

Valuing Site-Specific Cultural and Historic Resources in Italy:

Some Preliminary Thoughts

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comments, suggestions and corrections are most welcome

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Let me begin by telling you a little about myself. I am a professor in the Department of Economics at the University of Colorado. The University of Colorado is located in the city of Boulder on the eastern edge of the Rocky Mountains. The foothills begin on the western edge of town, and the elevation quickly rises to over four thousand meters. The University has strong programs in public finance, international economics, and natural resource and environmental economics. My areas of interest and teaching are micro theory and welfare economics, econometrics, and environmental/natural resource economics.

For almost twenty years, one of my main areas of research has been the valuation of nonmarket commodities. I became fascinated with nonmarket valuation when I was an M.A. student at the University of Arizona in the mid 70s. The University of Arizona is located in Tucson, a desert community surrounded by mountains, one of which is Mount Lemon. Mount Lemon rises thousands of feet from the desert floor at the edge of the city. One passes through numerous ecosystems on the one paved road, ending in an evergreen forest that is many degrees cooler than Tucson. It was a very popular place to go for car picnics and hikes, and in the early 70s the area was suffering from use degradation and congestion. It probably still is. The Sierra Club wanted to solve the problem by taking out the road, a solution that would have made the area inaccessible to all those not committed to at least an overnight backpacking trip. I was fascinated by the problem of how one might estimate the nonmarket benefits and costs of the road.

Nonmarket commodities are commodities that are not directly bought and sold in the market place. Examples of nonmarket commodities are public goods, environmental amenities, cultural resources, historic resources, etc. I have done a great deal of valuation work with site-specific environmental amenities such as natural landscapes, and recreational sites such as fishing sites and ski areas. I am just starting a project to value historic and cultural sites in the U.S. My interest in nonmarket valuation is both theoretical and applied.

Valuation of cultural and historic amenities interests me greatly.

I am here to learn from you, to learn about cultural resources in Italy. I know about valuation techniques and their application, but know little about the people of Italy and the cultural resources of Italy. Tell me your perspectives on who values Italy's cultural and historic

resources, why they value them, and what techniques can be used to estimate those values. Please convey your thoughts to me, either today or in the future.

My comments today will cover seven topics:

- I. What is cultural and historic value.
- II. Value from who's perspective
- III. Why is it important to value site-specific cultural and historic resources?
- IV. Use values and passive use values for site-specific cultural resources
- V. Possible methods to estimate use values
- VI. Contingent valuation as a method to estimate total value (use and passive)
- VII. Extracting WTP (willingness to pay) from residents and tourists: how and why?

I. What is cultural and historic value?

Conventional measures of economic value are *willingness to pay* (WTP) and *willingness to accept* (WTA).¹ An individual's WTP for a nonmarket commodity is how much the individual would be willing to pay to have the commodity available. For example, you might consider what you would be willing to pay to have the Colosseum restored.² Or, what you would be willing to pay to eliminate the periodic flooding of Venezia. Or, what you would be willing to pay to guarantee there would never be another oil spill in Alaska of the magnitude of the Exxon Valdez spill.

¹Depending on the scenario being valued, WTP and WTA can be recast as either a compensating variation or an equivalent variation.

²Consider the saying, "as long as the Colosseum stands, Rome stands; when the Colosseum falls, Rome also ends, and when Rome falls, the world will end."

Alternatively, an individual's WTA for a nonmarket commodity is how much the individual would have to be paid to accept the removal of the nonmarket commodity. For example, what would you have to be paid to agree to the replacement of Bologna's Torre degli Asinelli with a McDonalds hamburger franchise?

WTA is the more appropriate measure of value if the nonmarket commodity currently exists, and/or one has a right to its existence. WTP is the more appropriate measure of value if the nonmarket commodity does not currently exist and/or one has no right to its existence.

WTP is typically easier to estimate than WTA. One's WTP is bounded by one's income; one's WTA is not. For this reason, most valuation studies estimate WTP.

Value to a group is just the sum of the values to the individuals in the group. The group can be the residents of a town, a region, a country, or the world. It can include residents of the future.

II. Value from who's perspective

Cultural sites can be valued by local residents, but have no additional regional or national value. For example, a small local cemetery might have significant value to the local residents but no value to visitors and other nonresidents. Alternatively, cultural sites can be valued by residents of the region or nation, but not by the local residents. That is, a site that is considered an amenity from the perspective of those who do not reside near it might be considered a disamenity from the perspective of the local residents. For example, some locals probably consider the canals of Venezia inconvenient and dirty.

III. Why is it important to value cultural and historic resources?

The primary reason to value cultural resources is to determine whether preservation is appropriate. A cultural and/or historic resource should be preserved if the present value of preservation is greater than the cost.³ There is the issue of what to save and what to destroy. Italy has a lot of cultural and historic resources, and they cannot all be saved. One must ask whether the stock of such resources is too large.

Often the preservation decision is not discrete, but a question of the appropriate rate of degradation or restoration. Very few cultural resources are destroyed outright. However, many are gradually degraded by neglect; and factors such as weather, pollution, encroaching development, congestion and traffic. Restoration, when it occurs, is usually partial and lengthy.

The other reason to value cultural and historic resources is that the valuation estimates can be used to help determine how restoration and preservation, when appropriate, should be funded. Should restoration and preservation be funded with user fees and/or property taxes, general tax revenues, voluntary contributions, or some combination of these sources? Funding will be discussed in greater detail in Section VII.

IV. Use values and passive use values for site-specific cultural resources

What are site-specific cultural and historic resources? Site-specific resources are resources that reside at specific locations and that are not easily moved. Examples are landscape (mountains, forests), views, rivers, coastlines, buildings, fountains and statues, ruins, streets,

³Choice of the discount rate will often be critical.

roads, and even towns and cities.⁴ Urbino is a site-specific cultural resource.

Historic resources are resources that are old. I won't attempt to define "cultural". Culture is difficult to formally define, but we all have strong opinions on what it is. Institutions can be cultural resources. Two examples are the University of Bologna and the University of Urbino. Another example is the Opera in Milan.

It is important to distinguish between use values and passive use values. Use value requires use of the resource. For example, the use benefits from the Vatican museum can only be captured if one visits the museum. Good views are an example of use benefits in that they require being in a particular location, which requires either a trip to that location or a residence at that location.

The terms passive use values and nonuse values are often used interchangeably. Passive use seems to be the more popular term at the moment. Passive use values for a site-specific resource are values one can obtain without being present at, or near, the site. Examples of passive use values are the pleasure I get from knowing gorillas exist in Africa, and the pleasure I get from knowing the Colosseum still stands. Passive use values can include values for use by others now and in the future (bequest values), and other intrinsic values that accrue even if the individual does not visit the resource. For example, the pleasure one gets from knowing that fish have quality habitat in which to live does not require that one visits the stream.

Cultural resources can have use value, passive use value, or both. One can both get pleasure from visiting cultural sites and from knowing such sites exist. The value of some sites

⁴A painting or statue is not a site-specific resource unless it is viewed as belonging to a site. An example of a statue that belongs to its site is the Pietá. An art museum with many papers is a site-specific resource because, for one, the complementarities amongst the paintings. .

will be primarily use value. The value of other sites will primarily passive-use value. Use values are obviously significant for popular tourist sites and/or sites near which people like to live. Tourists have a WTP for cultural and historic resources that is often greater than what they currently pay in terms of time and money.

Use affects the characteristics of a site, so current use can reduce future use benefits. Many historic building, parks and wilderness areas are being degraded by their visitors. Current use can also reduce current and future passive use benefits.

The values of the cultural resources in a town or region is not the sum of the values of all of its separate cultural components. Venezia has value greater than the sum of the values of its individual buildings, piazzas and canals.

If one is considering a number of restoration projects, the individual benefits of each can depend on the order in which the projects are undertaken. Restoring one church might reduce the benefits of restoring a second church. Alternatively, restoring one church might increase the benefits of restoring a second church. It depends on whether the churches are substitutes or compliments from a cultural and historic perspective.

V. Possible methods to estimate use values

A. Travel-cost models

Travel-cost estimates use values by observing behavior and inferring value from that behavior. If a trip to Firenze costs \$2000 and I take a trip, one can infer that I expected at least \$2000 worth of benefits from the trip. If a trip to Firenze costs \$2000 and a trip to London costs \$1000, and I choose Firenze over London, I value the characteristics of Firenze at least \$1000

more than I value the characteristics of London.

Specifically, the travel-cost method estimates a system of demand functions for trips to cultural sites as a function of the travel costs to the sites, and the characteristics of the sites. Estimating demand is equivalent to estimating preferences, so from the system of estimated demand one can derive WTP for the existence of a cultural site and/or WTP for changes in the characteristics of a site.

Tourists, both Italians and foreigners, take many trips to cultural sites in Italy, so the travel-cost method should be seriously investigated as a method for estimating use values for cultural sites. Important travel-cost issues are defining sites, defining and measuring the characteristics of the sites, and defining trips.

There are macro sites and micro sites. If Venezia is viewed as a macro destination, then the Piazza San Marco is a micro site. For tourists from the U.S., Italy is a macro site, Tuscany is a micro site in Italy, and Firenze and Siena are important micro sites in Tuscany. Galleria degli Uffizi and the Galleria dell' Accademia are micro sites in Firenze. For residents of Bologna, Urbino can be viewed as a possible macro destination and the Palazzo Ducale as a large micro site in Urbino.

Nested logit models are well suited as a method of estimating how individuals simultaneously choose both a macro site and one or more micro sites in that macro site. Nested logit models were developed by Daniel McFadden as a method to explain urban travel demand. They have been extensively applied to estimate the demand for trips to recreational sites. The decision tree for visits to cultural and historic sites is viewed as a nest. At the top level of the nest is the participation decision; at the next level are the regions in the choice set; and at the next

level are the micro sites in each region. I have done work in this area and think nested models have great potential to explain trip taking behavior for cultural sites.

Modelling trips poses many exciting micro and econometric problems. The data is typically individual based, so corner and boundary solutions are prevalent. That is, most individuals do not visit all of the sites and many individuals visit none of the sites. There are often sample-selection problems; for example often only participants are sampled. The incorporation of site characteristics into the demand functions poses interesting problems. It is also critical to be utility-theoretic; that is, estimated demand functions that are consistent with an underlying preference ordering. Another interesting problem is the derivation of exact consumer's surplus measures from the estimated demand functions.

An important issue is whether travel-cost models can be used to estimate use benefits for everyone, or only the use benefits to non-locals. Specifically, can travel-cost models be used to estimate the use benefits for local residents? Local residents are defined as those individuals who reside in or close to the site. Much of their daily activity is near the site.

What sorts of use benefits do locals get from cultural sites? Locals get benefits from walking the streets and viewing the architecture, worshipping in the local church, and the occasional trip into the local museum, the latter usually when one has visitors from out of town. In addition, locals get pleasure from knowing they live near sites that are culturally and/or historically significant.

This raises the question of what is a trip. One spends time at a site either by visiting the site or residing at the site, so travel and residential location are substitutes that are jointly determined. With careful specification of trips, travel-cost models have potential to measure use

values to locals, but hedonic property models should also be investigated.

Will travel-cost models "work" for valuing cultural sites? I think so. Travel-cost models have great applicability whenever demand involves significant travel. I am currently working on using travel-cost models to explain the demand for and benefits from health care sites in less-developed countries as a function of the costs of travel to the different sites, and the characteristics of the sites (staff, types of services provided, etc.). I am just starting a project to estimate the damage to buildings and monuments in the U.S. from acid rain. Travel-cost modelling will likely play a significant role in that estimation.

B. Hedonic property value models and/or hedonic wage models as a method to estimate the use benefits from cultural and historical sites.

Amenities affect property values and/or wages, but I suspect cultural amenities affect property values more than wage rates. There are hundreds of hedonic property value studies that show that property values are significantly affected by their distance from site-specific amenities. The city I live in, Boulder Colorado, is very beautiful and surrounded by official open space. Many studies, one done by me, have shown proximity to this open-space greatly increases property value. I recently read a "tongue in cheek" article that showed that in the U.S. distance from a church affected property values, increasing the value of property in the neighborhood, but decreasing the value of property within 200 meters of the church. Apparently, Sunday morning bell ringing and parishioner parking can be a disamenity.

Hedonic property value studies are based on the notion that in equilibrium amenities often get capitalized into property values. As a secondary effect, property values influence both long

and short term rental rates. In Boulder, property values are high and wage rates are low. The hedonic perspective would argue that this is because Boulder is an attractive place to live.

I suspect cultural and historical resources affect property values and rental rates in Italy. Some evidence I have experienced is the hotel rate distance-gradients in cities such as Firenze and Venice, and how rental rates for weekly cottages and villas vary across regions in Italy, and how within regions such as Tuscany these rental rates vary as a function of the distance to major tourist attractions.

The extent to which cultural and historic amenities have been capitalized into property values in Italy depends in part on how competitive and active is the market for property. What do you think? Are there significant restrictions on the sale of land? Can foreigners buy land?

Consider the relationship between travel-cost methods and hedonic methods. In some cases, travel costs and property values are two sides of the same coin. Residing close to a site is valuable because it reduces the cost of visiting the site. Travel cost models and hedonic property value studies can be substitutes for one another, and/or compliments for one another.

Another technique for estimating use values is to create real or experimental markets. One can experiment with entrance fees as a method of determining WTP above and beyond the current costs of the trip. User fees are discussed in greater detail in Section VII.

Travel-cost models, hedonic models, and experimental markets are revealed preference techniques. That is, they are techniques that infer value from observed behavior. The individual's behavior reveals his or her values. Alternatively, an individual's stated preferences are the individual's description of his or her preferences. If I survey you as to whether you would prefer to visit London or Prague, I have collected stated-preference data. Many interested parties

question whether stated-preference data contains the same amount of information about preferences as revealed-preference data.

C. Contingent ranking as a method to estimate the use values associated with cultural sites

The contingent ranking method presents each sampled individual with a set or sets of hypothetical sites and asks the individual to either choose the best site in each set or rank the sites. The hypothetical sites are defined in terms of cost and a finite number of characteristics. These costs and characteristics are systematically varied across the sites in the individual's hypothetical choice set. Data is also collected on the socioeconomic characteristics of the individuals sampled. The contingent ranking data is then incorporated into a model of consumer preferences to determine how individual value sites as a function of the site's characteristics.

Contingent ranking is particularly useful when one must value configurations of characteristics that do not currently exist. For example, contingent ranking could in theory be used to value Firenze with and without its cathedral. Market research types often use contingent ranking studies to value new products. Contingent ranking was developed to value proposed models of cars as a function of their features, for cases where some of these features are not currently available. A potential weakness of contingent ranking is that preferences are based on the responses to hypothetical questions rather than responses to actual offers.

Contingent ranking is a potentially powerful tool in the estimation of use benefits from cultural and historic sites. It is useful as a method for identifying what features of a site are important to individuals, and for identifying the types of tradeoffs individuals consider and make.

Contingent ranking questions mimic the types of choices individuals face. For this reason, contingent ranking questions are sometimes preferred to contingent valuation questions.

Depending on the type of questions asked, contingent ranking can estimate total value (use and passive use).

D. Combining revealed and stated preference data

Some of the frontier research in the area of valuation is in developing utility-theoretic models that simultaneously use both stated preference data (contingent valuation, contingent ranking, etc) and revealed preference data (travel cost, market data, observed behavior, etc.) to estimate consumer preferences for nonmarket commodities. I feel that combining revealed and stated preference data can be particularly useful in the valuation of cultural resources because they often have both significant use and passive use value.

VI. Contingent valuation as a method to estimate total value (use and passive)

Simply put, contingent valuation asks an individual to state the value he or she places on a nonmarket commodities. For example, the question, how much would you be willing to pay to finish Bologna's Duomo of San Petronio is a contingent valuation question. The question is hypothetical, no money is collected even if you state a positive WTP, and your response will not directly affect the probability of restoration.

Contingent valuation estimates both use and nonuse values. Attempting to design questions that estimate passive use values (use values) but not use values (passive use values) is both difficult and unneeded.

Contingent valuation is a stated preference technique. Contingent valuation requires you to determine value explicitly. In contrast, contingent ranking, which is also a stated preference technique, asks you how you would behave in a hypothetical situation.

Contingent valuation questions typically asks the individual whether he or she would pay a specific amount to achieve some goal. These types of questions are called referendums because the individual either "votes" yes or no for the stated goal at the specified price. For example, would you pay 1000 lire to guarantee that the leaning tower of Pisa does not topple?

The specified price in the referendum question is varied systematically across the individuals in the sample.

In contrast to the referendum format, one could ask the individual to state his or her WTP for achievement of the goal. This is called the open-ended format. Stating your maximum WTP is considered more difficult than determining whether your WTP is greater than the amount specified in a referendum question. Another format is iterative bidding. Iterative bidding asks the individual whether he or she would pay each of a ascending or descending sequence of specific amounts.

The contingent behavior data is used to estimate WTP for the achievement of the proposed goal. Estimation can be as simple as averaging the WTP responses from an open-ended question, or regressing the WTP responses from an open-ended question on the socioeconomic characteristics of the respondents. Estimation can also be quite complicated. For example, one might use the responses to referendum questions to estimate WTP in a utility-theoretic ordered-probit model.

Many issues complicate estimation. WTP might be negative for some respondents. For

example, some Romans apparently are balking at the new palette of post-modern pastels that have cropped up on recently restored building. Surveys often do not allow individuals to express negative values; this is because WTA questions are difficult to ask. The interval nature of the data obtained with referendum and iterative bidding questions also poses problems. One obtains an upper and lower bound on WTP, not an estimate of WTP. Modelling the sources of error and randomness (variation in preferences and/or measurement error) leads to many interesting econometric questions. For example, some sampled individuals state WTP that is very large. Is this an expression of extreme preferences or measurement error.

A. Can contingent valuation be used to estimate WTP for the preservation or restoration of cultural and historic sites in Italy?

This question might be put as two separate questions. (1), Can contingent valuation questions be designed to value cultural and historic sites? And (2), Will the responses Italians give to contingent valuation questions provide more or less information than the responses in other countries? I believe contingent valuation questions can be designed to value cultural and historic sites, but only with great care. Great care is an important component of all good contingent valuation studies. Contingent valuation studies require much scoping, and the survey questions need multiple rounds of pretesting.

The scenario to be valued needs to be clearly specified. For example, ten years ago many individuals would have been able, after having the likely outcome of restoration described, to answer whether he or she would pay 100,000 lire to achieve the restoration of Michelangelo's Last Judgement. However, scenarios such as "restoring Roma" are vague, so open to so much

interpretation that the responses to a question such as "Would you pay one million lire to restore Roma are basically meaningless. Describing the scenario to be valued is often the most difficult task.

The scenario to be valued needs to be within the realm of possibility. If a scenario is infeasible, individuals will often state a zero WTP, not because they do not value the scenario, but rather because they feel the scenario cannot be achieved at any price. For example, cleaning buildings and fountains is feasible; rerouting all the traffic in downtown Roma is not.

An important part of the contingent valuation question is the payment vehicle. The payment vehicle is the specified form of the payment. Payment, for example, could be in terms of a one-time tax, a one-time payment to a private organization, a price increase, or whatever. Individual who value restoration but hate taxes will often state a zero WTP for restoration. This is called rejection of the payment scenario, and such scenario rejections are common in the U.S.

Now to the second part of the question. Will the responses Italians give to contingent valuation questions provide more or less information than the responses in other countries? I do not know. What do you think? Are there private organizations that work for restoration and preservation? Do Italians contribute to these organizations? Do organizations like the Nature Conservancy exist in Italy?⁵ What is the attitude towards earmarking of tax revenues? Will all earmarked tax scenarios be rejected? Are ballot referendums a common method for deciding on

⁵The Nature Conservancy is a nonprofit organization in the U.S. that collects contributions and uses the money to preserve natural areas.

government projects?⁶

VII. Extracting WTP from residents and tourists: how and why?

One reason for extracting WTP to fund preservation is general tax revenues are scarce. Another reason is payment for preservation and restoration should be a function of the benefits one receives from cultural resources. It also might be desirable to extract WTP from foreigners.

A. User fees and/or taxes related to use.

Consider first user fees and/or taxes related to use. For efficiency and/or equity reasons, user fees could vary as a function of residency (local, regional, national, foreign). The consumer's surplus associated with a trip to a site is what one would pay above and beyond what one already pays, so, *ceteris paribus*, consumer's surplus is a decreasing function of trip cost. One implication is that if a resident and a foreign tourist have identical preferences, the resident will be willing to pay a higher entrance fee. However, some foreign tourists will have because of income or preferences a large WTP. Travel-cost models could be used to determine how visitors would respond to fee structures.

Should there be user fees for specific sites such as churches and museums? What kind of fee structures currently exist? What percentage of costs are covered by such fees? User fees are feasible for major attractions, but not feasible for many micro sites. One cannot collect fees for entrance to streets or piazzas, but these might be as attractive to tourists as the local museum.

⁶In some states in the U.S., ballot referendums are a common way to make decision, so residents are familiar with these types of choices. In other states, referendums are uncommon.

All older Americans have seen the movie *Three Coins in a Fountain*, so the Trevi fountain is a must see.

Also complicating the issue is the fact that the value of a site is not the sum of the values of its individual components. Therefore, separate user fees for micro sites cannot capture the WTP for the sum of those micro sites.

With this in mind, consider entrance fees for towns and/or regions. Does the town or region have a way to control access; that is, is there a feasible gate? Consider the following food for thought. Venezia has a small number of entrance points, so an entrance fee might be technically feasible. Many tourists spend hundreds if not thousands of dollars to visit Venezia. A \$25 or \$50 fee would probably be less than most tourist's WTP. The fee could be waived for residents. The revenues generated could be used for restoration. I suspect that such a fee could be acceptable to tourists, but its structure and monitoring would have to be carefully crafted.⁷ One does not want to create a theme park, and no one wants to live in a theme park.

A tax on hotel rooms and/or restaurant meals is not a perfect substitute for an entrance fee, but it is possibly easier to collect and more politically palatable. A hotel tax would bias visitors away from overnight visits, and in many places tourists already do not spend the night.

Possible distortions will be created if user fees are used for some sites but not others. Fee patterns will influence both the number of visits tourists make and how those trips are distributed across sites. This, in itself, is not necessarily bad. However, strategic distortions can occur. There is a game-theoretic aspect to user fees. Substitute site might strategically compete with one

⁷For example, will grandchildren from Roma have to pay the entrance fee when they come to visit their grandmother in Venezia.

another by lowering fees until an inefficient Nash equilibrium is reached. Merchants, hotel managers and restaurant owners will argue that user fees will shift commerce and jobs to other areas.

To the extent that cultural and historical amenities are capitalized into property values, property taxes can be used to extract WTP for those amenities. To what extent is this done? Are there property taxes? And, what proportion of the tax revenues collected go to preservation and restoration of those amenities?

Special property tax districts can be created that only include the properties most impacted by a specific cultural amenity. The owners of these properties could vote on a referendum to make their properties a special tax district, where the referendum specifies the tax rate, and specifies that the funds collected will be used to fund restoration and preservation. The residents of my neighborhood created a special tax district to purchase and preserve a small lake and the land around it. Is this possible in Italy?

B. Taxes not related to use

If valuation studies indicate that residents of a region have, in general, a WTP for preservation and restoration but indicate it is difficult to extract WTP, an argument can be made for funding restoration and preservation out of general tax revenues. Cultural amenities often have a public goods aspect to them. That is, passive benefits to one does not preclude benefits to others. In addition, restoration or preservation of a micro site often conveys positive externalities on other micro sites, due in part to complementarities amongst sites. Another justification for funding preservation and restoration out of general revenues is when the passive

use values associated with preservation are both significant and experienced by most people.

Is funding out of general tax revenues the common method of government funding for restoration and preservation? I was recently reading about a law passed two years ago called Roma Capitale, which authorizes funds for upgrading services and sites in Roma, including dozens of its neediest and most popular cultural monuments. I read its budget for 1995 was recently slashed from 250 billion lire to 100 billion lire. Is Roma Capitale funded out of general revenues?

C. Voluntary contributions to capture use benefits

Private firms (hotels, restaurants, shops) that benefit from proximity to cultural and historical amenities might have an incentive to contribute to the preservation and restoration of those amenities. Two factors that significantly effect such contributions are market interest rates and free riding.

Many cultural amenities are being degraded but the rate of degradation is often at a snail's pace compared to market rates of interest. This could be a significant reason why the market does not allocate more resources towards preservation. Preservation is often not profitable because the present value of the future revenues do not warrant the necessary current expenditures.

Collective and private action by a group of firms is more likely the fewer the firms affected by the amenities. Collective voluntary action by the merchants in a small town such as Urbino is more likely than collective voluntary action by the merchants of Roma. When many agents are impacted, free riding is too attractive. In such cases, the powers of the government are needed to

coerce the individual agents towards what is best for the group.

Consider voluntary user fees for visitors. Suggestions for maximizing contributions by tourists are: Suggested contributions that are clearly posted. A gate through which one must ask for entrance. Price discrimination; that is, different suggested contribution levels for students, families, seniors, and locals. Posted information on the degradation due to use. Posted information stating that the collected funds will be used for restoration. In addition, additional contributions can be solicited for very specific restoration projects at the site. For example, noting funds are needed to restore an alter, or restore a fountain. Such solicitation would indicate the cost of the specific project, and provide information as to what the restoration would accomplish. Pictures of what the restored amenity will look like will help.

D. Voluntary contributions to capture passive use benefits

If sites generate significant passive use values, there is potential to generate funds for restoration by soliciting nonusers. Passive use values for cultural sites often greatly exceeds use values. For example, millions of residents of the U.S. value the historical/religious sites of Roma, even though most of them will never see them.

Voluntary contributions by nonusers is used in the U.S. to preserve and maintain natural areas. Earlier I mentioned a U.S. nonprofit organization called the Nature Conservancy. The Nature Conservancy has thousands of members. It purchases lands to preserve and maintain them. Its funds come from membership dues, both individual and corporate, and from solicitations for specific purchases. It's yearly revenues are in excess of a quarter of a billion dollars and it has assets of approximately a billion dollars. Other similar national organizations

are Ducks Unlimited and Trout Unlimited. The extent of the contributions to organizations such as the Nature Conservancy, and the fact that most its members will never visit the properties the Conservancy preserves (often use it prohibited because it interferes with preservation), indicates individuals often have significant passive use values. Contributions to such organizations can be made more attractive by making the contributions tax deductible for both individuals and firms.

Contributions for passive use value can also be solicited on the local level. Most towns in the U.S. have private nonprofit historical societies which work toward preservation of local sites of historical significance. Their member donate time, effort and money. They help maintain historical sites and they purchase and preserve historical buildings. For example, the historical society in Boulder recently bought the home of one of the city's founders; it also helps to maintain the pioneer cemetery. Does the equivalent of local historical societies exist in Italy?

References