

## A comment on the market value of a room with a view

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### Abstract

Views are very attractive to most people. Their monetary value is hard to quantify, however. Indications for the value of views are derived from the pricing of hotel rooms in Zürich, Switzerland. The higher price, which is charged for rooms with a view compared with those without a view, directly reflects the market value of the view. This type of information, though site specific, and therefore not necessarily representative, may be more persuasive to the public than information that is derived from sophisticated estimation procedures. © 2001 Elsevier Science B.V. All rights reserved.

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### 1. Introduction

“The Signora had no business to do it,” said Miss Bartlett, “no business at all. She promised us south rooms with a view close together, instead of which here are north rooms, looking into a courtyard, and a long way apart. Oh, Lucy!”

E.M. Forster, *A Room with a View* (movie by James Ivory), playing in Florence at the turn of the century.

Many environmental amenities, both natural and man-made ones, have public good or common pool good character and are not or very imperfectly subject to market valuation. This is particularly true for a beautiful view. Everybody agrees that it is an asset, but

attempts to attach a monetary value are difficult. Opinions over the value of the amenity are often far apart and some people are even fundamentally opposed to assigning any monetary value at all to an environmental good.

Public goods are undervalued because individuals or organizations can correctly assess their own valuation of the public good, but they rarely know how others value it. In fact, they often are even unaware of who all is benefiting from the availability of the public good.

Support for an investment in a public or common pool good is directly linked to the public's perception of its value. Undervaluing leads to a smaller investment into the preservation and/or creation of public amenities than would be socially desirable. To overcome this problem, economists have developed a variety of methods to obtain accurate value estimates, including willingness-to-pay, hedonic regression and contingent valuation methods (e.g. Freeman, 1993; Johansson, 1987; Peterson et al., 1988).

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Estimates of the value of an amenity that are used in a public debate should serve two purposes: (1) provide a reasonably accurate estimate; and (2) persuade the public of the importance of the amenity. While, statistical estimation techniques score well in terms of generality, their results may fail to persuade the public if they do not know how the estimates have been obtained. People tend to have a healthy mistrust of information they cannot check or do not understand. Just as case studies help college students better understand general principles, examples can provide information in a form that people can relate to and understand.

This comment shows how readily available information can be used to obtain an estimate of the value of a beautiful view from a particular site. However, its specificity also limits the use of the estimate. We, therefore stress that this contribution does not propose a method to replace estimates obtained through rigorous statistical analysis, but to be used in conjunction with them when working with a lay audience.

This contribution complements a recently published article by Luttik (2000). In a comprehensive study of 3000 residential real estate transactions Luttik (2000, p. 161) found that “. . . a pleasant view can lead to a considerable increase in house price”. Both our paper and hers look at the impact of amenities on property values and both make the case that amenities have considerable economic value. In other respects, however, the two papers have a somewhat different emphasis. Our concern is with amenities as public goods and in providing information in a form that persuades the public to support such goods. Luttik (2000), on the other hand, is concerned with obtaining general estimates. In addition, her focus is on natural amenities and their effect on housing prices (see Schaeffer and Millerick, 1991 for a similar study focusing on man-made amenities), while we consider both natural and man-made amenities.

Luttik (2000) uses hedonic regression, a methodology that is much more general than ours, but, because of its generality, may be less persuasive. While her research answers the question of, on average, how many percent of a property's value can be attributed to an amenity, we provide property-specific estimates that illustrate the economic impact of an amenity at a particular site. Since the impact of amenities is not

evenly distributed, but differs by type of property, land use, access to the amenity, and possibly other characteristics, the information obtained from the two approaches is complementary.

## **2. Amenities and market power**

We are proposing to exploit information that reflects the market power of environmental amenities. Specifically, we are presenting a case study of two hotels in Zürich, Switzerland. In most hotels not all rooms share the same view. If only some of the rooms have an outstanding view, then the value of the view is often reflected in the room and/or occupancy rates. This information is akin to that obtained from a controlled experiment, where we compare two objects that are identical in every respect except one. Any deviation in the “performance” of the two objects can therefore be attributed to the one difference between them. Rooms in the same hotel often come very close to this ideal quasi-experimental set-up and any price and/or occupancy rate difference can therefore be attributed to the view and be used to calculate the additional annual profit that results from having a beautiful view. The resulting estimate provides a persuasive illustration of the value of a view. It is persuasive, because most people can relate to the impact of a view on profit (and as a consequence on the property value, see below) of a specific property. They know if the change is relatively large or low relative to the value without a view. By contrast, most people will find it difficult to visualize the relative impact of the total social value of a view.

While the specificity of the information makes it persuasive, it would be dangerous to extrapolate from one or a few sites to all properties that have a particular view. The quality of the view, and therefore its impact on profits and property values, may differ by location. The impact may also differ among different land uses. Therefore, the proposed approach is most useful to make the value information concrete and understandable, but not as an accurate estimation tool for the total social value. However, since investments in public goods are usually decided in a political process, presenting persuasive information is as important as presenting accurate information.

### 3. Description of study sites

The study is based on two sites in Zürich, Switzerland: the Hotel Zürichberg and the Hotel Storchen. Both hotels are located within the city limits and both have earned a four star rating.

The Hotel Zürichberg is situated on a south-facing hillside providing a panoramic view over the city of and lake Zürich (Figs. 1 and 2). In front of the hotel are large meadows, which belong to the hotel. On clear days, the Alps of central Switzerland make for an impressive backdrop and the view can reach as far as

the Bernese Alps. The rooms on the rear side of the hotel are facing the forest.

The trip downtown takes about 15 min by public transportation. Because of its location at the fringe of the city the room rates are modest compared to those at other four star hotels in the metropolitan Zürich area. With only 67 rooms the hotel is relatively small. The hotel's restaurant is also open to customers who are not guests of the hotel.

The hotel is about 100-year-old and was completely renovated in 1993/94. A new oval building, designed by Burkhalter and Sumi Architects, was added at that



Fig. 1. View from the Hotel Zürichberg towards the Alps.



Fig. 2. View of the Hotel Zürichberg.



Fig. 3. View of the Hotel Storchen.

time. Because of its distinct design, there is no clear differentiation of rooms by their views, and we therefore considered only the rooms in the original building, which either face the forest or overlook the city and the lake.

The Hotel Storchen (Figs. 3 and 4) is located in a historic building whose origin dates back six centuries. The building underwent a complete reconstruction in 1938 and a renovation in 1997. It is located in the heart of the old town, near the financial district. It is the only hotel in Zürich that is situated on the Limmat river, providing views of the river, the surrounding old town, and from some rooms views of Lake Zürich and the Alps. The rooms not facing the Limmat provide limited panoramic views of the old town (from the top floor) or into the narrow streets of the old town (from all other floors). Fodor's Hotel Index (2000) writes about the Hotel Storchen.

“The central location of this 600-year-old structure-tucked between the Fraumünster and St. Peter Kirche on the gull-studded bank of the Limmat river-is stunning. . .”

When the hotel was rebuilt, all double rooms were built facing the river. Rooms to the rear of the hotel consist of singles and a few suites. The occupancy rate is clearly lower than that of the double rooms that are very rarely left vacant.

Due to its attractive location, room rates have quadrupled since 1974 and the average room price is among the highest in the city and higher than room



Fig. 4. Rear of the Hotel Storchen facing the old town.

rates in several of Zürich's five star hotels. Like the Hotel Zürichberg, the Storchen is a relatively small hotel with only 77 rooms.

Although the Hotel Storchen did not provide a figure, management mentioned that business travelers make up a significant share of its business. Local firms also book rooms for visitors who appreciate the hotel's attractive location (interview with management, June 2000). At the Hotel Zürichberg 85% of the guests are business travelers (interview with management, June 2000).

#### 4. Method: calculation of the value of a view at the study sites

The Hotel Zürichberg differentiates room prices according to the view. Whereas a single room with a view of the forest (facing north) costs CHF155, one that looks out over the city, lake Zürich, and into the Alps of central Switzerland costs CHF175. These prices correspond to approximately US\$ 94 and 106, respectively. The prices for a double room are CHF215 (US\$ 130) and CHF260 (US\$ 169), respectively. There are 19 double and 12 single rooms with a view. According to the hotel's general manager, these rooms have an occupancy rate of nearly 100%. The average occupancy rate for the hotel is 78–80%, about 10% points higher than the city average (the average occupancy rate of hotels in Zürich comes from the web site of the Statistisches Amt der Stadt Zürich, 2000).

The differences in prices and occupancy rates of rooms according to their view is summarized in Table 1 and used to calculate the annual impact on profits that results from having a view. We used the following assumptions. The price differential is pure additional

profit because the cost of providing a room and related services does not depend on the view. Enhanced occupancy (100% instead of the hotel's average of 80%) results in additional revenue. However, each additional guest causes additional costs. The marginal personnel costs of having an additional guest are small, but some related services, e.g. additional breakfasts, etc. must be considered. We assume that 50% of the additional revenue is additional profit. Based on our information, we believe that this is more likely to underestimate than to overestimate the impact on profits.

We also assumed that the rooms with a view are always occupied. Though perfect occupancy is unlikely, according to the general manager of the hotel, it is very close to 100%. We are comfortable with the resulting over-estimation because we ignore the likely positive effect of the view on all rooms. While not all rooms have a view, all guests have opportunities to enjoy the beautiful view during their stay. The above average occupancy rate of the Hotel Zürichberg (see above) is an indication of positive overall effect of the view and the manager indicated that the view is a strong "selling point." However, other qualities such as superior service could also be responsible for the strong result and we therefore did not include this effect into our calculations.

Table 1 presents the value of a beautiful view as an additional annual profit stream. Alternatively we can estimate the impact on the value of the hotel real estate property. Intuitively it is clear that the value of a property is enhanced if profits are increased. Thus, the value of a property-with-a-view should be higher than that of one without a view.

The impact of the additional profit stream (see line (F) in Table 1) on the property value can be estimated

Table 1  
Value of a view — Hotel Zürichberg (in US\$)

| Explanation   | Single rooms<br>(12) (US\$) | Double rooms<br>(40) (US\$) |
|---|-----------------------------|-----------------------------|
| (A) Price differential per room-with-a-view, per day (1)                          | 12                          | 39                          |
| (B) Profit impact of enhanced occupancy per room-with-a-view, per day (2), (3)    | 10                          | 13                          |
| (C) Total profit differential per room-with-a-view per day (A + B)                | 22                          | 52                          |
| (D) Total profit differential per day ((C) times number of rooms, by room type)   | 264                         | 988                         |
| (E) Total profit differential per year by room type ((D) times 365)               | 96360                       | 360620                      |
| (F) Total profit impact of view per year (add the two column amounts on line (E)) |                             | 456980                      |

by calculating its net present value. The formula for doing this is as follows (e.g., see Petersen and Lewis, 1994):

$$\Delta(\text{asset value}) = \sum_{t=0}^T \frac{\Delta\pi_t}{(1+r)^t}$$

where the symbol  $\Delta$  denotes a change,  $\Delta\pi_t$  is the additional profit in a given year  $t$ ,  $r$  the interest rate, and  $T$  the number of years over which we obtain the additional profit. The formula states that a given amount is worth less, the longer we have to wait for it. The discount rate  $r$ , influences by how much its worth decreases with each year.

The discount rate is not an objective rate, but reflects subjective time preference, perceived risk, and the rate of return in alternative investments of similar risk. That money received in the future is worth less is clear. Just consider the consequences, if you had to wait 1 year for your salary.

We assume that the additional profit (calculated in Table 1) continues unchanged for  $T$  years. If we set  $T = \infty$ , then the formula collapses to  $\Delta(\text{asset value}) = \Delta\pi_t/r$ . Thus, at  $r = 10\%$  and  $T = \infty$ , the estimated increase in the value of the Hotel Zürichberg property is some US\$ 4.57 million. If we keep  $r = 10\%$ , but set  $T = 20$ , then the increase in the asset value is reduced to US\$ 4.28 million. The contribution of additional profits beyond the first two decades is the smaller the larger the discount rate  $r$ . The discount rate should be chosen to reflect the rate of return in the best alternative investment of similar risk.

In contrast to the Hotel Zürichberg, the Hotel Storchen does not charge differential room rates by the view (Table 2). This does not mean, however, that there is no difference. For example, while other rooms

can be booked through a reservation system, rooms facing the river can only be booked through the hotel. The popularity of these rooms is such that they are nearly always booked, as the managing team assured us. By avoiding using reservation systems, the hotel saves the fee that has to be paid for each room that is booked through such a system.

The hotel management also uses the rooms to reward repeat customers by giving them priority access to the most popular rooms. This is part of a strategy to encourage repeat business, which accounts for one-third of all bookings. Repeat customers make their reservations without using a reservation system and often well ahead of time. This saves the hotel the payment of reservation fees and reduces uncertainty about future occupancy. This may help account for the high average occupancy rate of 85% (the city average in 1999 was 65–70%, see Statistisches Amt der Stadt Zürich, 2000). The high occupancy rate is remarkable because room rates are among the highest for four star hotels (based on rates advertised by hotels). Since there are other four star hotels centrally located within easy walking distance of the financial district, the old town, and the lake, the high prices and occupancy rates reflect the value that guests attach to the views and general environmental amenities of the hotel's location. This at least is the opinion expressed by the hotel management.

As much as possible, we make the same assumptions as in the case of the Hotel Zürichberg. Thus, we again assume that the price differential is pure additional profit. It has been calculated by averaging the room rates for other four star hotels located in the center city. The comparisons are not perfect because not all rooms in a hotel are identical. Where, there were different rooms with different rates, the average

Table 2  
Value of a view — Hotel Storchen (in US\$)

| Explanation  | Single rooms<br>(30) (US\$) | Double rooms<br>(40) (US\$) |
|--|-----------------------------|-----------------------------|
| (A) Price differential per room per day relative to other four star hotels (1)     | 40                          | 85                          |
| (B) Profit impact of room price differential per day (2)                           | 34                          | 72                          |
| (C) Profit impact of enhanced occupancy, per day (3)                               | 0                           | 22                          |
| (D) Total profit differential per room, per day, by room type (B + C)              | 34                          | 94                          |
| (E) Total profit impact per room type, per day ((D) times 365)                     | 1020                        | 3760                        |
| (F) Total profit differential per year by room type ((E) times 365)                | 372300                      | 1372400                     |
| (G) Total revenue impact of view per year (add the two column amounts on line (F)) |                             | 1744700                     |

was chosen. The comparison is based on weekday rates; weekend rates are lower. We assume that the absolute differential on weekends is about the same as during the week. Also, as in the previous case, we adjust the annual profit impact for average occupancy, which is 85% in the Hotel Storchen, and we again assume that 50% of the additional revenue is additional profit. We did not consider the likely positive effect of the view on all rooms and the hotel's café and restaurant business.

We use the same formula as in the case of the Hotel Zürichberg to translate additional annual profits into impact on property and, as before, we use 10% as the discount rate. The impact on the property value if  $T = \infty$  is US\$ 17.45 million. If we set  $T = 20$ , the impact is smaller, but still large at US\$ 16.34 million.

## 5. Discussion

The estimates obtained for the two case studies make a persuasive case that viewpoints and vistas have considerable economic significance and value. Maintaining or enhancing such values should, therefore be of interest to planners. Views can be changed for the good or the bad, and access to them can be influenced to enhance their value. A classic example of the latter is the loop road in Acadia National Park, Maine (Lange, 1990, Steinitz, 1990), which has viewpoints with parking areas that were specifically designed to provide a view on the landscape. For most visitors to Acadia National Park driving the loop road and enjoying the views from it is the major reason for their visit.

Unlike in the case of Acadia National Park, issues of designing and maintaining vistas and their related economic value are not explicitly taken into account in planning in Switzerland. Since Switzerland relies on tourism as a major source of income, planners should consider the quality of a view, especially in cases of dramatic change of the landscape. Planners should also assess changes in land use regulations relative to their effects on views, particularly in sensitive areas, such as the locations of the two hotels of our case studies.

Values are subjective and depend on upbringing, preferences, age, culture, geographical origin, and possible other characteristics (e.g. Abello and Bernaldez, 1986; Bourassa, 1991). The influence of geogra-

phical origin (see also Serpa and Muhar, 1996), on the value attached to a view is illustrated by a story told by the director of the Hotel Zürichberg. She mentioned that most guests prefer a room with a sweeping view of the city, lake and mountains. In summer, however, a regularly visiting group of guests from Israel expresses a clear preference for rooms on the north side, facing the forest. It is not a question of money: the management had offered the repeat visitors from Israel a room with a view at no additional charge, as a gesture of appreciation for their business.

In contrast to the prospect and refuge theory (Appleton, 1996), however, the visitors from Israel declined the offer, preferring the view of the lush green of the forests to the distant views. This preference for forests by people, coming from an arid climate, is also mentioned by Misgav, 2000 (p. 152).

“In general, there is a strong preference for vegetation landscapes representing planted or managed landscapes, such as forests and open forests, as opposed to grassy scrub landscapes or scrub and garrigue.”

At the Hotel Zürichberg first-time guests sometimes reserve one of the cheaper rooms facing the forest, but seek to change to a room with a view after arriving and experiencing the view. Based on her experience, the director of the Hotel Zürichberg expressed the opinion that the price differential between those rooms with and those without a view was not big enough, and that a moderate increase in the differential would have no significant effect on the occupancy rate. This is another reason why we believe that our estimates of the value of the view from that hotel are much more likely to be too low than too high.

Examples such as those presented in this comment are quite common. In Zürich, the five star Grand Hotel Dolder also charges differential rates according to the view from the room. In beach resorts, it is common for hotels to charge more for rooms facing the beach than rooms in the rear of the hotel. The differential is usually 20% (based on a review of travel prospectuses). A recent court decision in Germany (State Court Frankfurt am Main, 1998) also awarded the plaintiff 20% of the hotel cost, because he was given a room with a view of the hotel's courtyard, instead of the promised ocean view.

The estimates show only the value of a view for the particular use. The value of the property would not

necessarily decrease by the amount that we estimated, if the view were lost. How much the value would drop depends on the value of the site for an alternative activity. Only if the use of the site for a hotel is still the best use would the loss correspond to the estimates we provided. This limitation also applies to the estimates provided by Luttik (2000). Her estimates of how much an amenity contributes to the value of a property applies only to housing and not to other uses of the same property.

## 6. Conclusion

We started this paper by arguing that estimates of the value of a view should meet two criteria: (1) provide a reasonably accurate estimate; and (2) persuade the public of the importance of the amenity. We believe that specific estimates, such as the ones presented in this comment, are persuasive and complement general estimates, such as those provided by Luttik (2000) obtained through more general methods.

Our study shows that it is often easy to use market information to estimate the value of an amenity at a specific site. Such specific estimates are useful in practice, because changes in the urban landscape do not affect all property equally. The more general econometric methods are usually less useful for assessing the impact at a specific site.

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