficiently high, such an industry could earn monopoly profits. But this would be inefficient as the price – which reflects the marginal utility to consumers – is above the marginal cost. But then demand is frequently insufficient; the demand curve lies below the average cost curve and there is no price where costs would be covered.

However, there are situations where marginal costs are not zero. At so-called ‘blockbuster’ exhibitions, an additional visitor imposes costs on other visitors. Such congestion costs can be substantial, which suggests that in this case pricing should be used to ration demand. Maddison and Foster (2003) analyse the congestion costs at the British Museum, using contingent valuation techniques. They estimate that the cost imposed by the marginal visitor is £8.05. However, most museums indeed face close to zero marginal costs.

(iii) *Dynamic cost*: It is argued that museums face the same economic dilemma as most cultural organisations.<sup>5</sup> According to the cost disease theory, museums are subject to a productivity lag, producing constant financial problems for these organisations. For museums, no empirical study exists analysing this claim. However, there are certainly possibilities for productivity advances in the museum industry: surveillance can be undertaken by cameras; organisational progress may rely more on volunteers, activities may be outsourced; items can be shown on the internet; or institutional settings may be changed, like introducing New Public Management for public museums or privatising them completely. All these changes work in the opposite direction of the potential ‘cost disease’.

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<sup>4</sup> Even if the output unit is the number of hours per year or the number of days that the museum is open, this statement probably holds. The British Museum tries to cut costs by closing some sections of their exhibitions, but they will not achieve a big cost cut – at least in the short run (see Economist, 2002; Art Newspaper, 2000).

<sup>5</sup> For a detailed survey of Baumol’s Cost Disease, see Towse (1997). For a critique, see Cowen (1996) and Peacock (1993: 66-70).

(iv) *High opportunity costs.* Museums own, through their art collections, a huge endowment of high value. The paintings entail not only storage and conservation costs, but also opportunity costs. The actual costs of this capital stock would become apparent if museums borrowed money to buy the works of art. The annual interest, which the museum has to pay, constitutes the real capital costs. The opportunity costs of a painting amount to its monetary value used in an alternative investment. The annual rate of return can be seen as the cost of the artwork. Buildings generate other opportunity costs. For most museums, the value of their holdings is by far their greatest asset.<sup>6</sup> At least some museums have realised that a closed museum involves more than just the operating expenses of the building. There are alternative uses for the rooms of the museum. The museum can, for instance, lend out rooms for business lunches or other social events. Although some museums are starting to engage in such activities, endowment management is still underdeveloped.

Most museums do not put a value on their collection in their accounts. In Great Britain, this custom is even a condition of registration with the Museums and Galleries Commission (Bailey and Falconer, 1998: 173). Museums then understate their true capital costs (Grampp, 1989: 171) by not taking opportunity costs into account. This practice leads to an understatement of the losses and an overstatement of potential revenues. It induces the museum to become too large. Normally, a productive unit chooses its outcome level, balancing costs and income. Without taking all costs into account, the museums grow too large. A firm in perfect competition would just close down or reduce its output in order to satisfy its owner. But museums do not face such a restriction. Normally, they are not in a competitive situation. Many museums even get more subsidies when they incur losses. Neglecting opportunity costs can partly be explained by a rational reaction of the museum directorate to restrictions from the political sector (they will be discussed in more depth in section 4).

### 3.2. *Cost functions*

It is important to know how costs vary in a museum with regard to output and input. Are there economies of scale in museum operation, and how do various museum missions and activities

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<sup>6</sup> In some cases, the opportunity cost of the land may be quite high, as museums are often situated in commercially attractive locations. See Rosett (1991) for more details.

influence the operating costs? One of the few museum cost functions was estimated by Jackson (1988).<sup>7</sup> This study takes various activities of the museum into account and analyses their influence on costs. Attendance may be the most obvious output measurement one can come up with. His log-linear model can then be written as:

$$\ln TC = \ln a + b \ln Q + y \ln W + s \ln K + r_1 EX + r_2 ED + r_3 CN + r_4 MB + r_5 AC$$

where  $TC$  constitutes the total operating cost,  $Q$  is the total attendance figure,  $W$  is the wage rate as measured by ratio of wage payments to paid workers, and  $K$  is the cost of capital measured as the ratio of promotional expenditures, such as development, membership, and advertising to contributions from all public and private sectors. Because a museum can engage in various activities, the study looks at how priorities set by the museum influence costs. Therefore,  $EX$  are exhibition expenses as a fraction of total operating costs,  $ED$  are educational expenses,  $CN$  are conservation and preservation expenses, and  $MB$  are expenses for membership activities. Because quality plays an important role in costs for the performing arts (see Throsby, 1977; Globerman and Book, 1974), the study tries to capture quality by looking at which museum is accredited with the American Association of Museums. This is, of course, only a rough, and maybe even a wrong, proxy for quality.  $AC$  is a dummy variable which equals 1 if accredited and 0 otherwise.

The results based on data from the Museum Program Survey 1979 for 326 U.S. museums produce two interesting insights: Firstly, museum operations appear to be characterised by economies of scale. Operational costs change more slowly than attendance figures do in small museums with up to 99'000 visitors a year. However, for bigger museums, diseconomies of scale are at work. Average cost curves for (art) museums are downward sloping with low attendance levels and rise after the annual number of visitors exceeds 100'000. This result qualifies the statement about museums being a decreasing cost industry. Secondly, an increase in expenses for membership activities as a fraction of total operating expenses decreases total costs. This may be due to the fact that active members may not only increase the number of voluntary workers, but also lower the capital costs for the museum as fundraising becomes easier.

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<sup>7</sup> For cost function for performing arts, see for example Lange et al. (1985).

However, more research is needed in order to fully understand the cost functions of museums. For a related branch of research on efficiency measurements in museums, see Mairesse and Vanden Eeckaut (2002).

### 3.3. *Organisational Form of Museums*

Museums can take various organisational forms. Mainly, they can be private for-profit organisations, private non-profit organisations, and public organisations run in a non-profitable way. For Europe and for the United States, the non-profit organisational form is the predominant structure for museums. Different hypotheses can be put forward explaining the dominance of non-profit firms in the museum world and the arts in general.<sup>8</sup> According to Weisbrod (1977), non-profit organisations were founded due to an unsatisfied demand for public goods. Alternatively, the cost structure of museums can partly explain why they were established as non-profit organisations in the first place.

Most museums face a demand curve lying below the average cost curve. This makes it impossible to set a price at which total admission fees cover the total museum costs. If price discrimination is not applicable, or only of limited use, Hansmann (1981) argues that arts organisations can still ask individuals for voluntary price discrimination. Visitors volunteer to pay more than the official admission price and thus become donors. The non-profit form dominates the for-profit enterprise in getting donations, because consumers lack exact information about the quality of the good and service provided. There is therefore no ordinary possibility of making a complete contract to protect donors from exploitation. Donors then prefer non-profit firms, where the possibility that the managers of the firm exploit donors and consumers is limited (for a similar argument, see Glaeser and Shleifer, 2001).

Looking at the historical development of municipality involvement in the support of museums, Smolensky (1986) argues that educational externalities, rather than decreasing costs, led to the non-profit form of museums. In Europe, governments started to support museums due to these educational externalities, while in the United States ‘public provision was rejected as a socialist

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<sup>8</sup> For a selection of articles dealing with non-profit firms in the arts, see DiMaggio (1986). For a general survey about non-profit firms and altruistic behaviour, see Rose-Ackerman (1996).

solution' (Smolensky, 1986: 768). The non-profit form is a hybrid, established later, and has not only been applied to museums but also to performing arts organisations, universities, libraries and hospitals.

## **4. Museum Behaviour**

The final output of a museum is not given, but can be chosen by the decision-makers of the art organisation. As resources are scarce, managers of museums have to make decisions about the use of these inputs. Should the museum provide a lot of exhibitions, and thereby increase the number of visitors, or should they put more emphasis on raising additional income in restaurants or shops? Firstly, two theoretical approaches for the behaviour of museums are presented. In a second part, three major activities of museums (management of the collection, pricing policy and commercial activities) are analysed using the theoretical models.

The behaviour of a museum, or its managers, can be modelled in two different ways: (1) the neoclassical approach, which assumes rational actors maximising the utility of a museum in a benevolent way; and (2) an institutional approach, which goes beyond the market and emphasises the importance of institutional settings (e.g. the dependence on public support) for the behaviour of the museum management. We will present the first approach briefly and apply the second approach in more depth.

### *4.1. Neoclassical approach*

#### **4.1.1. A Model**

Throsby (1994) presents a model of the behaviour of performing arts firms which can be applied to museums. The model assumes that there is no distinction between owner and control of the firm. The directorate of the museum maximises the firm's utility function. Assuming that a museum's objective is non-profit orientated, the budget constraint requires a zero net revenue. The non-profit structure of the museum raises the question of what the museum manager maximises instead. It can be argued – and this constitutes the crucial assumption – that the museum's utility is related to the number of visitors to the museum ( $y$ ) and the quality of the

exhibitions ( $q$ ). This assumes that the quality of the museum service can be measured. Then the decision by the museum management is to maximise

$$U = U(y, q)$$

subject to

$$p(y)y + g(q) + h(y) - \lambda c(y, q) = 0.$$

The museum gains revenues from the entrance fees ( $p$ ), which is a function of the number of visitors ( $y$ ); the level of donations and government grants ( $g$ ), depending exclusively on the quality of the museum; and the revenue from ancillary goods from the shop and the restaurant or café ( $h$ ), which depends on the number of visitors. Costs depend on both output and quality.

The first-order conditions can be written as:

$$\begin{aligned} U_y / \lambda + p_y y + p(y) + h_y &= c_y \\ U_q / \lambda + g_q &= c_q \\ p(y)y + g(q) + h(y) &= c(y, q) \end{aligned}$$

The subscripts indicate partial derivatives and  $\lambda$  is the multiplier on the constraint.

Two insights can be gained by looking at the optimality condition: Firstly, directors of a non-profit museum get extra utility from an increase in the number of visitors. They therefore set the entrance fee such that marginal revenue from entrance fees and ancillary goods are less than marginal costs. This result from the first optimality condition could explain why museums set too low a price according to the revenue maximising condition (e.g. Luksetich and Partridge, 1997). Secondly, museums engage in increased quality beyond the point where marginal grant income is equal to the marginal cost of increasing the quality by one unit. This behaviour is due to the extra utility the museum gets from an increase in quality. According to this model, museums tend to provide too high quality at too low a price compared to revenue maximising firms.

The objectives of the museum, quality of the exhibition and number of visitors are the crucial assumption in the above model. Hansmann (1981) analyses the extreme cases of a museum interested only in quality, number of visitors or budget. For example, the quality maximising firm sacrifices the number of visitors for the sake of quality. But Hansmann (1981) also points out the importance of different forms of public grants. While lump-sum subsidies would lead to an

increase in quality for the quality maximiser, the increase in the number of visitors is less certain. It only takes place if firstly, the increase of the visitor flows does not increase the cost of quality and secondly, the new marginal visitor has an unusually marked taste for quality. A different behaviour results if the museum is supported by matching grants for the donations it receives. In this model, a subsidy will not only increase donations, but will give incentives for the museum to adjust quality and price (and therefore the number of visitors) to a level which comes closer to maximising consumer welfare.

#### 4.1.2. Critique

The model presented above assumes that museum managers behave in a benevolent way and are driven only by a cultural aspiration which benefits the owner of the museum (e.g. the public, private donors and/or a foundation). However, this model may be criticised for two reasons: (1) Managers of museums and chief curators may behave in a more selfish way than assumed by the model. A focus on the explicit behaviour of museum managers is therefore necessary. (2) Museum managers are primarily interested in their reference group and will try to maximise their respective reputations. In absence of the right incentives, they will not produce the kind of standard (with respect to quality and quantity) which maximises the firm's or consumers' utility.

### 4.2. *Institutional Approach*

Instead of taking for granted that managers of museums behave totally in the interests of the museums, in the following model the directorate is concerned primarily with their personal utility. The directors' utility depends on their own income and the prestige they get within their reference group, which consists mainly of art lovers and the international museum community. A second source of amenity is derived from the agreeable working conditions and job security. But the museum directorate is not free to simply pursue its own goals, because they face certain constraints. Differences in these institutionally determined restrictions explain the museum management's behaviour.

The finances available are the most important constraint on the museum's directorate. Other constraints, such as limited space or legal and administrative burdens imposed by bureaucracy or trade unions, can also weigh heavily. The source of income differs considerably between museums. While some depend mostly on public grants, others rely exclusively on private money

(donations and sponsorship, or income generated from entrance fees, shops and restaurants).<sup>9</sup>

From a politico-economic point of view, the institutional set up and the nature of funding has a dramatic influence on the behaviour of the museum directorate. We distinguish three types of museums: public museums, private museums and museums dependent on donations. The incentives for the museum's directorate to behave in a certain way vary enormously, depending on these institutional frameworks (see Frey and Pommerehne, 1989; Rosett, 1991; see also the theory of non-profit organisation in Weisbrod, 1998; James, 1983; Schiff and Weisbrod, 1991; and for a principal-agent model, Prieto-Rodriguez and Fernandez-Blanco, 2002).

Most museums, however, fall somewhere between the two extremes of purely public and purely private museums (see Schuster, 1998a; van Hemel and van der Wielen, 1997; Meier and Frey, 2003). In the last couple of years, more public museums have moved in the direction of private museums because state support decreased (NEA 2000). The government, as a consequence, gave the directors more independence. Both the discretionary room and the pressure to generate more income of their own increased. Nevertheless, the institutional setting remains crucial for the behaviour of the museum directorate. The fact that (public) museums may be seen to change their behaviour markedly when receiving more independence underlines the power of institutional factors.

### **Public Museums**

Directors of purely *public museums* rely exclusively on public grants. The government allocates them sufficient funds to cover the expenses considered necessary for fulfilling their tasks. While they are expected to keep within the budget, if a deficit does occur, it will be covered by the public purse. This institutional setting provides little incentive to generate additional income and to keep costs at a minimum. The directorate will not allocate energy and resources generating additional income, because any additional money goes back into the national treasury. If they were to make a surplus, the public grants would correspondingly decrease, which acts like an implicit tax of 100 percent on profits. The museum's management tends to emphasise non-commercial aspects. When the directorate is not forced to cover costs as a result of its own

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<sup>9</sup> Rosett (1991) presents evidence on the financing of U.S. museums, which supports the picture of the heterogeneous funding of museums.

efforts, it can legitimise its activities by referring to intrinsic ‘artistic’, ‘scientific’, or ‘historical’ values. This application of non-commercial standards helps the museum directors to achieve their goal of prestige, top performance and pleasant working conditions. Even if museum income does not automatically go back to the public purse, Maddison (2002: 1) shows that by “(s)tatistically analyzing data drawn from a panel of UK museums, evidence is found that increases in non-grant incomes do indeed result in a statistically significant reduction in future government subsidies.” From this institutional point of view, one would therefore expect that:

- Public museums do not sell any paintings from their art collection because firstly, the directorate cannot use the income generated and secondly, activities are then measurable in monetary units, which leaves them open to criticism from outside (be it by politicians or by public administrators) (Frey, 1994; Montias, 1973).
- Directors of public museums are not particularly interested in the number of visitors, because they are not dependent on income from entrance fees or shops. Therefore, exhibitions are designed to please an insider group of art ‘freaks’. As a consequence, visitors’ amenities in public museums are poorly developed. Not much attention is paid to the profitability of museum shops, restaurants and cafeterias.

### **Private Museums**

Directors of purely *private museums*, on the other hand, have a strong incentive to increase their income, because their very survival depends on sources of money like entrance fees, the restaurant, shop surpluses and additional money from sponsors and donors. If private museums generate a surplus, they are able to use it for future undertakings. As a result, it is to be expected that:

- Private museums rely on the market when managing their collection. Museums actively sell paintings that no longer fit into the collection and use the money for buying new works of art.
- Private museums are more concerned with attracting visitors. ‘Blockbuster’ exhibitions guarantee that the museum will earn revenue, because the preferences of a larger group of

people are taken into account. Hence, the exhibitions are better arranged from a didactic point of view, appealingly presented and, above all, the works of art are shown in a context which is attractive to a large crowd.

- Private museums emphasise visitors' amenities. The museum directorate is concerned with the well-being of the museum's visitors and tries to satisfy the preferences of the visitors at the lowest possible cost.

### **Museums dependent on donations**

Contributions to non-profit museums may be deductible under the income tax rule for individuals and corporations in certain countries.<sup>10</sup> When the marginal tax rate falls, the price for donations decreases, which reduces the willingness to donate. The tax-deductible status, if chosen by the museum, affects behaviour fundamentally. There is then every incentive to avoid profits by charging low or 'social' prices (which strengthens the legitimacy of tax-deductible status), while there is also an incentive to take out profits in the form of various kinds of excess payments that show up as costs.

Museum directors who depend on donations have an incentive to attract donors. Much effort and skilled resources are devoted to this end. Donors can be pleased in various ways<sup>11</sup>, which influences the behaviour of the museum management. As a result, donors can exercise some measure of control over the activities of museums, as discussed in Glaeser (2001: 39) and Oster and Goetzmann (2001). Museums dependent on donations can therefore be expected to behave in the following way:

- Donors directly influence museum policy in two ways: they can either interfere in the programming or they can set heavy legally binding limitations on the collections they donate. The limitations on the collections can have considerable impact on their management. Most donors want to highlight their own artistic visions. While curators

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<sup>10</sup> For an overview of the legal possibilities of deducting donations to the arts from taxes, see Schuster (1985; 1986).

<sup>11</sup> The donor's contribution may be publicised, thus enhancing their prestige (Glazer and Konrad, 1996; Harbaugh, 1998). Museums have developed an elaborate system of honours ranging from appropriate attributes ('benefactor', 'patron', 'contributor', etc.), to naming rooms, wings and even whole buildings after the donor.

normally win the battle over the display of the paintings, donors strongly restrict – and mostly prevent – the marketing of the donated paintings. Museums dependent on donations are rarely able to manage their collections on the market, which imposes considerable opportunity costs on museums. As the donations are partly financed by the government via their tax expenditures, the costs imposed by the donors on the museums are indeed a problem of supporting museums through tax deductions.

- Museums must give the impression that the donations are well used. Donors want to have the feeling that they contribute to a worthy cause. It is crucial for the flow of donations that the art institution has a good reputation with both the public and the media. This forces the museum directorate to use their money efficiently. But there are no contracts completely controlling the directors. Donors therefore prefer to deal with non-profit firms acting under a ‘non-redistribution constraint’ (i.e. prohibiting the personal appropriation of profits). Removing the profit goal avoids the problem that managers cheat on the donors to some extent (Hansmann, 1981).

### *4.3. Museum behaviour in three important areas*

#### **Collecting Management**

In most art museums of the world, a considerable part of the holdings of paintings is not exhibited and not accessible for the public. What constitutes the major portion of the wealth of an institution, such as an art museum, does not appear in the balance sheet; the bookkeeping procedure of art museums does not even account for the paintings being of any value, although at today's art market prices, collections of even minor museums are likely to be worth tens of millions of Euros, and in the case of major museums many hundreds of millions of Euros.<sup>12</sup>

Failure to consider opportunity costs throws up the question why such behaviour should happen. The museum managers know, of course, that their holdings are very valuable, and they cannot be

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<sup>12</sup> Most museums hold a large part of their paintings in storage rooms – up to 80 percent of the collection. See e.g. Barry Lord et al. (1989).

assumed to be irrational. But why do rational, well-informed people systematically not account for these large sums of money? Three reasons can be proposed which may explain the behaviour of the museum management:

(1) One reason may be that government imposes a *legal constraint* on selling. Many, or even most, public museums in continental Europe are prohibited from de-accessioning. It is often allowed in the United States and, to a lesser extent, also in Britain (Grampp, 1996). But as O'Hagan (1998a: 171) argues: "The real opposition arises from the museum personnel and not from the law." Even in the United States, where it is legal to sell paintings, the curators argue that it is not ethically right to do so, unless one improves the collections.<sup>13</sup>

(2) A completely different matter deals with the voluntary contracts between the museum directorate and donors, who often want to keep their collection intact and require that it be put into particular rooms. The directorate is faced with a trade-off between receiving additional paintings and having to accept certain restrictions (Thompson, 1986; Weil, 1990b). If it decides to accept the gift, its value must be higher than the cost of the restrictions involved, i.e. the museum people's evaluation of having the paintings exceeds their opportunity cost. But nowadays few museums accept having such restrictions attached to a donation (Weil, 1990b).

(3) The most convincing explanation for the behaviour observed has to do with institutional differences. For public museums, the museum directorate has *no incentive* whatsoever to sell the holdings it has in storage.<sup>14</sup> Private American art museums are indeed active in selling and buying art in order to suit their own purposes. In the period 1988-89, 88 museums sold 1284 lots worth \$ 29,6 million, and 93 museums bought 142 lots worth \$ 37,5 million (Cantor, 1991: 21). The director of the Getty Museum states that "this practice... (is) the key to shaping the collections by the staffs of many major big city museums with large collections, and others too" (Feldstein,

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<sup>13</sup> For a discussion on the legal aspects of de-accessioning art, see White (1996).

<sup>14</sup> Pommerehne and Feld (1997) also find differences in buying paintings by public and private institutions. Thus, public museums pay more, *ceteris paribus*, in art auctions than private investors.

1991: 26). The name of the donor is then attached to the painting, which reduces the donor's resistance against de-accessioning. For public museums, however, it is rational not to engage in selling paintings for two major reasons (Frey, 1994):

- (a) When a painting is sold, the revenue gained is not added to the museum's disposable income but, according to the rules of the public administration in most countries, goes into the general public treasury. Even if this is not the case, the budget allocated to the museum is most likely to be correspondingly reduced. This institutional setting kills any incentive to manage the collection on the market.
- (b) Selling paintings means that the existing stock of art is at least partly monetised, which eases outside interference by politicians and parliamentarians with the museum's business (O'Hare and Feld, 1975). The museum directorate's "performance" becomes easier to evaluate, and the buying and selling prices of particular paintings can be compared. As long as the criteria for evaluation are exclusively of an art historic nature, the museum community is to a considerable extent able to define its performance itself. This is a useful and successful survival strategy that museum administrations do not voluntarily give up.

Lending policy is a different but related phenomenon. There is a norm not to exchange works of art using the price mechanism (Caves, 2000: 345-347).<sup>15</sup> Even private museums follow this rule, although there are many advantages of the market mechanism not relying on barter (see for an overview Heilbrun and Gray, 2001: 202-209).

## **Pricing**

There are large differences between museums in the way they set their entrance fees. There is an extensive discussion whether to charge or not to charge (for an overview, see O'Hagan, 1995; Heilbrun and Gray, 2001; Bailey and Falconer, 1998). This discussion probably goes back to Mr.

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<sup>15</sup> Russian museums are an exception. Western museums are prepared to waive their rule of not paying money for borrowing works of art, because they acknowledge that Russian museums are extremely short of cash.

Sloane, whose donation led to the founding of the British Museum, but with the explicit restriction not to charge any entrance fee. Even today, most British museums do not charge their visitors. But even in the United States there are some museums, at least the national ones, which do not levy an explicit entrance fee. Two main arguments are put forward in favour of free admission. (1) There are some positive externalities connected with a museum, as discussed above. Therefore the museum should be paid using tax money. The benefits, however, are not distributed equally, and an accurate taxation according to these benefits is almost impossible. Those who visit a museum probably benefit the most from the museum. Therefore, an entrance fee should be levied over and above the contribution from general taxation. There does not seem to be any evidence that this measure hits low-income groups disproportionately (O'Hagan, 1998a: 178). In the system where there are no charges, it is not only the majority who pays, but also the lower income group, who benefits the least. (2) The low or zero marginal cost of a visitor lead to the view that charging zero is efficient. As mentioned above, the assumption of zero marginal costs can be criticised for various reasons. However, it is possible to avoid some of the problems by adopting a pricing option which differs from the two extremes.

There are a variety of pricing options besides free entrances: donation boxes with and without suggested contributions, seasonal tickets with zero marginal pricing<sup>16</sup>, a free day policy or a more sophisticated price discrimination. The price discrimination, which is supported by economists (e.g. Frey, 1994), can be undertaken in times of high demand and/or with respect to the type of visitor. Many museums, even those who do not charge for their permanent collection, charge higher entrance fees for special exhibitions. Additionally, the museum could, for example, charge more at weekends and less during summer holidays. Tourists could be charged more than residents, which makes sense from an economic point of view. Prices can also be differentiated between visitors who want to spend little time on the museum visit and those who want to allow ample time. In periods of high demand, when the art museum's capacity is stretched to the full, two entrance fees can be set, a high and a low one. The high entrance fee will have a correspondingly shorter queue and will be used by the first category of visitors. The low price

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<sup>16</sup> A museum pass may allow 'free' entrance into every museum in a given city or region. This is implemented in many European and American cities and regions. Ginsburgh and Zang (forthcoming; 2002) focus on how the revenue of such a pass can be distributed to the participant museums.

entrance option will be used by the second category of visitors, among them students and other young people who don't want to spend much money, but have plenty of time at their disposal. Price differentiation is advantageous for both categories of visitors (one gets in more quickly, the other pays less) as well as for the museum administration, which can raise its revenue accordingly.

The question of how pricing influences the finances of the museum not only depends on the price elasticity of demand. Charging can also influence the flow of public subsidies and donations. Moreover, pricing decisions can influence the income generated with ancillary goods, because revenues from the shop and restaurant vary with the number of visitors, which depends, in turn, on the entrance fee.

In some cases, the government enforces a binding target for the museum directors. Targets may be defined for the number of visitors and for the revenues. Darnell (1998) analyses the effect of such targets on admission fees for the museum. In the case of inelastic demand curves, the museum may face the problem that there is no fee which attracts enough visitors and brings in enough revenues at the same time. Darnell (1998) discusses the possibility of shifting the demand curve (e.g. by advertising more or improving the quality of the visitors experience) to make the two targets mutually compatible. This depends to a crucial extent on the shift in demand induced and its relative costs. However, the model does not incorporate the possibility of raising revenue from sponsors, donations or ancillary goods. Most museum directors would, in such a case, increase the resources devoted to these activities. Additionally, if the targets are imposed by the local government or the governing body of the museum, bargaining would probably take place, resulting in an adjustment of the targets.

The complementarities between admission fees and sales in museum stores and cafeterias affect optimal pricing strategy.<sup>17</sup> The empirical result in Steiner (1997) does not suggest that an additional free day maximises revenue, because the cost of the free day in decreased admission revenues is not compensated by more sales in shops and restaurants.

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<sup>17</sup> For a general theoretical discussion of the interdependence between entrance fees and ancillary goods, see Marburger (1997).

## Commercial activities

Besides the core activities of museums, which are directly related to the works exhibited or stored, and for which some of them charge an entrance fee, most museums also engage in ancillary activities. The revenues from these activities can make a large contribution to cover the operation expenses (see e.g. Heilbrun and Gray, 2001: 211; Anheier and Toepler, 1998).

Museums operate museum shops, restaurants and cafés, sell catalogues, make money from parking lots, organise cultural trips, etc.<sup>18</sup> While the first museum shop was established by the Metropolitan Museum of Art in New York in 1908 (Weisbrod, 1988: 109), it was at that time more the exception than the rule. Today, a lot of American museums not only operate their own shops but even run off-site stores, either in the same city or in a totally different city, as does the Metropolitan Museum of Art.

It is an interesting question exactly which museums engage in ancillary activities. Museum directors do not necessarily want to produce ancillary goods as such; often they only serve to generate revenue for the core activity. But institutional factors may force museum directors to engage in such activities (see the data in Frey and Pommerehne, 1989). Weisbrod (1998: 58) cites the example of the British Museum where, in 1996, the government announced it would reduce its subsidies. All of a sudden, the museum started to discuss new possibilities of raising revenue. Andreoni and Payne (2003) show in their empirical study that arts organisations decrease their fundraising efforts when they receive government grants. It seems to be a ‘necessary evil’ for managers of museums to generate income from ancillary services as well as from donations. The managers will neglect these two sources of income, depending on the institutional setting.

The empirical evidence, however, on commercialisation is ambiguous: Heilbrun and Gray (2001: 210) state that “Earned income accounted for only 16.1 percent of the total in 1993 but rose to 25.9 percent in 1997.” In contrast, Anheier and Toepler (1998: 240) conclude from their more in-depth study that “Our data suggest that art museums have not become significantly more commercial in recent years.” Segal and Weisbrod (1998) find that, for the arts industry, donations and commercial activities are negatively correlated. Because their causality test did not show any

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<sup>18</sup> Many books offer advice about how to make profit from specific services. The most elaborate branch of its kind – because of being the oldest – concerns the management of the museum store. See for example, Theobald (2000).

significant effects, one can conclude that a decrease in donations (or public grants) increases ancillary activities. But more research is needed to gain more definite knowledge.

Does the commercialisation of museums lead to a different type of managers? Do museums increasingly hire directors with a background in the private business sector? While this selection would reflect the shift in the orientation of museums, it might also start a dynamic process due to the changes in the museum world. Anecdotal evidence suggests that, at least in Europe, more and more arts organisations demand that their directors have managerial experience.<sup>19</sup> This trend is especially evident in the so-called superstar museums discussed in the next section.

## **5. Current Trends in the Museum World**

Two developments related to museums are worth special attention: superstar museums and special exhibitions.<sup>20</sup>

### *5.1. Superstar Museums*

There are a few well-known and world-famous museums. They can be called “superstar museums” because they have a special status which sets them clearly apart from other museums.

Superstar museums are characterised by five aspects:

- Superstar museums are a “*must*” for tourists. Such museums are featured prominently in guidebooks. Superstar museums have achieved a cult status almost everyone is aware of. There are not many tourists who, for example, go to Rome without visiting the Vatican Museum, or to Florence without visiting the Uffizi, or to Madrid without visiting the Prado, or to Paris without visiting the Louvre.

- Superstar museums have *large numbers of visitors*. These museums have experienced a dramatic increase in the number of visitors. In 1998, for example, the Louvre increased its number of visitors by 11 percent. French museums with more than 100,000 visitors increased

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<sup>19</sup> See also Economist (2001).

<sup>20</sup> This section follows closely Frey (1998) and Frey and Busenhardt (1996).

their number of visitors by 5 percent. In contrast, smaller museums experienced a decrease of 3 percent in the same period.

- Superstar museums feature *world-famous painters and world-famous paintings*. Rosen (1981) originally developed the superstar idea for persons, emphasising that the differences in income far exceed the differences in talent and performance. This also applies in the case of artists and painters. The great disparity among artists is a striking feature of all the studies on their income distribution (see e.g. Filer, 1986 or chapter 9 in Frey and Pommerehne, 1989). The collections in large museums comprise works by thousands of artists; only a few of them are known to art lovers, let alone to the average visitor. Museums wanting to attract a large crowd have to concentrate on a few renowned artists. Some paintings are virtually known to everyone in the western world (and far beyond) but the number is rather small. The quintessential superstar painting is Leonardo's "Mona Lisa". The Louvre has responded by indicating the most direct route to the Mona Lisa right at the entrance.

From the visitors' point of view, even very large museums are closely associated with, or defined by, very few (often one or two) paintings - the superstar phenomenon. Museums are not only the proud owners of these masterpieces, but at the same time their captives. They are forced to exhibit them, but this also means that, in comparison, their other paintings lose prominence. There may be a slight spillover of interest to less renowned pieces in the collection. The main effect is, however, to draw attention away from the rest of the collection.

- Superstar museums often have an *architectural design*, making the building itself a world-famous artistic feature. Examples are Frank Lloyd Wright's Guggenheim Museum in New York; the Centre Pompidou in Paris; and Frank Gehry's Guggenheim Museum in Bilbao.

- Superstar museums are *commercialised* in two ways: a significant part of their income is derived from the revenue of the museum bookshops and museum restaurants. Superstar museums have a major impact on the local economy.<sup>21</sup>

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<sup>21</sup> In the case of the Guggenheim Museum in Bilbao, a discussion emerged as to how much this superstar museum changed the economy. While Plaza (2001) shows that the number of visitors to the Basque region increased dramatically due to the Guggenheim Museum, Gómez (1998; 2001) emphasises that one should be more cautious in

Some art museums have reached the status of superstars and have become household names to hundreds of millions of people. Only a few museums attain this high rank; they are mostly associated with major tourist cities, which in turn owe part of their prominence to the superstar museums.

Superstar museums are able to exploit the economies of scale by reaching out to a large number of people. These museums are not only featured in newspapers, on the radio and TV, but can raise enough money to produce their own videos and virtual museums. These costs are essentially independent on the number of consumers and therefore favour the major museums, because the set-up costs are normally too large for smaller institutions. While the latter will certainly catch up (a homepage will soon be a matter of course for all museums), the major museums will have the funds at their disposal to improve their scope and quality so as to maintain their lead. Superstar museums have started to reach out by establishing museum networks. Thus, for example, the London Tate Gallery has spawned satellite museums at Liverpool and St. Ives, and the Prado has started to lend out about one third of its holdings to museums in the provinces.

Superstar museums find themselves in a new competitive situation. Their reference point shifts from other museums in the city or region to *other* superstar museums. This competition between the superstars extends over a broad area, including commercial activities and sponsors.

The superstar museums must make a huge effort to stay in that category. Frantic activities are therefore often undertaken: special exhibitions are organised in the hope that they turn out to be blockbusters, visitors' amenities are improved (e.g. a larger variety of fancy restaurants) and new buildings with stunning architectural designs are added (e.g. in the case of New York's Museum of Modern Art). The superstar status tends to transform museums into providers of "*total experience*". This new role stands in stark contrast to the traditional notion of museums as preservers of the past.

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analysing the effect on urban regeneration, because it is still too early to assess the economic impact of the museum on the city. For a broader discussion of 'museum cultural districts', see Santagata (2002).

## 5.2. *Special Exhibitions*

There is hardly an art museum not running, or at least preparing, a special exhibition of some sort. Such an exhibition may feature one particular artist (often in commemoration of his or her birth or death), or a group of artists, may focus on a period or a genre of paintings, or may establish a connection to some historical event (see Belcher, 1991: 49). Most such special exhibitions bring together works of art from different museums and private collections. Once put together, large temporary exhibitions frequently travel to other museums cooperating with the organiser. Some exhibitions indeed are already designed to be sent to various countries. Not rarely, important museums simultaneously display several exhibitions, which they have either mounted themselves or taken over from other organisers.

The boom in special exhibitions poses a challenge to art economists, because of the glaring contrast to the financial depression in which many museums find themselves. Even in some of the world's leading museums, some wings are temporarily closed, and opening hours are reduced in order to save money. Curators are concerned that they have less and less money available for the restoration and conservation of their collection.

On the *demand side*, special exhibitions have some special features worth noting.

- *High Income Effect*. Consumers tend to spend an increasing amount of increased income on visiting specially arranged art exhibitions. Special exhibitions thus find themselves in the comfortable position of being in a growing market.

- *Attracting New Visitor Groups*. As has been well documented in cultural sociology (e.g. Klein, 1990), a large percentage of the population rarely, if ever, visits museums (except museums of technology and transport). This applies, in particular, to population groups with low education, which are also short of cultural tradition (see Blau, 1989; DiMaggio and Useem, 1989). The situation is clearly different for special cultural events, which are widely advertised, and which are made attractive to new groups.

- *Focusing Attention*. An exhibition seeks to attract consumers by presenting some extraordinary cultural experience. They specialise on one particular artist (e.g. on Rembrandt or van Gogh), a certain period (e.g. Renaissance paintings), a particular topic (e.g. courtly paintings), some genre

(e.g. mannerist paintings), or a specific type of presentation (e.g. portraits). As a result, the visitors interested in such particular forms of art converge, often from far away locations.

- *Newsworthiness*. Special exhibitions are *news*, and attract the attention of television, radio and the newspaper media, which is otherwise impossible to get to the same degree, and especially free of charge. It is easy to get media people to report on a special exhibition, while the permanent collection is hardly newsworthy (see e.g. Bayart and Benghozi, 1993: 210).

- *Low Cost to Visitors*. Special exhibitions are closely linked with tourism (see e.g. Getz, 1989; O'Hagan, 1992: 65). A considerable number of visitors come from out of town, from another region, and often from a foreign country. The combination of a cultural event with tourism lowers the individual's cost of attending in various ways. In the case of the increasingly popular package tours, the consumers only have to take the initial decision and all the rest is taken care of by the travel agent. In the case of culture, where it is often a chore to acquire the tickets from outside, the reduction of decision and transaction costs are substantial.

- *Low Price Elasticity of Demand*. The strong attraction of special exhibitions to tourists also affects the price elasticity of demand. Tourists relate the entrance fee to their expenditures for the overall trip. A given price increase is then in comparison perceived to be relatively small and does not have much impact on demand (for the general argument, see Thaler, 1980; for museum admission fees, see Blattberg and Broderick, 1991). This effect is supported by empirical evidence. Attendance figures at the Museum of the Palazzo Ducale in Venice, for example, have been fairly stable, although admission fees for the exhibitions presented in the last years have increased by more than 10 percent on average. In fact, the number of visitors to the Palazzo Ducale seem to be in direct proportion to the number of people visiting the centre of Venice (ICARE, 1994).

- *High Demand by Business*. Special exhibitions offer many opportunities for making money. Indeed, there is a large literature documenting the monetary profitability of such cultural events (e.g. Feldstein, 1991; Fronville, 1985; DiMaggio, 1985). Not only do they extend to the tourist industry, but also to firms catering for the production of the festivals and exhibitions. There is also a benefit to book publishers in the case of special exhibitions. They profit from the interest raised by glamorous cultural events.

There are also various special determinants on the *supply side* of special exhibitions which contribute to their boom.

- *Low Production Cost.* The absolute cost of many special exhibitions is certainly high, but it is low *compared* to the sum they would require if all the resource inputs used were attributed to them. Important resources are taken from the permanent venues, and only additional costs are covered by the special artistic events. Museum employees are used to organise and run special exhibitions, but the corresponding cost is not attributed to the special events (Montebello, 1981). Some cost factors, though substantial, often only appear in disguised and long-term form. One such cost is the neglect of cataloguing and maintaining the permanent collection (see Börsch-Supan, 1993 for several pertinent examples). But also the museum rooms, where the special exhibitions take place, do not enter the costs accounted for as the opportunities forgone are not part of the book-keeping.

- *More Scope for Artistic Creativity.* Museum directors are similarly bound by artistic conventions. The hanging of pictures in a particular way at many museums has become part of the cultural heritage, and it is next to impossible to rearrange the permanent collection to any significant extent. Special exhibitions offer a chance to avoid such historical restrictions. One of the major tasks and challenges of an art exhibition is to arrange the art objects in such a way that it creates new effects and encourages new insights. In addition, the assembly of art objects coming from many different permanent collections provides a much-sought after challenge to the museum directors, curators, exhibition and graphic designers, conservators, editors and managing officers, to exercise their artistic creativity and sense of innovation, and possibly to raise controversy - aspects which are highly valued by museum people for their own sake, but also because it is beneficial for their career.

- *Evading Government and Trade Union Regulations.* Cultural institutions' freedom to act is restricted by two major institutions, the government and the trade unions. Government restrictions go far beyond budgetary affairs. They hinder the art institutions' way of acting and performing in a myriad ways. Thus, pricing policy is greatly restricted, as well as opening times (for many examples see e.g. Börsch-Supan, 1993: 11, 15). In view of the government's strong hand, and its persistence due to a long tradition, the major possibility of getting round these regulations is to engage in special events.

Special exhibitions provide a good opportunity for directors of art museums to appropriate at least part of the extra revenue generated. Being an extraordinary event, the museum directors are in a good bargaining position vis-à-vis the public budgetary authorities to exert some discretion over these funds, and not to be heavily ‘punished’ by a reduction in future budget allocations.

One of the most stringent public regulations imposed on public art institutions pertains to government sector employment. The virtual impossibility of dismissing inefficient or downright destructive employees, of promoting and paying employees according to performance, and adjusting working hours to needs are major factors reducing creative endeavours and turning art institutions into mere bureaucracies. Additional regulations have been pushed through by the trade unions, and often have the full support of the government. Special exhibitions make it possible to avoid at least some employment restrictions, especially as most of the respective employees are only part-time and temporary, are not union members, and are therefore not legally bound by trade union regulations.

- *More Sponsoring.* Politicians and public officials have an interest in special exhibitions. They not only respond to the respective demands of the arts world and the local business community, but it also gives them an excellent opportunity to appear in the media as ‘patrons of the arts’ (with tax payers’ money). Business is also more prepared to sponsor special exhibitions than regular activities, where legal provisions often hinder sponsoring. The most important reason is certainly the higher media attention of these events and their particular contribution, but also that an individual firm has more control over the funds contributed, and sees less of it wasted by an inefficient bureaucracy, as is often the case with opera houses or art museums.

As special exhibitions become the rule rather than the exception, there is pressure to have them carry the whole cost, and to subject them to the same government and trade union regulations as the other museum activities. Even if the rapid rise in special exhibitions cannot be expected to continue indefinitely, they have had a strong and lasting impact on the art world. On the demand side, it has opened up art to an increasing number of people. This ‘popularisation’ may not be in the interests of all art suppliers and art lovers, but from the point of view of caring for individual preferences, it is a considerable achievement. On the supply side, the increased competition between producers of art has transformed career patterns at museums, and has led to a new relationship between potential and actual art consumers. By subjecting art producers at least

partly to the market, it has also favoured more efficient forms of organisation and production in the world of art.

## **6. Conclusion**

This article about the economics of museums treats different aspects of the demand for, and supply of, museum services. From an economic point of view, two different approaches can be distinguished: firstly, museums may be looked at as an economic unit where inputs and outputs can be analysed; secondly, the economic way of thinking can be applied to museums and the individuals (directors, curators, politicians, etc.) connected with it. Individuals are then assumed to pursue their utility within the constraints imposed by institutions and the environment. The article discusses specific aspects of the demand and supply of museums, the behaviour of museums, and the phenomena of superstar museums and special exhibitions as two recent trends in the museum world.

Emphasis is put on the behaviour of museums. The behaviour of the museum staff is guided by the institutional setting. According to this theory, the main source of funds can have a huge impact on the behaviour of the museum. The museum staff's decision to raise income through ancillary services, to manage their collection on the market, or to set the entrance fees depend crucially on the ownership of the museum. A distinction is made between private and public museums and museums dependent on donations.

A worthwhile goal for future research is to more fully understand how the changing conditions of museums, e.g. with respect to government support and changing leisure activities, influence the museum behaviour. How will museums adapt to the new situation? The rise of superstar museums and the reliance on more special exhibitions are two such developments. However, there may be more changes still in the production of museum services.

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