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If we restore it, will they come? Will they even care? Estimating adult Mississippians' use and non-use value for restoring a culturally and historically significant site in the Mississippi Delta

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If we restore it, will they come? Will they even care? Estimating adult Mississippians' use and non-use value for restoring a culturally and historically significant site in the Mississippi Delta

By

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If we restore it, will they come? Will they even care? Estimating adult Mississippians' use and non-use value for restoring a culturally and historically significant site in the Mississippi Delta

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I estimate the total economic value to Mississippians of restoring and re-using the Alcazar Hotel in Clarksdale, MS using a combined travel cost, contingent behavior, and contingent valuation method based on Eom and Larson's (2006) combined travel cost and contingent valuation method. I find that Mississippians hold a positive average total value of about $23 per person over a three-year visitation period. Using Eom and Larson's (2006) framework, I am able to calculate the use and non-use value of restoration in a theoretically consistent manner and find that the majority of the total value of restoration is non-use value. This finding suggests that the use of non-market valuation methods that require the researcher to assume away non-use value is inappropriate when valuing culturally and historically significant sites.

DEDICATION

For the people of Mississippi, past and present, who inspire me.

ACKNOWLEDGEMENTS

I am grateful to the Mississippi Delta National Heritage Area for funding this project and allowing me to focus my thesis research on a topic that truly interested me. I am also grateful to Bill Luckett, Annette Vise, and other Alcazar Hotel stakeholders who welcomed Dr. Interis and I to Clarksdale and provided guidance for the restoration scenario we designed and included in the survey. I would like to thank Dr. Interis for writing the grant that got this project funded and for being an exceptional mentor and major advisor. I would also like to thank my committee members, Dr. Harri and Dr. Stevens, for offering quality feedback on this manuscript and for their patience during the entire process. Finally, I would be remiss if I did not thank my fellow graduate students (especially Tori Marshall and Chellie Hogan) and my family (especially my parents Jim and Jo Ann Wells) for supporting me throughout my graduate education.

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CHAPTER I

INTRODUCTION & LITERATURE REVIEW

The region known as the Mississippi Delta includes 18 counties in western Mississippi (see Figure 1.1), but culture and history define the Delta as much as, if not more than, the lines on the map (Mississippi Delta National Heritage Area n.d.). The Delta's culture is built on its connections to the creation and proliferation of blues music as well as such consequential Civil Rights Movement events as Emmett Till's murder and Stokely Carmichael's "Black Power" speech. Physical reminders of the Delta's history and culture persist in the significant buildings and sites dotting its landscape, some of which have become notable more recently for their deterioration.

Deterioration in sites of cultural and historical significance is concerning because, as Throsby (1999) notes, they are "cultural capital assets" contributing to a region's cultural and economic value. Throsby (1999) advances the idea that economists' conception of capital as a triad of physical, natural, and human capital should instead be a quartet including cultural capital; even going so far as to predict dire consequences for groups who take cultural capital for granted, noting "[i]t is becoming clearer that cultural 'ecosystems' underpin the operations of the real economy, affecting the way people behave and the choices they make. Neglect of cultural capital by allowing heritage to deteriorate…will likewise cause cultural systems to breakdown, with consequent loss of welfare and economic output" (9). Presently the social impacts of restoring (or losing) culturally and historically significant sites in Mississippi are unknown.

Mazzanti (2003) argues that if cultural goods are to successfully compete for scarce resources and society is to make the most efficient decisions about their use, it needs to account for the full economic value of cultural goods in the terms it most often uses to make decisions: money. Cultural goods like historic buildings are quasi-public goods (Chambers, Chambers, and Whitehead 1998) meaning that at least a portion of their value to society is non-marketed and must be recovered using non-market valuation techniques. The total value of a cultural good is part use value and part non-use value; use value is the value people derive from experiencing the good first-hand and non-use value is the value people derive from knowing the good exists or from knowing others can experience the good. No study to date estimates the economic value of culturally and historically significant sites anywhere in the state of Mississippi, forcing the state and its citizens to make decisions about preservation and preservation policy without the benefit of full information. In this paper, I attempt to answer two questions: 1) how much do adult Mississippians value the restoration of a culturally and historically significant building in the Delta, and 2) how does the restoration's value break down into use and non-use value? The subject of the valuation exercise is the Alcazar Hotel in Clarksdale, MS.

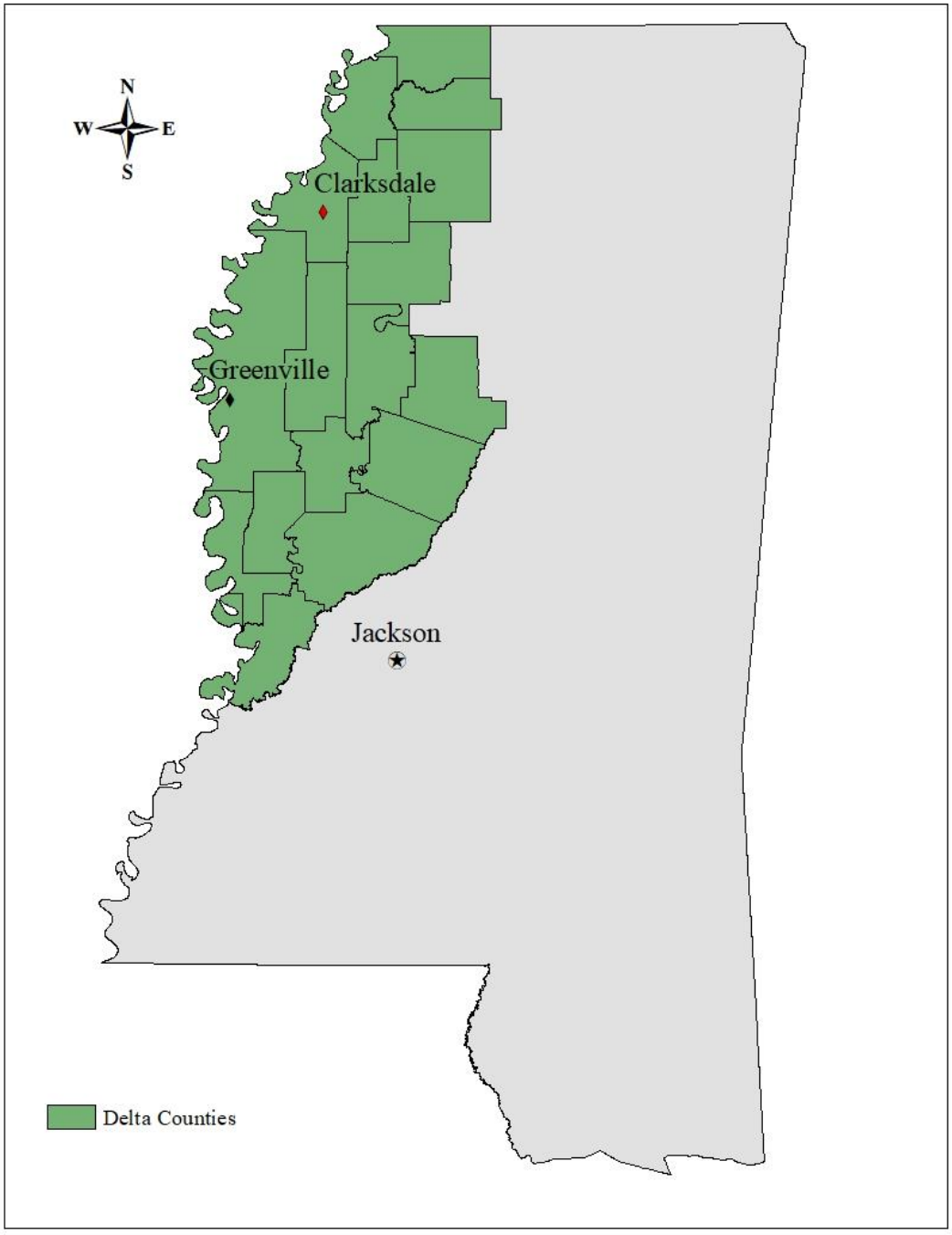

Figure 1.1 Map of the counties in the Mississippi Delta National Heritage Area

Sources: Mississippi Automated Reference Information System (2015a), Mississippi Automated Reference Information System (2015b), Mississippi Delta National Heritage Area (n.d.), and Google (2018)

The Alcazar Hotel in Clarksdale, MS was built in 1915 and last used in the 1990s (Mississippi Heritage Trust 2009; Luckett, Bill. Co-owner Alcazar Hotel. 2017. Personal communication, October). According to the Mississippi Heritage Trust (2009), when it operated as a hotel, one of its notable lodgers was playwright Tennessee Williams. The hotel also housed radio station WROX, which employed the first black DJ in the state: Early Wright. During its time in the hotel, WROX radio shows featured appearances and performances by the likes of B. B. King, Elvis Presley, and Ike Turner. The National Park Service listed the hotel on its National Register of Historic Places in 1994 and the Mississippi Heritage Trust named the hotel one of the "10 Most Endangered Historic Places in Mississippi" in 2009. A group of businessmen with ties to Clarksdale including Bill Luckett, former mayor of Clarksdale and co-owner of the Ground Zero Blues Club, now own the Alcazar Hotel (Figures 1.2 through 1.4 show the Alcazar Hotel's condition as of October 2017). The owners have expressed interest in further restoring the hotel and re-using it as a hostel (Luckett, Bill. Co-owner Alcazar Hotel. 2017. Personal communication, October).

Figure 1.2 Exterior of the Alcazar Hotel in October 2017

Figure 1.3 The Alcazar Hotel's ballroom in October 2017

Figure 1.4 Inside a former guestroom at the Alcazar Hotel in October 2017

In this paper, I estimate the economic value, both use and non-use, of restoring the Alcazar Hotel using non-market valuation techniques. Non-market valuation methods fall into one of three categories: revealed preference, stated preference, or some combination of the two. Revealed preference methods rely on information about people's past decisions to ascertain their value for a good and include the travel cost and hedonic methods. Stated preference methods rely on information about how people say they would act if some hypothetical opportunity were to arise and include discrete choice experiments like the contingent valuation and contingent behavior methods. The literature on valuing culturally and historically significant sites and improvements to those sites includes applications of stated preference, revealed preference, and combined methods (Pearce, Mourato, Navrud, and Ready 2002; Noonan 2003; Yung, Yu, and Chan 2013; Wright and Eppink 2016).

In the contingent valuation method, the researcher creates a hypothetical market for an improvement to a culturally and historically significant site and asks survey respondents if they are willing to pay some amount of money in support of the improvement. Because the respondents' value for the improvement is neither tied directly to their use of the good nor directly to the value they derive from the good's existence, studies using contingent valuation produce estimates of the total value of restoring (e.g. Kling, Revier, and Sable 2004 and Báez and Herrero 2012), protecting (e.g. Whitehead and Finney 2003), or preserving a site (e.g. Kuhfuss, Hanley, and Whyte 2016) using survey respondents' stated willingness to pay.

The travel cost method and combined travel cost and contingent behavior methods are tied directly to respondents' use of the site, and therefore, produce only use value estimates. The use-value estimate derives from the money and time visitors exchange for the opportunity to experience the site. Studies using the travel cost method produce estimates of a site's use value in its current condition using the number of times survey respondents visited a site (or sites) in the recent past and the cost of visiting to estimate trip demand (e.g. Poor and Smith 2004; Okuyama 2012; Melstrom 2014; Melstrom 2015). A researcher may estimate the use value of restoring or protecting a site using the travel cost method supplemented with contingent behavior data in which they ask respondents to imagine how the number of trips they take or which site they visit might change if the site is restored or protected (Boxall, Englin, and Adamowicz 2003; Alberini and Longo 2006).

To my knowledge, only two studies combine stated and revealed preference methods to value culturally and historically significant sites: Boxall, Englin, and Adamowicz (2003) and Alberini and Longo (2006). Boxall, Englin, and Adamowicz (2003) and Alberini and Longo (2006) use combined travel cost and contingent behavior methods to value access to ancient

Native American stone paintings in Canada and changes to historically and culturally significant sites in Armenia. Boxall, Englin, and Adamowicz (2003) find that the higher the quality of the stone painting, the more likely visitors are to say that they would adjust their travel plans to see the painting. Likewise, Alberini and Longo (2006) find that restoring a site positively impacts stated demand for trips to the site. In both studies, the researchers assume that visitors hold only use value for the site's protection or restoration.

The assumption that visitors hold only use value for a culturally and historically significant site's protection or restoration is potentially problematic. Remember that culturally and historically significant sites are quasi-public goods (Chambers, Chambers, and Whitehead 1998) and the public good portion of the benefits they provide society are non-use benefits; thus, it is possible that visitors too would hold some non-use value for the site and its restoration. Herriges, Kling, and Phaneuf (2004) estimate the value of an environmental good that potentially has both use and non-use value for visitors using two travel cost models: one in which they assume visitors hold only use value and another in which they allow visitors to hold both use and non-use value for the good. They find that the two models produce different value estimates suggesting that erroneously assuming visitors hold only use value for a good may produce inaccurate value estimates; thus, it is potentially inappropriate to use the travel cost or combined travel cost and contingent behavior methods to value culturally and historically significant sites and their restorations.

Instead of using the travel cost, contingent valuation, or combined travel cost and contingent behavior methods to estimate the value of restoring the Alcazar Hotel, I opt to use Eom and Larson's (2006) combined travel cost and contingent valuation method. Eom and Larson (2006) build upon Hausman's (1981) integrating back approach to derive the total value

function and Marshallian trip demand function from the same utility function, and in turn produce a total value estimate equal to the sum of use and non-use value. Unlike combining the travel cost and contingent behavior methods alone, Eom and Larson's (2006) method includes information about the respondents' non-use value for the site's restoration through the contingent valuation data, which allows me to test for non-use value and produce estimates of use, non-use, and total value. I could produce estimates of use, non-use, and total value using the contingent valuation method alone, but as Whitehead, Pattanayak, Van Houtven, and Gelso (2008) suggest, Eom and Larson's (2006) method and similar combined stated and revealed preference methods may provide and avenue through which researchers can mitigate the hypothetical bias thought to plague stated preference methods.

Eom and Larson (2006) first apply their method to valuing improvements in the water quality of a river in Korea. The authors use a survey to collect contingent valuation data asking visitors if they are willing to pay a given amount for an improvement in water quality at the site they visit most. They also ask respondents how many visits they made to any of six recreational sites along the river in the year before. The six recreational sites in the study vary in water quality, a fact which the authors leverage to identify demand for trips to any one site as a function of water quality. The authors need trip count data from multiple sites of varying water quality because water quality does not vary at the individual site level. Each recreational site in their study has five reasonable substitutes sites, which allows the authors to model demand for trips to all six sites as if they were the same site with varying levels of water quality. In a similar manner, Egan (2011), Hwang (2014), and Chien and Larson (2009) apply Eom and Larson's method to water quality in Iowa lakes, quality of wildlife observation experience, and quality of old-growth forests as a determiner of spotted-owl species survival. In all four studies, the

researchers observe trips to substitute sites of differing quality and use the variation in quality across sites to identify demand for quality at one site. For researchers attempting to estimate the use value of a good without reasonable substitutes, it is possible to use contingent behavior data to identify demand for site quality as in Alberini and Longo (2006) and Boxall, Englin, and Adamowicz (2003). Researchers are able to identify demand as a function of quality using contingent behavior data because they have data on the number of trips people took (or plan to take) to the site at two levels of quality (e.g. unrestored and restored).

Estimating demand for trips to the Alcazar Hotel before and after restoration presents a unique challenge in that I observe trips to the site in neither its unrestored nor its restored state. I cannot observe trips to the site in its unrestored state because the site is deteriorated and not a tourist attraction; I cannot observe trips to the site in its restored state because it is not yet restored. Instead of estimating demand for trips to the Alcazar Hotel directly, I estimate demand for trips to Clarksdale as a function of the town's cultural quality, which I assume the Alcazar Hotel's restoration enhances.

Unlike the Alcazar Hotel specifically, Clarksdale in general attracts visitors. In 2018, visitors to Coahoma County, where Clarksdale is the county seat, spent an estimated $64.02 million (Mississippi Development Authority 2018). Clarksdale is the Mecca of the Delta blues and is home to the Delta Blues Museum; the Ground Zero Blues Club, which actor Morgan Freeman co-owns; and the annual Juke Joint Music festival. Clarksdale also celebrates its connections to notable musicians and artists such as Sam Cooke, Ike Turner, and playwright Tennessee Williams. It is Clarksdale's unique mix of history, culture, and events that attracts visitors.

It is also Clarksdale's unique mix of history, culture, and events that prevents me from mirroring Eom and Larson's (2006) method exactly, because Clarksdale lacks reasonable substitutes. Instead I collect data on the number of times respondents visited Clarksdale, and the number of times they plan to visit in the future assuming the Alcazar Hotel's restoration is finished. I use the contingent behavior data to create the variation in quality necessary to identify the impact of the Alcazar Hotel's restoration on demand for trips to Clarksdale. I also create a contingent valuation scenario in which I ask respondents if they are willing to pay a one-time tax for the hotel's restoration. Using the travel cost, contingent behavior, and contingent valuation data together in Eom and Larson's framework I produce a total value, use value, and non-use value estimate for the Alcazar Hotel's restoration. Using the contingent valuation data alone, I estimate a probit model to produce a total value estimate for comparison with the total value estimate from the Eom and Larson approach.

This paper is the first to apply Eom and Larson's (2006) method to a significant site's valuation as well as the first on any topic to combine travel cost, contingent behavior, and contingent valuation data in Eom and Larson's (2006) framework[1]. Combining travel cost and contingent behavior data allows me to identify demand for trips to Clarksdale as a function of the Alcazar Hotel's restoration status, which I could not identify without contingent behavior data because I cannot observe trips to Clarksdale with the Alcazar Hotel restored. Combining all three types of data allows me to separate the use and non-use value of restoring a culturally and historically significant site; a subject previously unexplored in the cultural valuation literature.

[1] Landry and Whitehead proposed such a combination at the annual Agricultural and Applied Economics Association meeting in 2015, but did not present results from such an analysis.

Ultimately, I find that the Alcazar Hotel's restoration has a positive and significant impact on demand for trips to Clarksdale and a three-year average total value of about $23 per Mississippian, and that most of the restoration's total value is non-use value. Estimating the restoration's total value using the contingent valuation method and a probit model, I produce a three-year average total value estimate of about $24 per person, which compares closely to the estimate I derive from the Eom and Larson (2006) approach. Despite introducing new information through the travel cost data, the total value estimate does not change markedly from the contingent valuation model to the combined model; however, it is important to remember that Eom and Larson's (2006) method may reduce the impact of hypothetical bias on the total value estimate (Whitehead, Pattanayak, Van Houtven, and Gelso 2008). I show that most of the value of restoring a culturally and historically significant site is non-use value, which casts doubt on the appropriateness of using methods like the combined travel cost and contingent behavior method to value such sites because the researcher assumes away any non-use value the visitor might hold for the site's restoration. Eom and Larson (2006) also suggest that separating use and non-use value can be helpful for policymakers interested in potential economic impacts of a project. For site restorations, it would likely be helpful to know how tourism might change if the site were to be restored.

In chapter II, I explain how Dr. Matthew Interis and I designed the survey in which we elicited travel cost, contingent behavior, and contingent valuation data from adult Mississippians related to the Alcazar Hotel's restoration. In chapter III, I describe the estimation sample: which respondents are in the sample, which are not in the sample, and why. Then, in the conceptual framework chapter (IV), I provide an overview of the theory underlying Eom and Larson's (2006) method and my estimation model. Chapter V details the variables I include in the

estimation model and how I calculate total value, use value, non-use value, and the confidence intervals around the value estimates. The final two chapters present my findings and their implications for future research.

CHAPTER II

SURVEY DESIGN

We designed a survey to collect travel cost data on respondents' previous visits to Clarksdale, contingent behavior data on how respondents' visit frequency might change after the Alcazar Hotel's restoration, and contingent valuation data on respondents' willingness to pay for the restoration. The basic premise behind the travel cost model is that if people value using Clarksdale's cultural and historical attractions, they would have incurred costs to experience the attractions through travel, and the amount they paid to experience the attractions is their use value (Parsons 2003). Using travel cost data from a sample of adult Mississippians, we can estimate demand for trips to Clarksdale as a function of travel cost.

In the travel cost portion of our survey, we asked respondents for the number of overnight trips and the number of single-day trips they took to Clarksdale in the three years before our December 2017/January 2018 survey. Respondents also provided information on their last trip to Clarksdale including the number of nights they stayed; the number of people in their household who also went on the trip; the number of hours they spent in Clarksdale; and the amount of money they spent on lodging, gas, food, entry fees, and rental or miscellaneous fees. Finally, we asked respondents the reasons why they visited Clarksdale during that period and to choose the single primary reason they visited. Respondents could select from the seven potential reasons for visiting: blues tourism, civil rights tourism, art, shopping, outdoor recreation, business, and other; respondents who selected "other" could enter their reason for visiting in a text box.

We chose to collect the number of trips a respondent took over three years instead of one year (which prevails in the literature for its potential to limit recall bias) because of our sampling method and uncertainty about demand for trips to Clarksdale. Because we collected an off-site sample of all adult Mississippians, we expected the number of visitors to Clarksdale in the year prior to the survey to be too small for meaningful analysis. To increase the number of Clarksdale visitors we observe, we expanded the time horizon to three years prior to the survey. Our study is not the only one to use an unconventional travel period length as Amoako-Tuffour and Martínez-Espiñeira (2012) use a five-year travel period in their analysis.

In the contingent behavior portion of the survey, we ask respondents to imagine that the Alcazar Hotel is already restored and "Regardless of whether the restoration affects your decision to visit Clarksdale in the future, would you expect to visit Clarksdale during the next 3 years? (again, assume the restoration has just been completed)." The respondents could answer "yes" or "no" to this question. If the respondents answered "yes", we asked how likely they think it is that they would stay in the hostel in the restored Alcazar Hotel, which they could answer "very likely", "somewhat likely", or "not at all likely". We then asked respondents to tell us how many overnight and single-day trips they expected to take in the three years after the survey and to provide information on their next visit assuming the restoration is finished. Specifically, we asked for the number of nights they plan to stay in Clarksdale on their next trip; the number of people in their households who will accompany them on the trip; the number of hours they expect to spend in Clarksdale; and the amount of money they expect their households to spend on lodging, gas, food, entry fees, and rental or miscellaneous fees. We also asked the respondents why they plan to visit Clarksdale in the three years after restoration and to provide the single primary reason they plan to visit during that period. Respondents could select from seven

potential reasons for future visits: blues tourism, Civil Rights tourism, art, shopping, outdoor recreation, business, and other.

Like contingent behavior data, contingent valuation data is stated preference data. Contingent valuation data tells us whether respondents are willing to trade some amount of money for the Alcazar Hotel's restoration. We give them the opportunity to contribute money to the restoration through a referendum-style question. We posed the contingent valuation choice question to survey respondents as: "Would you be in favor of Mississippians making a **one-time payment of $X** on their 2018 Mississippi State Income tax returns (usually filed in April, 2019) to support this restoration plan of the Alcazar Hotel?" to which respondents could answer "yes" or "no". If respondents answered "no" to the choice question, we asked them to select a reason for answering "no". Possible reasons included: "The cost is too high", "I do not support any kind of additional taxes", "I do not consider this site to be of cultural or historical significance", "Public funds should not be used for the restoration of any sites of cultural or historical importance", and "Other". We randomly assigned a bid value, t_i, to each respondent, which could take a value of $2, $5, $10, $20, $40, or $75. The lower bid values are comparable to entry fees for other Delta attractions like the Delta Blues Museum in Clarksdale and the Grammy Museum in Cleveland, which charge $10.00 and $12.00 for adult admission.

Because of time and budget constraints, we were unable to test our survey with focus groups before eliciting responses. However, we conducted a convenience survey in which we asked 11 academics and non-academics to review the survey and provide feedback on its design and our choice of bid values prior to elicitation, and after elicitation began, reviewed the first fifty responses for respondent's comments and concerns before releasing the survey to the rest of

the sample. The results of the convenience survey and respondent comment review did not suggest that we needed to make changes before eliciting responses from the full sample.

Given that both the contingent behavior and contingent valuation data are contingent upon respondents' attitudes toward the Alcazar Hotel's restoration (and they need information about the proposed restoration plan to form attitudes about the project) we present respondents with a proposed restoration to be completed in 2022. In our restoration scenario, the hotel would be restored to its historical appearance and would include a recreation of the WROX studio. After restoration, the owners would use the top three floors as a hostel with local companies leasing part of the first floor and the owners offering the remainder of the first floor to local educational camps. We tell respondents that the Mississippi Department of Archives and History, Mississippi Delta National Heritage Area, and the owners would contribute money as well as expertise to the Alcazar's restoration, an arrangement like that of Báez and Herrero (2012), and that the owners would maintain and operate the site for 20 years after restoration. The hotel's owners and other stakeholders contributed to the restoration scenario design.

We designed two treatments for the survey related to the owners' use of the hotel after restoration: one in which the owners would restore and re-use the building as described but operate the hostel as a non-profit and another in which the owners would operate it as a for-profit business. We hypothesize that Mississippians will value the site's restoration more if the owners plan to use it in a non-profit operation than if they plan to use it in a for-profit business. Mississippians might value the restoration more in the non-profit case because of negative beliefs they hold about public funding of private ventures or positive beliefs they hold about non-profits. Many culturally and historically significant sites are privately owned with owners who hope to restore the building to re-use for business purposes. If there is any difference in value

between non-profit and for-profit restoration scenarios, that could be the difference between choosing to pursue the project and not.

We assured respondents that the government would fund the project only if most Mississippians support it, and that the sole use of any funds collected would be the restoration and maintenance of the site. We also told respondents that if the public funds this project the Mississippi Department of Archives and History would require a historically accurate restoration and prohibit the owners from making non-historically accurate changes after restoration and from barring the public from access to the site.

We collected demographic and attitudinal data from respondents as well. Respondents provided their age, state of residence, gender, race, education level, the number of children in their household, the number of adults in their household, and household income. Respondents also told us whether they had stayed in a hostel before, considered themselves blues fans, and knew where the Delta was located prior to taking the survey. We asked respondents to rate their level of agreement with each of the following statements on a five-point Likert scale from "Strongly agree" to "Strongly disagree": "It is important to preserve the culture and history of the Mississippi Delta region", "If the restoration plan described in this survey occurs, tourism would increase in the Mississippi Delta region", and "If the restoration plan described in this survey occurs, the economy would improve in the Mississippi Delta region". Responses to the first Likert scale question will signal which of the respondents is more likely to have a positive willingness to pay for the restoration of any culturally and historically significant building regardless of the specific building being restored. We designed the second and third Likert scale questions to elicit information on respondents' perception of the market effects that might stem from the Alcazar Hotel's restoration, which we believe will impact respondents' willingness to

pay for the restoration. The survey also included two questions about the appropriateness of using public funds to restore historic sites in the Delta, which we expect to further inform our understanding of Mississippians' attitudes toward public funding of private restorations.

The survey had nine sections and began with a section of screening questions (see Appendix A for full survey). Following the screening questions was a section introducing the survey in which we informed respondents of the voluntary nature of their participation, provided contact information for Dr. Interis and the Institutional Review Board (IRB) at Mississippi State University, and asked that only adult Mississippians complete the survey. The next section introduced the MDNHA and the Delta and preceded a section introducing the Alcazar Hotel, its history, and its current condition. The sections central to our analysis, the travel cost section, restoration scenario section, contingent valuation section, and the contingent behavior section followed in that order. We finished the survey with a round of attitudinal and demographic questions.

Hypothetical Bias Mitigation

One important concern for researchers designing surveys with stated preference components is hypothetical bias. Again, in stated preference surveys the researcher creates a hypothetical market for a good, like the Alcazar Hotel's restoration, and asks respondents whether they are willing to pay for the good as if the hypothetical market were real. If respondents state a willingness to pay that is higher (or lower) than what they would be willing to pay if the market were real, there is hypothetical bias. Most of the time researchers cannot observe a person's actual willingness to pay for a good, which makes it hard to recognize and mitigate the effects of hypothetical bias.

Although it is difficult, researchers have made strides in recognizing and mitigating hypothetical bias. In a recent meta-analysis, Penn and Hu (2018) compare the efficacy of various hypothetical bias mitigation techniques concluding that researchers using referendum-style choice questions and incorporating consequentiality theory into survey design (techniques we used in our survey) can partially mitigate hypothetical bias.

Consequentiality theory originates with Carson and Groves (2007). According to Carson and Groves (2007), if our survey's respondents believe their votes will matter to the MDAH or the MDNHA (i.e. inform the decisions they make about restoration) and the respondents care whether the tax for restoration is imposed, the survey is consequential to the respondents and our data is less susceptible to hypothetical bias. Our data is less susceptible to hypothetical bias because respondents who believe the survey is consequential should accurately portray their willingness to pay given the likelihood that they will have to pay at some point in the future (Carson and Groves 2007). To identify respondents who do not believe that their response to our choice question will impact policymaking, we asked: "How likely do you think it is that the Mississippi Department of Archives and History (MDAH) and the MS Delta National Heritage Area (MDNHA) will consider the results of this survey when making future decisions about the restoration of culturally or historically important sites in the Mississippi Delta?" Respondents could answer "Very likely", "Somewhat likely", or "Not at all likely". According to theory, respondents who answer "Not at all likely" believe the survey is not consequential. Likewise, respondents who do not plan to file a 2018 income tax return are inconsequential respondents because there is no consequence to answering "yes" to the choice question.

Carson and Groves' (2007) consequentiality theory also suggests that the contingent behavior portion of our data is more likely to suffer from hypothetical bias than the contingent

valuation portion. Respondents may have an incentive to overstate their demand for trips to Clarksdale after restoration because there is no guarantee that they will have to pay for additional trips if the restoration occurs and they believe that overstating their demand will make the restoration more likely. The contingent behavior data from respondents who did not visit in the three years prior to the survey may also suffer from hypothetical bias because of the respondents' lack of familiarity with Clarksdale and their value for a trip to the town. For example, a respondent who did not visit Clarksdale in the past may state that she plans to visit Clarksdale once in the three years after the Alcazar Hotel's restoration but in actuality would not end up taking a trip because of other time and budget constraints. Alternatively, a respondent who did not visit in the past might state that she plans to visit Clarksdale once in the three years after the Alcazar Hotel's restoration but in actuality would end up taking 5 trips because she visits once and finds she really enjoys Clarksdale and the renovated Alcazar Hotel.

CHAPTER III

DATA

In December 2017, we contracted Qualtrics to elicit responses to our survey, which it did in December 2017 and January 2018. Qualtrics contacted potential respondents through email using a message similar to Figure A.1 (Dahl, Sam. Research Services Sales Representative at Qualtrics. 2018. E-mail to author, December 9). Respondents received points in exchange for their participation, which they could in turn exchange for various prizes through Qualtrics. The elicitation produced 416 responses.

I restrict the estimation sample to respondents who visited Clarksdale at least once in the three years before the survey (pre-restoration) or planned to visit at least once in the three years after the Alcazar Hotel's restoration (post-restoration). I also include only respondents who made, or planned to make, fewer than 16 single-day visits and 17 overnight visits during the pre- or post-restoration periods. To arrive at 16 single-day visits and 17 overnight visits as cutoffs for outlier values, I calculate the interquartile range for each trip category, multiply the interquartile range by 3, and add the resulting product to the third quartile. 195 respondents neither visited Clarksdale pre-restoration nor planned to visit post-restoration and 21 others provided outlier responses. After I exclude 195 non-visitors and 21 outliers, 200 respondents remain.

I further exclude multi-purpose trip-takers from the estimation sample. The travel cost method is an appropriate valuation method for the Alcazar Hotel's restoration if the people who visited Clarksdale primarily considered the town's cultural and historical attractions when

deciding whether to visit. If instead it seems more reasonable that the people who visited Clarksdale did so primarily on a whim or because of personal or professional obligations, then it would be folly to attribute the entire cost of a trip to the use value of Clarksdale's cultural attractions. Following Melstrom (2014) and Melstrom (2015), I choose to exclude respondents who visited primarily for family or business-related reasons and respondents who visited Clarksdale as a part of a trip to another place.

Similar to multi-purpose trip-takers, protest voters consider something other than their willingness to pay for the Alcazar Hotel's restoration when answering the contingent valuation choice question, and as such, I exclude them from the estimation sample. Protest voters are respondents who vote against the provision of the good because they reject some part of the hypothetical market scenario (Jorgensen, Syme, Bishop, and Nancarrow 1999). For example, protest voters might be able and willing to pay $100 to see the Alcazar Hotel restored, but might also oppose instituting new taxes and vote against a $5 increase in taxes to support the restoration. Note that I exclude these respondents because they are not basing their decisions on their true ability and willingness to pay for the Alcazar Hotel's restoration, and having many protest voters can bias willingness to pay estimates downward. Here, I adopt a protest voter strategy in which I attempt to identify protest voters who would vote against the provision of the good regardless of the bid amount and their actual valuation of the good.

Here, I define protest voters as those who voted "no" to the choice question and fit into one or more of the following categories: 1) the respondent said she did not support additional taxes; 2) the respondent said that the restoration should be funded through taxes already collected, an optional tax, donation, or grant; 3) the respondent said that the landowner should pay for the restoration; 4) the respondent expressed a distrust in the government handling the

funds collected for the restoration; 5) the respondent said that the state would collect much more than needed to pay for the project if a tax were imposed at the bid amount; 6) the respondent's anger about the removal of confederate monuments seemed to drive the decision to answer "no"; and 7) the respondent's comments did not make sense or were inconsistent. I identify protest voters based on their responses to the choice question follow-up and their comments.

Because of concerns about incentive compatibility, I identify and exclude non-consequential voters based on whether they plan to file a tax return for 2018 and their responses to the consequentiality question. Non-consequential voters are those who do not plan to file a tax return in 2018 or answered "not at all likely" to the consequentiality question.

After also excluding respondents with missing values for any of the explanatory variables, I arrived at a final sample of 130 respondents. I present a comparison of the sample's demographics and that of the state of Mississippi in Table 3.1. My sample is comparable to the population in gender composition, median household income, and the percentage of people who identify as neither white nor black but over-represents whites and more highly educated people. My sample is also younger than the population as the median age is 33.5 years as compared to the state's median age of 37.5 years.

Table 3.1 Demographics of the estimation sample and the state of Mississippi

	Estimation Sample	Mississippi[a]
Male	47.7%	48.5%
Female	52.3%	51.5%
White	63.8%	58.2%
Black	31.5%	38.0%
Other Race	4.6%	3.8%
Median Household Income	$25,000 to $49,999	$43,529
Median Age (years)	33.5	37.5
Percent with High School Diploma (age ≥ 25)	99.0%	84.4%
Percent with Bachelor's Degree (age ≥ 25)	58.3%	21.9%

[a]2017 American Community Survey 1-Year Estimates – U.S. Census Bureau

To facilitate the estimation of demand for visits to Clarksdale as a function of the Alcazar Hotel's restoration, I stack the data. In stacking the data, I transform one observation per respondent into two: one observation corresponding to the pre-restoration number of trips and quality level and another observation corresponding to the post-restoration number of trips and quality level. For example, if respondent number 1 visited Clarksdale pre-restoration and plans to visit Clarksdale post-restoration, the respondent would have two observations in the dataset after stacking in which every variable except the number of visits and the quality level is the same across the two observations. Stacking the data creates 193 observations for 130 individuals. There are 193 observations instead of 260 observations because many of the respondents either made trips to Clarksdale in the three years before the survey or plan to make trips in the three years after the Alcazar Hotel's restoration, but not both. Those who made trips in the past and plan to make trips in the future have two observations, the rest have only one.

Identifying Respondents' Region of Residence

As a supplement to the data I collect within the survey, Qualtrics provided the ZIP code of every respondent, which I use to divide the sample into two categories: Delta residents and non-Delta residents. To do this, I use Esri ArcGIS 10.5.1 to determine which United States Postal Service (USPS) ZIP codes for Mississippi are in the 18 Delta counties (Mississippi Delta National Heritage Area n.d.). To prepare the data for analysis, I select and copy Mississippi ZIP code point features (Esri, Tom Tom North America Inc., and United States Postal Service 2017b) to a new feature class. I then project the new ZIP code point feature class in the Mississippi Transverse Mercator projection. I also use the state county boundary shapefile (Mississippi Automated Resource Information System 2015) as the base from which I select Delta counties and create a new shapefile containing only the boundaries for Delta counties. To create a feature

class containing only the USPS ZIP codes in the Delta, I clip the USPS Mississippi ZIP shapefile I created earlier using the Delta county boundaries shapefile.

Travel Distance and Time

I also compile data on the distance and time it takes to travel from the respondent's ZIP code to the Alcazar. I use two excel macros to retrieve the travel distance and time from Google maps (Tom 2014; see Appendix B for our exact code). The coordinates for the Alcazar are (34.201477, -90.573301), which I recovered by dropping a Google Earth pin at the corner of 3rd Street and Yazoo Avenue in Clarksdale (Google 2018). The macros report travel distance and time in meters and seconds, which I then convert to miles and hours.

CHAPTER IV

CONCEPTUAL FRAMEWORK

Eom and Larson's (2006) Approach: Combining the Travel Cost, Contingent Behavior, and Contingent Valuation Methods

I use Eom and Larson's (2006) method to estimate the use and non-use value of restoring the Alcazar Hotel. Remember, Eom and Larson (2006) base their method on Hausman's (1981) integrating back approach. Integrating back is a method for deriving a Hicksian quasi-expenditure function from a Marshallian demand function. To apply Hausman's (1981) method, assume that an individual, i, faces the utility maximization problem:

$$\underset{x_i, z_i}{Max}\ u_i(x_i, z_i, \boldsymbol{a}_i, q) \quad s.t.\ I_i = p_i x_i + z_i \tag{4.1}$$

where her utility is a function of the number of trips she takes to Clarksdale, x_i, all other goods, z_i, a vector of characteristics specific to her, $\boldsymbol{a}_i$, and the Alcazar Hotel's restoration status (my quality measure), q, which she has no power to choose. Here, as in Eom and Larson (2006), the respondent's income, I_i, constrains her utility and is a function of the cost of a trip to Clarksdale, p_i, x_i, and z_i (where p_i^z is normalized to equal 1).

Following Eom and Larson (2006), I assume a semi-log functional form for the Marshallian trip demand where

$$x_i = e^{\beta_0+\beta_1 p_i+\beta_2 I_i+ \beta_3 q+\boldsymbol{\beta a}_i}. \tag{4.2}$$

I then assume that the individual expends all her income, which allows the Hicksian trip demand function, x_i^c, to equal the Marshallian trip demand function. Hicksian trip demand is

$$x_i^c = e^{\beta_0+\beta_1 p_i+\beta_2 E_i(p_i,\boldsymbol{a}_i,q,u_i)+ \beta_3 q+\boldsymbol{\beta a}_i} \tag{4.3}$$

where $E_i(p_i, \boldsymbol{a}_i, q, u_i)$ is the individual's expenditure function. Using Shephard's lemma, which provides

$$\frac{\partial E_i(p_i, \boldsymbol{a}_i, q, u_i)}{\partial p_i} = x_i^c, \tag{4.4}$$

Eom and Larson (2006) integrate Equation (4.3) back with respect to p_i to produce the quasi-expenditure function:

$$\widetilde{E}_i\big(p_i, \boldsymbol{a}_i, q, \theta(q, u_i)\big) = -\frac{1}{\beta_2}\ln\left(-\frac{\beta_2}{\beta_1}e^{\beta_0+\beta_1 p_i+\beta_3 q+\boldsymbol{\beta a}_i} - \beta_2\theta(q, u_i)\right). \tag{4.5}$$

They specify the constant of integration, θ, as a function of both quality and the individual's utility, which allows non-use value to enter the estimation process; if they had instead assumed users only held use value for the good, utility would be the sole argument in the constant of integration. Eom and Larson (2006) specify a functional form for the constant of integration, which is

$$\theta(q, u_i) = e^{\beta_2\psi q}u_i \tag{4.6}$$

where ψ is a function of respondent-specific characteristics not including the cost of a trip to Clarksdale or the respondent's income.

For estimation, Eom and Larson (2006) assume that ψ is of the form

$$\psi = (\boldsymbol{\psi}'\boldsymbol{b}_i)^2 \tag{4.7}$$

where $\boldsymbol{\psi}$ is a vector of parameter estimates and $\boldsymbol{b}_i$ is a vector of respondent-specific characteristics.

The quasi-expenditure function with the assumed functional forms for trip demand and the constant of integration is:

$$\widetilde{E}_i(p_i, \boldsymbol{a}_i, q, u_i) = -\frac{1}{\beta_2}\ln\left(-\frac{\beta_2}{\beta_1}e^{\beta_0+\beta_1 p_i+\beta_3 q+\boldsymbol{\beta a}_i} - \beta_2 e^{\beta_2\psi_i q}u_i\right). \tag{4.8}$$

Note that because the Alcazar Hotel's restoration is a good, the individual has to expend less income in the post-restoration state of the world to achieve the pre-restoration utility level. The individual benefits from the Alcazar Hotel's restoration because she has more money to spend on more trips or other goods that increase her utility over the pre-restoration level. The value of the benefits to the individual is the difference between the expenditure needed to reach the pre-restoration utility level in the pre-restoration state of the world and the expenditure needed to reach the pre-restoration utility level in the post-restoration state of the world, or

$$\widetilde{E}_i(p_i^0, \boldsymbol{a}_i, q^0, u_i^0) - \widetilde{E}_i(p_i^0, \boldsymbol{a}_i, q^1, u_i^0) \tag{4.9}$$

where superscripts of 0 and 1 denote the Alcazar Hotel's restoration status as unrestored or restored. The total value function is

$$TV_i = \frac{1}{\beta_2}\ln\left[-\frac{\beta_2}{\beta_1}e^{\beta_0+\beta_1 p_i+\beta_2 I_i+\beta_3 q^1+\boldsymbol{\beta a}_i} + \left(1+\frac{\beta_2}{\beta_1}e^{\beta_0+\beta_1 p_i+\beta_2 I_i+\beta_3 q^0+\boldsymbol{\beta a}_i}\right)e^{\beta_2\psi_i(q^1-q^0)}\right]. \tag{4.10}$$

Given that our quality measure is a binary dummy variable, I can further simplify this expression to

$$TV_i = \frac{1}{\beta_2}\ln\left[-\frac{\beta_2}{\beta_1}e^{\beta_0+\beta_1 p_i+\beta_2 I_i+\beta_3+\boldsymbol{\beta a}_i} + \left(1+\frac{\beta_2}{\beta_1}e^{\beta_0+\beta_1 p_i+\beta_2 I_i+\boldsymbol{\beta a}_i}\right)e^{\beta_2\psi_i}\right]. \tag{4.11}$$

To derive the non-use value function, Eom and Larson (2006) use the Hicksian choke price. The Hicksian choke price is the price at which the individual no longer demands the good. Even when the individual is not traveling to Clarksdale to experience the town's cultural quality post-restoration, she may benefit from the restoration. Assuming once again that the Alcazar Hotel's restoration is a good, the individual benefits from the restoration because she has to spend less on all of the other goods she consumes to reach the pre-restoration level of utility thanks to the utility boost from restoration. Non-use value in terms of the quasi-expenditure function is, thus:

$$\tilde{E}_i(\hat{p}_i^0, \boldsymbol{a}_i, q^0, u_i^0) - \tilde{E}_i(\hat{p}_i^1, \boldsymbol{a}_i, q^1, u_i^0) \tag{4.12}$$

where $\hat{p}_i^s$ is the Hicksian choke price under either restoration status scenario (Eom and Larson 2006). Eom and Larson (2006) show that the Hicksian choke price is infinity given the functional forms they assume, and that non-use value is therefore

$$NUV_i = \psi_i. \tag{4.13}$$

Given that use value is the difference between total and non-use value, I express use value as

$$UV_i = \frac{1}{\beta_2} \ln\left[-\frac{\beta_2}{\beta_1} e^{\beta_0+\beta_1 p_i+\beta_2 I_i+\beta_3+\boldsymbol{\beta a}_i-\beta_2\psi_i} + \left(1 + \frac{\beta_2}{\beta_1} e^{\beta_0+\beta_1 p_i+\beta_2 I_i+\boldsymbol{\beta a}_i}\right)\right]. \tag{4.14}$$

Also note that demand for trips to Clarksdale with the Alcazar Hotel restored, x_i^1, and unrestored, x_i^0, are

$$x_i^1 = e^{\beta_0+\beta_1 p_i+\beta_2 I_i+\beta_3+\boldsymbol{\beta a}_i} \tag{4.15}$$

and

$$x_i^0 = e^{\beta_0+\beta_1 p_i+\beta_2 I_i+\boldsymbol{\beta a}_i}. \tag{4.16}$$

To make the conceptual model estimable, Eom and Larson (2006) append the error terms ε and η to the total value and demand functions, assuming the error terms are distributed

bivariate normal with mean 0, standard deviations σ_ε and σ_η, and correlation ρ. The following estimation equations result:

$$\ln x_i = \beta_0 + \beta_1 p_i + \beta_2 I_i + \beta_3 q + \boldsymbol{\beta a}_i + \eta \tag{4.17}$$

and

$$WTP_i = \frac{1}{\beta_2} \ln\left[-\frac{\beta_2}{\beta_1} x_i^1 + \left(1 + \frac{\beta_2}{\beta_1} x_i^0\right) e^{\beta_2 \psi_i}\right] + \varepsilon\,. \tag{4.18}$$

Theoretically, willingness to pay (WTP_i) and total value (TV_i) are the same, but I follow Eom and Larson's (2006) convention and call total value plus a random error term the willingness to pay function. To estimate this model, Eom and Larson (2006) derive an equation for the likelihood that the respondents take, or plan to take, the number of trips they reported and answer as they did to the contingent valuation choice question. The log-likelihood function is

$$LL = \overbrace{-\frac{n}{2}\ln\left(2\pi\sigma_\eta^2\right) - \frac{1}{2}\sum_{i=1}^{n}\left[\frac{\eta_i}{\sigma_\eta}\right]^2}^{1} + \overbrace{\sum_{i=1}^{n}(1-y_i)\ln\left[\boldsymbol{\phi}\left(\frac{\left(\frac{t_i - TV_i}{\sigma_\varepsilon}\right) - \rho\left(\frac{\eta_i}{\sigma_\eta}\right)}{(1-\rho^2)^{\frac{1}{2}}}\right)\right]}^{2}$$
$$\underbrace{+\sum_{i=1}^{n}(y_i)\ln\left[1 - \boldsymbol{\phi}\left(\frac{\left(\frac{t_i - TV_i}{\sigma_\varepsilon}\right) - \rho\left(\frac{\eta_i}{\sigma_\eta}\right)}{(1-\rho^2)^{\frac{1}{2}}}\right)\right]}_{3} \tag{4.19}$$

where t_i is the bid amount I offer the respondent in the contingent valuation choice question, y_i is her response to the choice question (either "yes", $y_i = 1$, or "no", $y_i = 0$), TV_i is from Equation (4.10) and $\eta_i = \ln x_i - \beta_0 - \beta_1 p_i - \beta_2 I_i - \beta_3 q - \boldsymbol{\beta a}_i$. Part 1 of Equation (4.19) corresponds to the marginal normal distribution of the number of trips an individual can take to Clarksdale, which Eom and Larson (2006) assume is normal; Part 2 corresponds to the distribution of the individual's answer to the choice question conditional on the number of trips she took to Clarksdale given that she answered "no" to the choice question; Part 3 corresponds to

the same as part 2, but for the case in which the respondent answers "yes" to the choice question instead of "no". Also note that here $\boldsymbol{\phi}$ is the standard univariate normal cumulative distribution function.

Caveat

Eom and Larson's (2006) method is not perfect. In particular Huang et al. (2016) take issue with Eom and Larson's (2006) decision to assume functional forms for trip demand and the constant of integration as well as their after-the-fact appending of an error term to the demand function. Huang et al. (2016) suggest that it is more appropriate to select the functional forms for demand and the constant of integration based on goodness of fit criteria and to append the error term to demand prior to integrating back. Although I recognize the issues with Eom and Larson's (2006) method, I do not adopt Huang et al.'s (2016) proposed fixes in this paper.

Contingent Valuation

Recall that in addition to the analysis base on Eom and Larson (2006), I plan to conduct a stand-alone contingent valuation analysis to produce a total value estimate for comparison. The contingent valuation data are from the same survey as before and I run the analysis on the same sample as before.

In the contingent valuation portion of our survey, we ask respondents if they are willing to give up the bid amount, t_i, from their income, I_i, to gain the benefits from the Alcazar Hotel's restoration. Whether they believe the benefits from the restoration are enough compensation for the lower income level depends on their utility functions.

Following McFadden's (1974) Random Utility Model, I assume that i's utility is a linear function of observable variables including her income, I_i, the Alcazar Hotel's restoration status,

q, and a vector of characteristics specific to her, $\boldsymbol{a}_i$, as well as a random error term, ε_{iq}, where the subscript q denotes the Alcazar Hotel's restoration status. Utility in the pre-restoration and post-restoration states of the world are:

$$U_{i0} = \gamma_0 + \boldsymbol{\delta}_0 \boldsymbol{a}_i + \zeta_0 I_i + \varepsilon_{i0} \tag{4.20}$$

and

$$U_{i1} = \gamma_1 + \boldsymbol{\delta}_1 \boldsymbol{a}_i + \zeta_1 (I_i - t_i) + \varepsilon_{i1} \tag{4.21}$$

Where the subscript q as in U_{iq} and γ_q denotes whether or not the Alcazar Hotel is restored. For a respondent to say she is willing to pay t_i, the difference between U_{i1} and U_{i0} must be positive. In practice, I can estimate only the probability that this difference is positive. Here, I use a probit model to estimate the parameters in which I assume ε_i, which equals $\varepsilon_{i1} - \varepsilon_{i0}$, is normally distributed with mean 0 and a standard deviation of 1. The probability that i says she is willing to pay t_i is

$$\text{prob}(y_i = 1 | \gamma, \boldsymbol{\delta}, \zeta) = \boldsymbol{\phi}\left(\frac{\gamma + \boldsymbol{\delta a_i} + \zeta I_i - \zeta_1 t_i}{\sigma}\right) \tag{4.23}$$

where $\gamma \equiv \gamma_{i1} - \gamma_{i0}$, $\boldsymbol{\delta} \equiv \boldsymbol{\delta}_{i1} - \boldsymbol{\delta}_{i0}$, $\zeta \equiv \zeta_1 - \zeta_0$, and as before $\boldsymbol{\phi}$ is the standard univariate normal cumulative distribution function.

Equation (4.23) serves as the basis for the log-likelihood function

$$LL = \sum_{i=1}^{n} \left(y_i \ln\left[\boldsymbol{\phi}\left(\frac{\gamma + \boldsymbol{\delta a_i} + \zeta I_i - \zeta_1 t_i}{\sigma}\right)\right] + (1 - y_i) \ln\left[1 - \boldsymbol{\phi}\left(\frac{\gamma + \boldsymbol{\delta a_i} + \zeta I_i - \zeta_1 t_i}{\sigma}\right)\right]\right) \tag{4.24}$$

where y_i, again denotes the respondent's choice (either "yes, I am willing to pay t_i", $y_i = 1$, or "no, I am not willing to pay y_i", $y_i = 0$) and n is the number of respondents. The likelihood function represents the joint probability that each respondent chose to pay t_i , or not, based on her characteristics. Using a maximum likelihood estimator, I estimate the parameters of the

likelihood function such that the joint probability is maximized. I then use the parameter estimates to estimate a respondents' willingness to pay for the restoration scenario.

A respondent's willingness to pay for a restoration scenario is the amount subtracted from income that makes the difference between a respondent's utility in the post-restoration state of the world and her utility in the pre-restoration state of the world equal zero, or

$$\gamma_1 + \boldsymbol{\delta}_1 \boldsymbol{a}_i + \zeta_1 (I_i - WTP_i) + \varepsilon_{i1} - \gamma_0 - \boldsymbol{\delta}_0 \boldsymbol{a}_i - \zeta_0 I_i - \varepsilon_{i0} = 0. \tag{4.25}$$

Thus, a respondent's estimated WTP is

$$WTP_i = \frac{\gamma + \boldsymbol{\delta} \boldsymbol{a}_i + \zeta I_i + \varepsilon_i}{\zeta_1}. \tag{4.26}$$

Recall that I assume the mean of the error term is 0, which allows me to eliminate ε_i from Equation (4.26) by taking the expectation of Equation (4.26) across ε_i's distribution, which results in:

$$E_\varepsilon = \frac{\gamma + \boldsymbol{\delta} \boldsymbol{a}_i + \zeta I_i}{\zeta_1} = WTP_i. \tag{4.27}$$

CHAPTER V

MODEL

Combined Travel Cost, Contingent Behavior, and Contingent Valuation Model

Again, the main objective of this study is to estimate the economic value of restoring the Alcazar Hotel and separate the total value estimate into use and non-use value. To estimate the economic value of restoring the Alcazar Hotel, I first estimate the parameters of the trip demand function

$$\ln x_i = \beta_0 + \beta_1 p_i + \beta_2 I_i + \beta_3 q + \beta_4 age_i + \beta_5 household_i + \beta_6 bluesfan_i + \beta_7 futvis_i + \eta \quad (5.1)$$

and the parameters of the willingness to pay function (Equation 4.18) where post-restoration trip demand is

$$\ln x_i^1 = \beta_0 + \beta_1 p_i + \beta_2 I_i + \beta_3 + \beta_4 age_i + \beta_5 household_i + \beta_6 bluesfan_i + \beta_7 futvis_i, \quad (5.2)$$

pre-restoration trip demand is

$$\ln x_i^0 = \beta_0 + \beta_1 p_i + \beta_2 I_i + \beta_4 age_i + \beta_5 household_i + \beta_6 bluesfan_i + \beta_7 futvis_i, \quad (5.3)$$

and

$$\psi_i = \psi_0 + \psi_1 treat_i + \psi_2 white_i + \psi_3 tdist_i + \psi_4 tdist_i^2 + \psi_5 prsa_i + \psi_6 bluesfan_i + \psi_7 toursa_i + \psi_8 deltares_i. \quad (5.4)$$

Table 5.1 lists the variables included in the two equations with descriptive statistics and their expected signs.

One of the most important variables in the willingness to pay and demand portion of the model is travel cost because it is the price visitors must pay to access Clarksdale's cultural and historic sites. Here, I calculate travel cost for respondent, i, as

$$p_i = \frac{\overbrace{(2 * tdist_i * 0.535)}^{1} + \overbrace{\left(2 * ttime_i * \frac{wr_i}{3}\right)}^{2}}{1000} \tag{5.5}$$

where $tdist_i$ is the one-way travel distance in miles from the respondent's home ZIP code to the Alcazar Hotel, $ttime_i$ is the one-way travel time in hours from the respondent's home ZIP code, and wr_i is the wage rate. Given that respondent's reported income in annual salary ranges, I adopt Melstrom's (2015) approach and calculate the wage rate as

$$wr_i = \frac{I_i}{2.080} \tag{5.6}$$

where I_i is the mid-point of the respondent's income range in thousands of dollars and 2.080 is the number of hours the respondent would work if she works 40 hours per week every week of the year in thousands of hours.

The travel cost function consists of two parts: 1) the cost of using a personal vehicle to travel to Clarksdale and 2) the opportunity cost of time spent travelling to Clarksdale. I base the cost of using a personal vehicle to travel to Clarksdale on the travel reimbursement amount for the federal government as of January 1, 2017, $0.535/mile (U.S. General Services Administration 2018). I calculate the per hour opportunity cost of time as one-third of the respondent's wage rate. There is no universally accepted approach to calculating travel cost, however, using the federal travel reimbursement rate and one-third the wage rate to calculate the cost of using a personal vehicle and the opportunity cost of time is common (Parsons 2003).

I use 1000 as a scaling factor in Equation (5.5). Egan (2011) also scales travel cost by 1000 in his application of Eom and Larson's (2006) method to valuing water clarity improvements in Iowa lakes.

Equally important to my analysis is the restoration status variable, q. The restoration status variable serves as my measure of Clarksdale's cultural quality before and after the Alcazar Hotel's restoration. For trips to Clarksdale pre-restoration, $q = 0$. For trips to Clarksdale post-restoration, $q = 1$. About 60 percent of respondent trips in my sample are expected trips post-restoration. If every respondent visited Clarksdale in the past and planned to visit after the Alcazar's restoration, there would be a 50-50 split between pre-restoration and post-restoration trips; however, not every respondent visited in the past and planned to visit in the future. The source of the discrepancy between past and expected trips is the nearly 27 percent of respondents who did not visit in the past but expected to visit in the future and the approximately 5 percent of respondents who visited in the past but did not plan to visit in the future. For estimation, q in the overall demand function (Equation 5.1), can take the value of one or zero depending on whether the trips are taken in the post or pre-restoration period. Accordingly, q^1 in demand for trips after restoration (Equation 5.2) equals one and q^0in demand for trips before restoration (Equation 5.3) equals zero.

Table 5.1 Descriptive statistics for variables in all trips, past and future visitors model

	Definition	Mean	Min	Max	Exp sign
Demand & WTP Variable					
p_i	Cost of roundtrip travel from respondent's home ZIP code to the Alcazar Hotel ($1,000)	0.241	0.031	0.568	(-)
q	=1 if trips are to occur after the Alcazar is restored, 0 otherwise	0.596	0	1	(+)
I_i	Household income ($1,000)	58.679	12.5	250	(+)
age_i	Respondent's age (years)	37.575	18	71	
$household_i$	Number of people (adults and children) in the respondent's household	2.694	1	6	
$bluesfan_i$	=1 if respondent identifies as a fan of blues music, 0 otherwise	0.865	0	1	(+)
$futvis_i$	=1 if respondent did not visit Clarksdale in the three years prior to the survey, 0 otherwise	0.269	0	1	
Non-use Variable					
$treat_i$	=1 if respondent is in the for-profit treatment, 0 otherwise	0.523	0	1	(-)
$white_i$	=1 if respondent is white, 0 otherwise	0.627	0	1	(-)
$tdist_i$	One-way travel distance to Clarksdale from respondent's home ZIP code (miles)	172.876	26.848	331.244	(-)
$tdist_i^2$	One-way travel distance to Clarksdale from respondent's home ZIP code squared (miles)	38315.50	720.792	109722.70	(+)
$prsa_i$	=1 if respondent strongly agrees it is important to preserve the history and culture of the Delta, 0 otherwise	0.648	0	1	(+)

Table 5.1 (Continued)

$futvis_i$	=1 if respondent did not visit Clarksdale in the three years prior to the survey, 0 otherwise	0.269	0	1	
$bluesfan_i$	=1 if respondent identifies as a fan of blues music, 0 otherwise	0.865	0	1	(+)
$toursa_i$	=1 if respondent strongly agrees tourism will increase in the Delta after the Alcazar's restoration, 0 otherwise	0.456	0	1	(+)
$deltares_i$	=1 if respondent has a Delta ZIP code, 0 otherwise	0.176	0	1	(+)
Other Variables					
t_i	Bid amount offered to respondent in contingent valuation choice question annualized over 3 years	7.466	0.6	22.5	
y_i	=1 if respondent answers "yes" to choice question, 0 otherwise	0.803	0	1	
x_i	number of single day and overnight trips to Clarksdale in past or future	3.845	1	16	
x_i^0 (n=78)	number of single-day and overnight trips to Clarksdale in previous 3 years	3.641	1	15	
x_i^1 (n=115)	number of single-day and overnight trips to Clarksdale in next 3 years	3.983	1	16	

The other variables I include in the willingness to pay and demand portion are demographic and behavioral. The demographic variables include the respondent's age (age_i) and the number of people in her household ($household_i$). The behavioral variables include two dummies: the first equals one when the respondent identifies as a fan of blues music ($bluesfan_i$), the second equals one when the respondent did not visit Clarksdale in the three years prior to the survey but plans to visit after the Alcazar Hotel's restoration (i.e. the respondent is a future visitor $futvis_i$). The first relates to Clarksdale's many connections to blues music; if respondents are fans of blues music, they may be more likely to visit Clarksdale in general. I include the future visitor variable to account for any differences in demand between past and future visitors. Of particular concern is any hypothetical bias particular to the contingent behavior responses among future visitors resulting from unfamiliarity with Clarksdale and the Alcazar Hotel.

In the non-use value portion of the willingness to pay function (i.e. ψ_i) I include a dummy variable equaling one when the respondent received the for-profit survey treatment ($treat_i$). I expect Mississippians to support the Alcazar Hotel's use as a non-profit after restoration more than its use as a for-profit business because of the government support needed to restore the property. I also include in the non-use value portion three variables designed to capture what impact, if any, identifying as a resident of the Delta has on a respondent's willingness to pay. The first is a one-way travel distance variable ($tdist_i$). I expect that as travel distance increases, non-use value will decrease because respondent's who live farther from Clarksdale identify less with the town, its history, and potentially the Delta. Likewise, I include a variable for the square of one-way travel distance ($tdist_i^2$) because I expect non-use value to decrease at a decreasing rate as travel distance increases. The third

variable I include for this purpose is a dummy denoting whether the respondents reported having a Delta ZIP code ($deltares_i$).

Two other dummy variables in the non-use value portion concern the respondents' agreement that tourism will increase in the Delta if the Alcazar is restored ($toursa_i$) and that preservation of the Delta's history and culture is important ($prsa_i$). Respondents in agreement with the statements are potentially more likely to value historically and culturally significant sites, and their restorations, simply for their existence than respondents who do not agree with the statements. I expect the parameter estimates associated with these variables to be positive.

I also include two of the variables from the willingness to pay and demand portion in the non-use value portion: $bluesfan_i$ and $futvis_i$. Blues fans could have higher non-use values for the Alcazar's restoration than non-blues fans because of its connections to WROX and many famous musicians. It is also possible that the non-use value future visitors hold for the Alcazar Hotel's restoration differs from that of past users, and I intend to account for any differences between the groups with this variable. I expect the sign of the blues fan variable coefficient to be positive, but make no expectation about the sign of the future user variable.

I also include in Table 5.1 other non-parameterized variables such as the bid value I offer respondents in the contingent valuation choice question (t_i in Equation 4.19), a dummy for how respondents answered the choice question (y_i in Equation 4.19), and the number of trips to Clarksdale in both the pre- and post-restoration periods (x_i in Equation 5.1), in the pre-restoration period (x_i^0 in Equation 5.3), and in the post-restoration period (x_i^1 in Equation 5.2).

Both Eom and Larson (2006) and Egan (2011) note that the period over which respondents decide whether to visit the site and whether they are willing to pay the bid amount must be the same. Here, I asked respondents for the number of trips they took or plan to take

over a three-year period, but I asked them if they are willing to pay for the Alcazar Hotel's restoration in one year only. Theoretically, there is an infinite number of three-year period in the future over which respondents can take trips to Clarksdale whereas there is only one-time when respondents could contribute to the restoration through their contingent valuation choice. To match the two, I annualize the contingent valuation bids using a 10% discount rate as Egan (2011) does and multiply the annualized amount by 3 to recover a consistent bid amount. The resulting bid amounts are thus: $0.6, $1.5, $3, $6, $12, and $22.5.

Estimating Willingness to Pay and Trip Demand Parameters

I estimate four variants of Equation (4.19) using a maximum likelihood routine in STATA, which I base on the GAUSS code Egan (2011) uses in his analysis. The first is a model of demand for single-day and overnight trips to Clarksdale and willingness to pay for the Alcazar Hotel's restoration among past and future visitors; past visitors are respondents who visited Clarksdale in the three years before the survey and may plan to visit after restoration. The second is a model of demand for single-day trips to Clarksdale and willingness to pay for the Alcazar Hotel's restoration among past and future visitors. The third is a model of demand for single-day and overnight trips to Clarksdale and willingness to pay for the Alcazar's restoration among past visitors only. The fourth is a model of demand for single-day trips to Clarksdale and willingness to pay for the Alcazar's restoration among past visitors only.

I include models 2 through 4 as a check for the robustness of my results to my decision to model the demand portion of my combined model as demand for single-day and overnight trips to Clarksdale for past and future visitors rather than demand for single-day trips among past visitors as the literature suggests (Parsons 2003). Parsons (2003) cautions against modeling a good's value based on overnight trips because overnight trips are more likely to be multipurpose;

therefore, introducing the potential that the trip cost is not totally attributable to the value of the good at the center of the study. Remember that I exclude from the estimation sample respondents who visited Clarksdale for family or business reasons and those who visited as part of a larger trip because of concerns about bias from multipurpose trips. I decide against excluding overnight trips from the estimation process despite the potential bias they may introduce because it seems appropriate to model the restoration's value on overnight and single-day trips given that nearly 30% of respondents in the sample for model one say they think it very likely they will stay in the hostel if the Alcazar is restored. To check for the impact of the overnight trips on my value estimates, I estimate two models where demand is for single-day trips, which I label model 2 and model 4 in Table 6.1. If the overnight trips respondents made to Clarksdale are multipurpose trips, I would expect the total value from the overnight and single-day models to be higher than the single-day only models. Future visitors are also a concern because, again, the contingent behavior data may suffer from hypothetical bias that is different from any bias (or lack thereof) present in the data from past visitors because the former have less experience with the good, at least in the past 3 years. To check for the impact of future visitor responses on the value estimates, I estimate two models where the sample of respondents includes only past visitors, which I label model 3 and model 4 in Table 6.1.

Contingent Valuation Model

To compare the total value estimates I derive from Eom and Larson's (2006) method to the total value estimates I derive from the simpler contingent valuation method, I estimate four probit models (one for each combined model) and calculate the average willingness to pay for the population.

The variables are the same across the Eom and Larson (2006) models and the contingent valuation models except that I do not include the travel cost variable in the contingent valuation models. Because I do not model the respondent's choice as if it depends on the number of trips she took, or plans to take, to Clarksdale it is not necessary to include the travel cost variable in the estimation model.

Calculating Average Total Value and Confidence Intervals

Following Eom and Larson (2006) and Egan (2011), I use the Krinsky-Robb procedure, as described in Haab and McConnell (2003), to calculate respondents' average total value for the Alcazar Hotel's restoration and the confidence intervals around those estimates. After estimating the parameters in our model, I create an $m \times 10{,}000$ matrix of random draws from the standard normal distribution, where m is the number of parameters in the model. I then multiply the estimation model's Cholesky decomposition of the covariance of the parameter estimates by the matrix of random draws random draws. To get a range of possible parameter estimates, I add the product of the Cholesky and random draw matrices to a $m \times 10{,}000$ matrix containing the parameter estimates from our maximum likelihood estimation of Equation (4.19). The final matrix contains 10,000 sets of potential parameters for Equation (4.19). I calculate average willingness to pay for each set of potential parameter estimates. I define average willingness to pay as

$$\overline{TV} = \frac{1}{\hat{\beta}_2} \ln\left[-\frac{\hat{\beta}_2}{\hat{\beta}_1}\hat{x}^1 + \left(1 + \frac{\hat{\beta}_2}{\hat{\beta}_1}\hat{x}^0\right) e^{\hat{\beta}_2 \hat{\psi}}\right] \tag{5.7}$$

where

$$\hat{x}^1 = e^{\hat{\beta}_0 + \hat{\beta}_1 \bar{p} + \hat{\beta}_2 \bar{I} + \hat{\beta}_3 + \hat{\boldsymbol{\beta}} \bar{\boldsymbol{a}}_i} \tag{5.8}$$

and

$$\hat{x}^0 = e^{\hat{\beta}_0 + \hat{\beta}_1 \bar{p} + \hat{\beta}_2 \bar{I} + \hat{\boldsymbol{\beta}} \bar{\boldsymbol{a}}_i}. \tag{5.9}$$

Remember, β_3 is the parameter associated with the Alcazar Hotel's restoration status thus, to estimate the change in use value resulting from the hotel's restoration I set $q^1 = 1$ and $q^0 = 0$ for total value calculation.

The average of the 10,000 average total value estimates is our overall average total value estimate for the sample. The lower bound of the 95% confidence interval around the overall total value estimate is the value separating the bottom 2.5% of estimates from the rest. Likewise, the upper bound of the confidence interval is the value separating the top 2.5% of values from the rest.

Calculating Average Willingness to Pay from Contingent Valuation Results

I again use the Krinsky-Robb procedure to produce 10,000 possible sets of parameters for Equation (4.24). Using the 10,000 possible sets of parameters, I calculate 10,000 possible average willingness to pay values using Haab and McConnell's (2003) formula

$$\overline{WTP} = \frac{\hat{\gamma} + \hat{\boldsymbol{\delta}} \bar{\boldsymbol{a}} + \hat{\zeta} \bar{I}}{\hat{\zeta}_1} \tag{5.10}$$

where $\bar{\boldsymbol{a}}$ is a vector of respondent specific characteristics averaged across the sample and $\bar{I}$ is the sample's average household income. Remember, ζ_1 is the parameter associated with the bid variable.

After calculating average willingness to pay for each of the 10,000 parameter sets, I take the average of the average willingness to pay values from the 10,000 parameter sets to arrive at the overall sample average willingness to pay.

CHAPTER VI

RESULTS AND DISCUSSION

The estimation results from the model of demand for either single-day or overnight trips to Clarksdale and willingness to pay for the Alcazar Hotel's restoration among past and future visitors ("All Trips, Past & Future Visitors" in Table 6.1) show that there is a positive and significant relationship between the Alcazar Hotel's restoration status and demand and willingness to pay for trips to Clarksdale; a result that is consistent across all four models and the findings of other contingent behavior studies on culturally and historically significant sites (Boxall, Englin, and Adamowicz 2003; Alberini and Longo 2006). Given the estimated coefficients on the restoration status variable across the four models and the semi-log functional form for trip demand, I might expect trips to Clarksdale among adult Mississippians to increase by about 20%-30% if the Alcazar Hotel is restored.

Table 6.1 Estimation results from four models of demand and willingness to pay for the Alcazar Hotel's restoration using Eom and Larson's approach

	Model			
	(1) All Trips, Past & Future Visitors	(2) Single-day Trips, Past & Future Visitors	(3) All Trips, Past Visitors	(4) Single-day Trips, Past Visitors
Demand & WTP Variable				
constant	1.113***	0.726***	1.187***	0.622***
	(0.406)	(0.169)	(0.071)	(0.050)
p_i	-2.189***	-2.196***	-2.401***	-2.556***
	(0.757)	(0.240)	(0.235)	(0.329)
q	0.292***	0.215**	0.297***	0.199***
	(0.069)	(0.091)	(0.057)	(0.067)
I_i	0.002	0.001	0.003***	0.002**
	(0.002)	(0.001)	(0.001)	(0.001)
age_i	-0.011	-0.007*	-0.013***	-0.008***
	(0.007)	(0.004)	(0.002)	(0.003)
$household_i$	0.124	0.112**	0.135***	0.134***
	(0.093)	(0.045)	(0.037)	(0.034)
$bluesfan_i$	0.393**	0.590***	0.372***	0.732***
	(0.393)	(0.071)	(0.099)	(0.048)
$futvis_i$	-0.384***	-0.458***	—	—
	(0.136)	(0.137)	—	—
Non-Use Value Variable				
constant	6.677***	6.072***	8.738***	7.597***
	(0.350)	(0.330)	(0.805)	(0.202)
$treat_i$	-0.198	0.038	-0.140	0.183
	(0.483)	(0.448)	(0.637)	(0.470)
$white_i$	-0.414	-0.294	-0.498	-0.436
	(0.440)	(0.337)	(0.769)	(0.394)
$tdist_i$	-0.035***	-0.034***	-0.056***	-0.050***
	(0.001)	(0.002)	(0.007)	(0.001)
$tdist_i^2$	0.0001***	0.0001***	0.0001***	0.0001***
	(0.000)	(0.000)	(0.000)	(0.000)
$prsa_i$	0.375	0.255	-0.035	0.046
	(0.594)	(0.333)	(0.717)	(0.501)
$futvis_i$	1.005**	0.811*	—	—
	(0.510)	(0.474)	—	—

Table 6.1 (Continued)

$bluesfan_i$	0.552*	0.488	0.954	0.609
	(0.296)	(0.494)	(1.015)	(0.401)
$toursa_i$	1.173**	1.394***	1.567**	1.668***
	(0.514)	(0.457)	(0.785)	(0.588)
$deltares_i$	-0.329	-0.285	-1.360	-1.186*
	(0.623)	(0.560)	(0.855)	(0.670)
Error Terms				
η	0.696***	0.635***	0.706***	0.636***
	(0.039)	(0.035)	(0.045)	(0.040)
ε	13.791***	11.281***	15.625***	11.958***
	(3.949)	(2.885)	(5.873)	(3.643)
ρ	0.053	-0.003	0.014	0.004
	(0.165)	(0.198)	(0.190)	(0.210)
$H_0: \psi = 0$				
χ^2	25120.91	2783.19	201.75	11802.35
df	10	10	9	9
p-value	0.000	0.000	0.000	0.000
Observations	193	168	141	128
Repondents	130	116	78	76
Pseudo-loglikelihood	-275.462	-220.701	-208.136	-171.052

Parameters marked with ***, **, and * are statistically significant at 1%, 5%, and 95%.
Robust standard errors in parentheses below estimates.

The parameter estimates for the "All Trips, Past & Future Visitors" model also show, as expected, that travel cost and future visitor status have negative and significant impacts on demand and willingness to pay for trips to Clarksdale. Also, as expected, being a blues fan increases demand and willingness to pay for trips to Clarksdale. If a person is a fan of blues music, I would expect her demand for trips to Clarksdale to be 38%-73% higher than a non-blues fan based on the coefficients on the blues fan variable across the four models. In the "All Trips, Past & Future Visitors" model, the parameters for income, age and the number of people in the household are not significant; the parameters on age and household number are significant in

models two through four and the parameter estimate for income is significant in models three and four. Otherwise, the signs and significance of the parameters shared between willingness to pay and demand are consistent across models.

Among the factors having a significant relationship with non-use value in the "All Trips, Past & Future Visitors" model are travel distance to Clarksdale, travel distance squared, future user status, blues fan status, and a belief that tourism in the Delta will increase if the Alcazar Hotel is restored. As expected, non-use value decreases as travel distance increases, but at a decreasing rate, which suggests that people living closer to Clarksdale may identify more with the town's culture and value it more. The non-significance of the Delta resident parameter also supports the finding that non-use value for the Alcazar Hotel's restoration is primarily based in proximity to Clarksdale rather than identification with the Delta and its culture.

The sign on the future user parameter is positive and significant, which implies that people who did not visit Clarksdale in the three years prior to our survey hold higher non-use values than those who did. The parameter estimate associated with the blues fan dummy is positive and significant in the first model, but the result is not robust to changes in the sample. Having a belief that tourism will increase in the Delta has a positive and significant relationship with non-use value; it is possible that people value the Alcazar Hotel's restoration because they think it will have a positive economic impact on the Delta's economy. The results further suggest that there is not a significant relationship between non-use value and being in the for-profit treatment, being white, believing that it is important to preserve the Delta's culture and history, or being a Delta resident. With the exception of the blues fan variable and the treatment variable, the signs and significance of the variables in the non-use portion of the model are consistent across the four models.

Below the parameter estimates for each model, I include the results of a Wald test on the null hypothesis of no non-use value associated with the Alcazar's restoration. I reject the null in every case, which suggests that valuations of restorations to culturally and historically significant sites employing combined travel cost and contingent behavior methods alone, as in Alberini and Longo (2007), may undervalue the restoration by assuming away non-use value.

Also consistent across models are the estimates of three-year average total, use, and non-use value, shown in Table 6.2. The estimates for average total value over a three-year period are in the low $20 range, with model one producing an estimate of $22.66. Average use value ranges between $0.17 and $0.37 and average non-use value, like total value, is in the low $20 range at $22.30 for model one. Use value accounts for a little more than one-hundredth of total value. Although my analysis offers little insight into why Mississippians seem to hold higher non-use than use values for the Alcazar's restoration, I can speculate as to the reason. It may be that people more interested in visiting sites like the Alcazar Hotel, or Clarksdale in general, are not Mississippi residents. According to the Mississippi Development Authority (2017), nearly 70% of all visitors to the state's 82 counties are not Mississippi residents. Because our survey focuses on Mississippians alone, it remains to be seen how out-of-state visitors would react to the Alcazar's restoration.

Table 6.2 Three-year average total value (TV), average use value (UV), and average non-use value (NUV) estimates for the Alcazar Hotel's restoration based on Eom and Larson (2006) models

	Model			
	(1)	(2)	(3)	(4)
TV	$22.66	$20.12	$22.82	$20.12
	[$14.81 $31.58]	[$14.25 $26.70]	[$12.93 $34.49]	[$12.90 $28.48]
UV	$0.37	$0.20	$0.30	$0.17
	[$0.10 $1.04]	[$0.02 $0.43]	[$0.13 $0.52]	[$0.02 $0.35]
NUV	$22.30	$19.92	$22.51	$19.95
	[$14.45 $31.31]	[$14.08 $26.48]	[$12.62 $34.22]	[$12.73 $28.35]

95% confidence intervals in brackets below estimates

Contingent Valuation and Combined Model Comparison

Although I provide the parameter estimates from the contingent valuation models in Table 5, the most important figures for comparison are the total value estimates at the bottom of the table. In Eom and Larson (2006) the respondent's choice is conditional on the number of trips she takes to Clarksdale and in a simple contingent valuation model it is not, which makes comparing the sign and significance of the parameter estimates between the two models difficult. However, the average total value estimates are similar to those of the Eom and Larson (2006) models with larger confidence intervals; the total value estimate for contingent valuation model on all trips, past users is wide enough that the estimate is not significantly different from zero. Given the general similarity between the Eom and Larson (2006) estimates and the contingent valuation estimates, the main benefits of modelling trips and contingent valuation choice together seem to be smaller confidence intervals and the potential for reducing any hypothetical bias present in the contingent valuation and contingent behavior data.

Table 6.3 Contingent valuation estimation results for the Alcazar Hotel's restoration

	Model			
	(1)	(2)	(3)	(4)
Variable	All Trips, Past & Future Visitors	Single-day Trips, Past & Future Visitors	All Trips, Past Visitors	Single-day Trips, Past Visitors
constant	2.195*	2.403*	3.081*	3.595*
	(1.179)	(1.238)	(1.705)	(1.899)
t_i	-0.076***	-0.089***	-0.057*	-0.088**
	(0.021)	(0.025)	(0.030)	(0.037)
I_i	0.003	0.005	0.009	0.013*
	(0.004)	(0.005)	(0.006)	(0.007)
age_i	-0.003	0.001	-0.010	-0.007
	(0.012)	(0.013)	(0.015)	(0.016)
$household_i$	0.068	0.087	0.019	-0.044
	(0.107)	(0.115)	(0.128)	(0.140)
$bluesfan_i$	0.319	0.408	0.569	0.609
	(0.439)	(0.464)	(0.564)	(0.613)
$futvis_i$	0.726	0.692*	—	—
	(0.044)	(0.408)	—	—
$treat_i$	-0.150	0.050	0.006	0.259
	(0.310)	(0.341)	(0.385)	(0.423)
$white_i$	-0.274	-0.332	-0.337	-0.548
	(0.363)	(0.407)	(0.463)	(0.539)
$tdist_i$	-0.020*	-0.029**	-0.032**	-0.041**
	(0.012)	(0.013)	(0.015)	(0.017)
$tdist_i^2$	0.00005*	0.0001**	0.0001**	0.0001***
	(0.000)	(0.000)	(0.000)	(0.000)
$prsa_i$	0.450	0.528	0.324	0.499
	(0.332)	(0.364)	(0.434)	(0.460)
$toursa_i$	0.839**	1.036**	0.833*	1.259**
	(0.384)	(0.452)	(0.453)	(0.556)
$deltares_i$	0.049	-0.096	-0.407	-0.631
	(0.651)	(0.676)	(0.845)	(0.938)
Observations	130	116	78	76
Log-Likelihood	-46.615	-38.966	-32.549	-27.537

Robust standard errors in parentheses

Table 6.4 Three-year average total value (TV) estimates for the Alcazar Hotel's restoration from the contingent valuation models

	Model			
	(1)	(2)	(3)	(4)
TV	$24.26	$22.41	$30.66	$20.72
	[$17.04 $38.88]	[$16.07 $36.08]	[-$24.53 $114.55]	[$13.94 $56.19]

95% confidence intervals in brackets

CHAPTER VII

CONCLUSION

Prior to this work, the state of Mississippi's policymakers and citizens made decisions about restoring culturally and historically significant sites across the state with only a vague idea of how much and in what way people valued these restorations. Using Eom and Larson's (2006) combined travel cost and contingent behavior method supplemented with contingent behavior data, I show that the people who would bear most of the burden for any state-supported restoration efforts, Mississippians, hold a positive total value for the restoration of one culturally and historically significant site: the Alcazar Hotel in Clarksdale, MS.

A cursory benefit-cost analysis suggests that the net present value of benefits from restoring and re-using the Alcazar Hotel would be positive as well. Given the three-year average total value estimate of $22.66 per Mississippian, I assume an annual average total value of about $7.55 per Mississippian (equal to $22.66 divided by three). If $7.55 is the annual average total value for all adult Mississippians (2,269,547 in 2017 according to the U.S. Census Bureau), the annual total value among adult Mississippians is over $17.1 million. Assuming that it takes four years to restore the 52,820 ft^2 (Plunkett 2011) Alcazar Hotel at a cost of about $200/$ft^2$ (Vise, Annette. Architect. 2018. E-mail to author, October 17), the cost of restoration would be about $10.5 million. The cost of furnishing the restored hotel is estimated at $3 million (Vise, Annette. Architect. 2018. E-mail to author, October 17). I assume that the government and owners of the hotel would incur the cost of restoration in the first year of restoration and that maintenance costs

and the annual benefits from restoration would begin in year 5. I assume annual maintenance costs of about $329,000, which is equal to 3% of the restored Alcazar Hotel's replacement value (National Research Council 1990). Discounting maintenance costs and the benefits from restoration at 10% in the twenty years after restoration (years 5 – 25), I arrive at a net present value of benefits of just under $17 million. The positive net present value estimate seems robust to changes in the discount rate as a decrease to a 5% discount rate produces a net present value estimate of over $50 million and an increase to a 15% discount rate produces a net present value estimate of over $5.5 million. Even if the state decided to fund the Alcazar Hotel's restoration and maintenance entirely, the benefits to Mississippians, on average, seem to outweigh the costs.

I also find that the positive total value Mississippians hold for the Alcazar Hotel's restoration is predominantly non-use value. For the state, this result may help justify its involvement in restoring culturally and historically significant sites as it is providing a public good to its residents. For the cultural valuation literature, this result suggests that it is inappropriate to use the travel cost method or combined travel cost and contingent behavior methods for this purpose. Remember that using the travel cost and combined travel cost and contingent behavior methods, the researcher assumes that visitors only value the site and its restoration if they get to experience it themselves. Also remember that significant sites are likely to offer public goods to society (i.e. non-use value) and that Herriges, Kling, and Phaneuf (2004) show that assuming only use-value exists for the site among visitors can bias estimates. Herriges, Kling, and Phaneuf (2004) further find that the total value estimate from their use-value only model is lower than the total value estimate from the use and non-use value model. If Herriges, Kling, and Phaneuf's (2004) findings extend beyond environmental valuation into cultural

valuation, it is possible that employing methods like travel cost and the combined travel cost and contingent behavior method may produce underestimates of the site's total value.

In addition to providing the first economic evidence that Mississippians value the restoration of significant sites within their state and showing that continuing to use methods like travel cost to value significant sites could be problematic, another potential contribution of this work is in my choice to value the Alcazar Hotel's restoration as a change in Clarksdale's cultural quality. My choice is based entirely in necessity because the Alcazar Hotel does not currently attract visitors; similarly, other researchers may find it helpful to adopt this approach when they are unable to observe trips to a site in neither its current nor its restored condition. Still others may find this approach useful for estimating the use value of restoring significant sites within culturally rich cities and towns regardless of current visitation patterns. Isolating the use value of restoring a single site within a culturally rich city or town using the combined travel cost and contingent behavior method is complicated because trips to the city or town are likely multipurpose: visitors plan to see many sites within the city or town during a single trip (Bedate, Herrero, and Sanz 2004; Armbrecht 2014). In this case, if the researcher chooses to make the rather dubious assumption that the cost of a trip to the city is entirely attributable to the site's use value, she will likely overestimate the use value of the site and its restoration (Parsons 2003). If it is reasonable to assume, however, that visitors to the city or town visit to experience its culture and history, then the researcher can frame the site and its restoration as an attribute of the town or city and disentangle its use value from that of other sites.

Suppose a researcher wants to estimate the use value of restoring the Notre Dame Cathedral in Paris using Eom and Larson's (2006) method as I do here by supplementing the travel cost data with contingent behavior data. If she asks respondents how many trips they made

to the cathedral for recreation in the past and how many they plan to make in the future after restoration, she faces a dilemma. She either has to exclude from her sample all visitors who report visiting Paris with the intent to visit other significant sites like the Louvre or the Eiffel Tower, assume the cost of travelling to Paris is totally attributable to a person's value for experiencing the cathedral, or somehow divide the value of the trip between the cathedral and all other sites of interest within the city (Mendelsohn, Hof, Peterson, and Johnson 1992; Bedate, Herrero, and Sanz 2004; Armbrecht 2014).

Imposing a restriction on who can or cannot participate in the study is problematic because it may exclude from the sample those who hold some value for the restoration and negatively impact sample size; assuming that the totality of the cost of a trip to a city like Paris is the cathedral's use value is problematic because it appears relatively unlikely for visitors to come to Paris with the sole intent of visiting the cathedral; dividing the value between the cathedral and the other attractions in Paris is problematic because it would necessarily rely heavily on researcher discretion as to which attractions received more of the value opening the analysis up to more bias (Mendelsohn, Hof, Peterson, and Johnson 1992; Bedate, Herrero, and Sanz 2004; Armbrecht 2014). However, If the researcher chooses to frame the cathedral's restoration as a change in Paris' cultural quality, she could disentangle the restoration's value while accounting for the value of experiencing Paris as a whole. Essentially overcoming the barrier of disentangling the use value of visiting one site in a culturally rich city or town from the value of visiting the city or town as a whole.

For all of the information this study provides, it does not provide an estimate of Mississippians' willingness to pay to stay in the Alcazar Hotel hostel after restoration and it does not provide an estimate of the total value of the restoration to non-Mississippians. I estimate the

use value of restoring the hotel as the use value to Clarksdale visitors, who may or may not stay in the hostel, and so do not estimate how much Mississippians are actually willing to pay to stay in the hostel. Another important omission from my study are non-Mississippians, who may hold different use and non-use values from Mississippi residents.

One clear avenue for future research is on the difference between Mississippian and non-Mississippian's use and non-use value for a culturally and historically significant site's restoration within the state. If Eom and Larson's (2006) method is applied to a study focusing on non-Mississippians it would provide more information on how the restoration of one site within a town or city would impact demand for trips to that particular town, because again, non-Mississippians account for nearly 70% of all tourists in the state (Mississippi Development Authority 2017). It is also important for future research to explore how total value and the break down of use and non-use value changes with different sites in the Delta and other regions of the state. Studies of this kind could provide further insight into what makes a particular site and its restoration valuable to Mississippians, and in turn, make it easier for policymakers and citizens to decide which sites are most deserving of public support.

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APPENDIX A

ADDITIONAL SURVEY INFORMATION

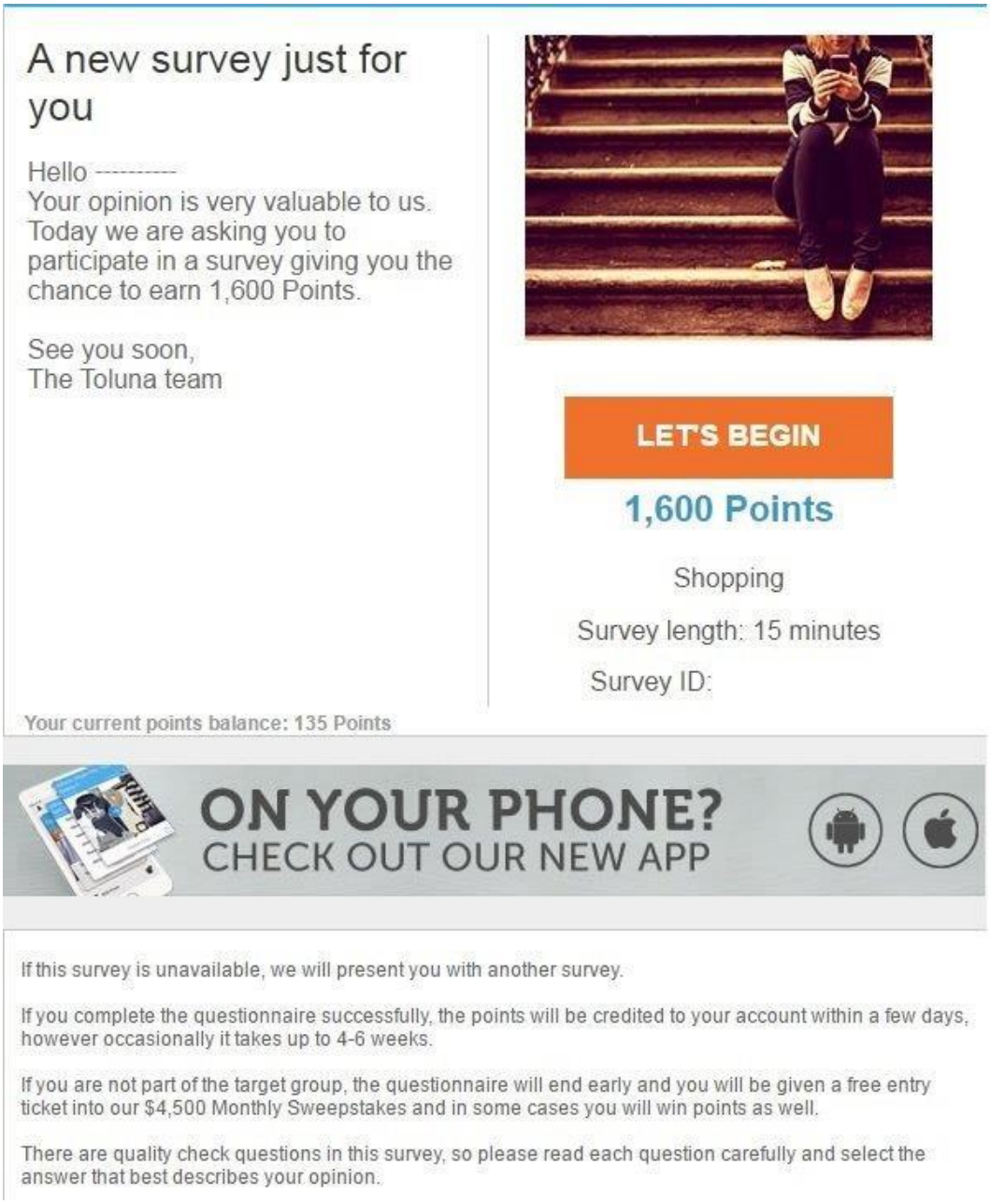


Figure A.1 Example of elicitation email Qualtrics sent potential survey respondents

Source: Dahl, Sam. Research Services Sales Representative at Qualtrics. 2018. E-mail to author, December 9

Survey as Administered Online by Qualtrics in December 2017 and January 2018

Screening Questions

Q. What is your age?

_____

Q. In what U.S. State do you currently reside?

Drop-down menu with all 50 states

Q. Please select your gender

Male

Female

Q. What is your race?

African American/Black

Asia American/ Asian

Caucasian/White

Native American, Inuit, or Aleut

Native Hawaiian/Pacific Islander

Other

Intro

Thank you for participating! This research study is being conducted by researchers from Mississippi State University. Your participation is voluntary and you may quit at any time. The survey will take approximately 15 minutes to complete. Your responses to this survey are completely anonymous. For questions about this survey, contact Dr. Matthew Interis at (662) 325-4787 or m.interis@msstate.edu.

Please note that the data you provide may be used by Qualtrics as per its privacy agreement and that Qualtrics may be able to link your responses to your ID in ways that are not bound by this consent form and the data confidentiality procedures used in this study. If you have concerns you should consult Qualtrics directly. Also, this research is for Mississippi residents aged 18 or older; if you aren't a Mississippi resident or are under 18, please do not complete this survey.

This study has been reviewed by the Institutional Review Board (IRB) at Mississippi State University. For questions regarding your rights as a participant in this survey, the IRB office can be contacted at (662) 325-3294 or irb@research.msstate.edu.

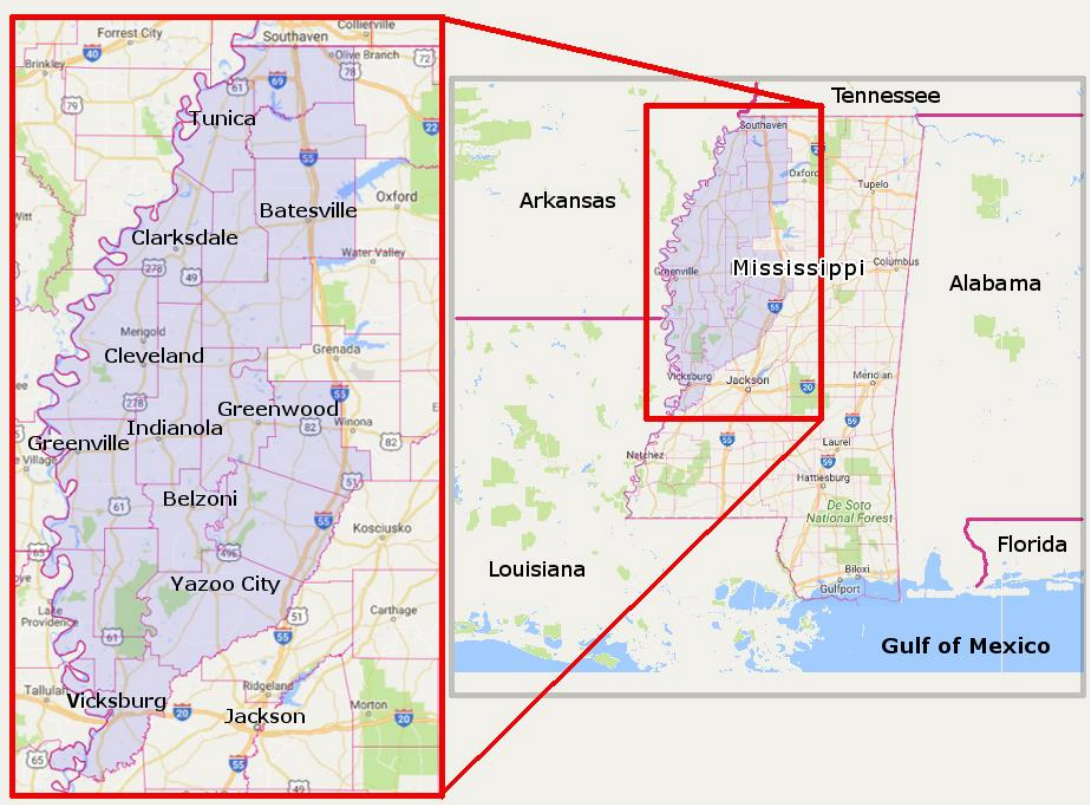
If you decide to participate, your completion of the survey indicates consent. Please print this page for your records.

This survey is being done on behalf of the Mississippi Delta National Heritage Area (MDNHA).

The MDNHA is one of 49 National Heritage Areas in the United States and its mission is to foster the "preservation, perpetuation, and celebration of the Delta's heritage."

People unfamiliar with the Mississippi Delta often assume it is located at the mouth of the Mississippi River in Louisiana, but it is actually an area in northwestern Mississippi.

Its boundaries are not universally agreed upon, but for purposes of this survey, the Mississippi Delta includes the counties served by the MDNHA, which are shaded in purple in the map below.



Q. Before taking this survey, did you know roughly where the Mississippi Delta was approximately located?

Yes

No

I'm not sure

The Mississippi Delta is probably best known for its major roles in agriculture, blues music, and the Civil Rights Movement.

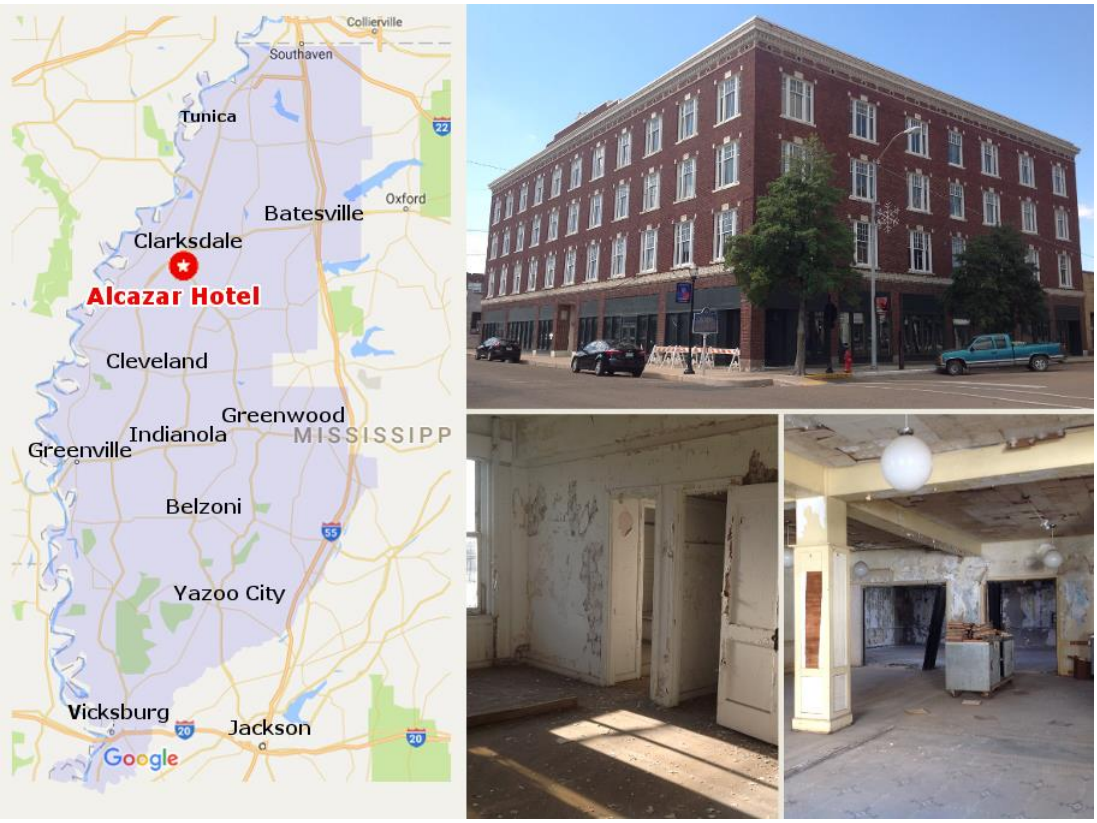
It is also one of the poorest regions of the nation.

Because the region is so poor, and because of the humid, subtropical climate, many sites which people consider to be of cultural importance are in danger of deteriorating and being lost forever.

In this survey, we will ask you about your preferences for restoring one such site.

Here, respondents were randomly assigned to one of three versions of the survey each related to a different site. Because this analysis concerns the Alcazar Hotel, only the version pertaining to this site is shown here.

The images below show the **Alcazar Hotel** in downtown Clarksdale, MS. Notice the poor state of the interior of the building (bottom-right photos).



The Alcazar Hotel is a 4-story hotel built in 1915 and was one of the premier hotels in the Mississippi Delta during the region's economic boom through the 1930s.

It was listed on the National Register of Historic Places in 1994 and on the Mississippi Heritage Trust list of the 10 Most Endangered Historic Places in Mississippi in 2009.

People such as playwright Tennessee Williams (author of A Streetcar Named Desire, Cat on a Hot Tin Roof, The Night of the Iguana, etc.) stayed in the hotel.

WROX, a famous radio station hosted by the first black disc jockey in Mississippi, Early Wright, was located in the Alcazar Hotel. Musicians such as Elvis Presley, Ike Turner, and B.B. King appeared on WROX.

The Hotel has been mostly or entirely empty since the mid-1990s.

Some restoration has been made to the exterior of the building, but the interior remains in poor condition as you saw in the photos.

The Alcazar Hotel is located in downtown Clarksdale, MS, a city of about 17,000 people which is well known for its role in blues music.

Clarksdale has been described as “ground zero” for blues music and its Ground Zero Blues Club has been voted the number 1 blues club in the nation. There are many other blues clubs in the city as well and the city is home to the Delta Blues Museum.

Visitors from all around the US and the world visit Clarksdale for its blues-related tourism. It is an important stop as people travel between Memphis and New Orleans.

Q. Would you say that you are a fan of blues music?

Yes

No

I'm not sure

Q. Would you say you **live** in Clarksdale, MS?

Yes

No

[If Yes]

Because you live in Clarksdale, please think of a "visit" to Clarksdale as leaving your home to enjoy some **recreation or leisure** activity in Clarksdale.

Q. How many visits have you made to Clarksdale, MS in the past 3 years?

Number of single-day trips: Number of overnight trips:

[If number of trips >0]

Please think about your **most recent visit to Clarksdale, MS** taken **in the past 3 years**.

Q. How many nights did you stay over on this visit? (enter 0 for a single-day visit)

_____ nights

Q. How many members of your household, including yourself, went on this visit?

_____ people

Q. To the nearest hour, how much time did you spend in Clarksdale on this visit?

_____ hours

Q. Please provide your best guess how much your household spent on each of the following during your most recent visit to Clarksdale, MS.

Type of Expense	Amount Spent
Lodging (e.g. hotel)	
Gasoline or fuel	
Food	
Entry fees (e.g. to museums or clubs)	
Rental fees or other miscellaneous fees (e.g. car rental)	

Q. For which of the following reasons did you visit Clarksdale in the last 3 years (check all that apply)?

Blues tourism

Civil rights tourism

Art

Shopping

Outdoor recreation

Business

Other

Q. Which of the following is the **single** primary reason you visited Clarksdale in the last 3 years?

Blues tourism

Civil rights tourism

Art

Shopping

Outdoor recreation

Business

Other

The Alcazar Hotel is privately owned and the MDNHA is interested in working with the owners and the Mississippi Department of Archives & History (MDAH) to restore the hotel.

Suppose the MDNHA, the MDAH, and the owners were to work together to restore the hotel. The owners would provide some funds for the restoration with the remaining funds coming from the Mississippi public.

The restoration plan would consist of three parts: (1) hostel-style rooms for overnight guests, (2) businesses and rooms for rent on the first floor and (3) a non-operational re-creation of the WROX radio station.

The top 3 floors would be used as a **hostel**.

A hostel is a relatively cheap lodging choice (think $20-$60 per night) where travelers might share rooms with other travelers and there is usually a common bathroom in the hallway outside of the guest rooms – much like college dorm living. Hostels are popular in Europe and are growing in popularity in the U.S.

Q. Have you ever stayed in a hostel before?

Yes

No

I'm not sure

Most rooms on the first floor would be leased to businesses.

Some rooms on the first floor would be reserved for various educational camps that visit the area (e.g. music, photography, virtual reality). The hostel would board the camp leaders and attendees.

What's your opinion?

Suppose that in order for the State of Mississippi to generate the funds to support the restoration of the Alcazar Hotel, a **one-time payment would be collected from Mississippians on their 2018 Mississippi state income tax returns**, typically filed in April, 2019.

The funds generated from this payment would be **used only for this restoration and to maintain the restoration for 20 years.**

The restoration would be completed by spring, 2022**.**

[If in for-profit treatment]

Because public money would be used towards the restoration of the Alcazar Hotel, no additional changes inconsistent with the historical appearance of the building could be made.

The owners of the Alcazar Hotel would manage it as a **for-profit** enterprise meaning that the owners could use any profit generated from the hotel for any purpose they choose.

[If in non-profit treatment]

Because public money would be used towards the restoration of the Alcazar Hotel, no additional changes inconsistent with the historical appearance of the building could be made.

The owners of the Alcazar Hotel would manage it as a **non-profit** enterprise meaning that the owners could use any profit generated from the hotel only for promoting its mission and for its upkeep and maintenance.

Assume this restoration would be implemented only if a majority of Mississippians favored it.

Also, because survey results will be shared with the MDNHA and the MDAH who wish to assess public support for this program, please **think carefully about whether you really think the program is worth it.**

For example, if the payment is not collected on income tax returns, Mississippi taxpayers could then use that money for other things like entertainment, rent, food, etc.

[If in for-profit treatment]

So to summarize, this proposed plan includes:

- restoring the Alcazar Hotel in Clarksdale, MS
- the top floors would be used for hostel lodging
- a re-creation of the WROX radio station would be added
- the first floor would be leased to private businesses
- some rooms on the first floor would be reserved for educational camps
- the hotel will be managed as a for-profit enterprise

If the majority of Mississippians are not in favor of the restoration, the hotel will continue to deteriorate

[If in non-profit treatment]

So to summarize, this proposed plan includes:

- restoring the Alcazar Hotel in Clarksdale, MS
- the top floors would be used for hostel lodging
- a re-creation of the WROX radio station would be added
- the first floor would be leased to private businesses
- some rooms on the first floor would be reserved for educational camps
- the hotel will be managed as a non-profit enterprise

If the majority of Mississippians are not in favor of the restoration, the hotel will continue to deteriorate

[All treatments respondents randomly assigned bid value X of either $2, $5, $10, $20, $40, or $75]

Q. Would you be in favor of Mississippians making a **one-time payment of $X** on their 2018 Mississippi State income tax returns (usually filed in April, 2019) to support this restoration plan of the Alcazar Hotel?

Yes

No

[If No]

Q. Would you mind telling us the main reason you chose "No"?

The cost is too high

I do not support any kind of additional taxes

I do not consider this site to be of historic importance

Public funds should not be used for the restoration of any sites of cultural or historical importance

Other_____

Q. We want to understand how the restoration of the Alcazar Hotel would affect your expected future visits to Clarksdale, if at all.

So although the restoration wouldn't be completed until 2022 in reality, please **pretend that the restoration already happened and was completed last week**.

Regardless of whether the restoration affects your decision to visit Clarksdale in the future, would you expect to visit Clarksdale during the next 3 years? (again, assume the restoration has just been completed)

Yes

No

[If Yes]

Q. How likely is it that you would stay at the hostel in the restored Alcazar Hotel during a future visit?

Very likely

Somewhat likely

Not at all likely

Q. How many times would you expect to visit Clarksdale, MS in the next 3 years? (assume the restoration has just been completed)

Single-day trips: Overnight trips:

Please think about your **next visit to Clarksdale, MS** you expect to take **in the next 3 years**. (assume the restoration has just been completed)

Q. How many nights would you expect to stay over on this visit? (enter 0 for a single-day visit)

_____ nights

Q. How many members of your household, including yourself, would you expect to go on this visit?

_____ people

Q. To the nearest hour, how much time would you expect to spend in Clarksdale on this visit?

_____ hours

Q. Please provide your best guess about how much your household would spend on each of the following during your next visit to Clarksdale. (assume the restoration has just been completed)

Type of Expense	Amount Spent
Lodging (e.g. hotel)	
Gasoline or fuel	
Food	
Entry fees (e.g. to museums or clubs)	
Rental fees or other miscellaneous fees (e.g. car rental)	

[If number of expected trips>0]

Q. For which of the following reasons would you expect to visit Clarksdale in the next 3 years? (check all that apply)

Blues tourism

Civil rights tourism

Art

Shopping

Outdoor recreation

Business

Other

Q. Which of the following is the **single** primary reason you would expect to visit Clarksdale in the next 3 years?

Blues tourism

Civil rights tourism

Art

Shopping

Outdoor recreation

Business

Other

To close the survey, we would like to ask some questions about you and your household.

Q. Please indicate your level of agreement with the following statement: "It is important to preserve the culture and history of the Mississippi Delta region."

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

Q. Do you think it **could sometimes be appropriate** to use public funds to preserve or restore sites of cultural or historical importance in the Mississippi Delta region?

Yes

No

I'm not sure

[If Yes or I'm not sure]

Q. Do you think it **could sometimes be appropriate** to use public funds to preserve or restore sites of cultural or historical importance in the Mississippi Delta region, **even if those sites are privately owned**?

Yes

No

I'm not sure

Q. Please indicate your level of agreement with the following statement: "If the restoration plan described in this survey occurs, tourism would increase in the Mississippi Delta region."

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

Q. Please indicate your level of agreement with the following statement: "If the restoration plan described in this survey occurs, the economy would improve in the Mississippi Delta region."

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

Q. How likely do you think it is that the Mississippi Department of Archives and History (MDAH) or the MS Delta National Heritage Area (MDNHA) will consider the results of this survey when making future decisions about the restoration of culturally or historically important sites in the Mississippi Delta?

Very likely

Somewhat likely

Not at all likely

Q. What is the **highest** level of schooling you have completed?

Less than a high school degree or GED

High school degree or GED

Undergraduate degree

Graduate degree

Q. Including yourself, how many people aged 18 years or older live in your household?

_____ people aged 18 or over

Q. How many children aged 17 years or younger live in your household?

_____ children aged 17 or under

Q. Do you expect to file a Mississippi state income tax return for 2018 (usually filed by April, 2019)?

Yes

No

Q. Which of the following best describes your household income, before taxes, in 2017?

less than $25,000

$25,000 to $50,000

$50,000 to $75,000

$75,000 to $100,000

$100,000 to $125,000

$125,000 to $150,000

$150,000 to $175,000

$175,000 to $200,000

above $200,000

Please provide any comments you have, if any, about this survey.

APPENDIX B

VISUAL BASIC CODE FOR EXCEL MACROS USED TO COMPILE TRAVEL DISTANCE AND TIME DATA

```
Public Function GetDistance(start As String, dest As String)
    Dim firstVal As String, secondVal As String, lastVal As String
    firstVal = "http://maps.googleapis.com/maps/api/distancematrix/json?units=imperial&origins="
    secondVal = "&destinations="
    lastVal = "&mode=car&language=pl&sensor=false"
    Set objHTTP = CreateObject("MSXML2.ServerXMLHTTP")
    URL = firstVal & Replace(start, " ", "+") & secondVal & Replace(dest, " ", "+") & lastVal
    objHTTP.Open "GET", URL, False
    objHTTP.setRequestHeader "User-Agent", "Mozilla/4.0 (compatible; MSIE 6.0; Windows NT 5.0)"
    objHTTP.send ("")
    If InStr(objHTTP.responseText, """distance"" : {") = 0 Then GoTo ErrorHandl
    Set regex = CreateObject("VBScript.RegExp"): regex.Pattern = """value"".*?([0-9]+)": regex.Global = False
    Set matches = regex.Execute(objHTTP.responseText)
    tmpVal = Replace(matches(0).SubMatches(0), ".", Application.International(xlListSeparator))
    GetDistance = CDbl(tmpVal)
    Exit Function
ErrorHandl:
    GetDistance = -1
End Function
```

Figure B.1 Code for retrieving travel distance from respondent's home ZIP code to Clarksdale using Google Maps

Source: Tom (2014)

```
Public Function GetDuration(start As String, dest As String)
    Dim firstVal As String, secondVal As String, lastVal As String
    firstVal = "http://maps.googleapis.com/maps/api/distancematrix/json?origins="
    secondVal = "&destinations="
    lastVal = "&mode=car&language=en&sensor=false"
    Set objHTTP = CreateObject("MSXML2.ServerXMLHTTP")
    URL = firstVal & Replace(start, " ", "+") & secondVal & Replace(dest, " ", "+") & lastVal
    objHTTP.Open "GET", URL, False
    objHTTP.setRequestHeader "User-Agent", "Mozilla/4.0 (compatible; MSIE 6.0; Windows NT 5.0)"
    objHTTP.send ("")
    If InStr(objHTTP.responseText, """duration"" : {") = 0 Then GoTo ErrorHandl
    Set regex = CreateObject("VBScript.RegExp"): regex.Pattern = "duration(?:.|\n)*?""value"".*?([0-9]+)": regex.Global = False
    Set matches = regex.Execute(objHTTP.responseText)
    tmpVal = Replace(matches(0).SubMatches(0), ".", Application.International(xlListSeparator))
    GetDuration = CDbl(tmpVal)
    Exit Function
ErrorHandl:
    GetDuration = -1
End Function
```

Figure B.2 Code for retrieving travel time from respondent's ZIP code to Clarksdale using Google Maps

Source: Tom (2014)