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The Just Host: Addressing the wage structure problem in the tourism industry

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The Just Host: Addressing the wage structure problem in the tourism industry

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Abstract

Since the early 1990's, tourism development has been promoted to replace employment lost to downsizing, outsourcing and automation in both urban and rural America. These efforts are actively supported by state and local chambers of commerce. However, despite the enthusiasm for tourism within city halls and business membership organizations, planning theorists have expressed concerns about the wage structure of the industry. Specifically, given the significant public investment in the industry, planners are being asked by some theorists to consider the distribution of economic benefits between labor and capital. This dissertation explores this issue and concludes with a study focused on the origins and distribution of public economic benefits – areas that have received little attention to date. Using Power to Tax theory as a theoretical framework a strong relationship was established between hotel revenue per capita (a proxy for hotel taxes) and local government wages per capita. The study found no association between natural amenities and local government wages per capita, independent of the path through hotel revenue per capita. These findings suggest local government officials are enriching themselves by commodifying their commons (natural amenities) through the low-wage tourism industry. Recommendations are made to Fainstein's Just City planning model to advance a more equitable distribution of public economic benefits derived from natural amenities and the local residents toiling in the tourism industry.

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Chapter 1: Introduction

Interest in tourism grew in the early 1990s as cities and rural communities struggled to retain traditional employers. Today, public officials across the United States and their economic advisers champion the cause of tourism by using economic models to show how tourist spending gets converted, among other things, to restaurant tabs and then to employee wages. In turn, these employee wages are used to buy consumables that bolster the economy. This logic has inspired public-private partnerships to develop hotels, attract visitors and build comfortable meeting spaces and entertainment venues for their enjoyment. Cities battle vigorously among each other, competing in bidding wars to host conventions, sporting events and various forms of entertainment to attract visitors to their community. However, the enthusiasm for chasing tourist dollars within town halls and chambers of commerce is not without detractors. Urban theorists and rural economists have raised concerns about the negative consequences of competitive planning, the distribution of economic benefits from tourism and, specifically, how this distribution impacts the wage structure within the industry (Fainstein, 2010; Harvey, 2012; Marcouiller et al., 2004).

At the onset of the tourism revival, the burden for addressing the wage structure in the tourism industry was left to labor organizations and community organizers (Judd & Fainstein, 1999). Susan Fainstein revisited the topic in *The Just City* (2010). Based on two decades of public investment in tourism-related subsectors, and without any measurable progress increasing the wage structure of front-line employees, Fainstein argues for regulating private investment in the industry and "injecting concerns of justice into policy making" (Fainstein, 2010, pp. 179–183). David Harvey expressed similar sentiments in *Rebel Cities* (2012) after observing an array

of private profiteers trading on tourist attractions built and maintained with public investment. Harvey considers these profit-taking practices an appropriation of capital that belongs to the community: "why let the monopoly rent attached to that symbolic capital [tourist attractions] be captured only by the multinationals, or by a small, powerful segment of the bourgeoisie?" (Harvey, 2012, pp. 105–106). To address the issue, Fainstein argues that public officials should provide accurate information on the distribution of private economic benefits within the tourism industry so the debate in City Halls can shift from promoting tourism development to concerns of equity (Fainstein, 2010).

Notably missing from Fainstein's and Harvey's arguments, however, is consideration of the distribution of *public* economic benefits of tourism (i.e., tax revenue). There are good reasons to suspect public economic benefits of tourism accruing to state and local governments are material and should be a significant part of any redistribution debate. A 2014 survey on local economic development conducted by the International City Managers Association (ICMA) found that among five potential priorities (tax base, jobs, quality of life, environmental sustainability, and social equity) city officials ranked increasing the local tax base first and addressing social equity last. Of the 32 activities identified to address their priorities, tourism promotion was ranked second, only behind quality of life investments like arts, culture, education and recreation (*Economic Development 2014 Survey Results*, 2014). The proximity of increasing revenues (tax base) as an end, and tourism promotion as a means, indicates local governments are pursing tourism, at least in part, to generate revenue for city coffers.

Also missing from Fainstein and Harvey's arguments is consideration of the non-monetary elements which support tourism. While both refer to public and private investment in the built environment to spur tourism, neither address nor value the natural amenities of a

community which attract visitors. This dimension, where the spark for tourism development is rooted in part to natural amenities, has important implications for the distribution of benefits derived from what is part of the community commons.

Significance of the Research Topic

This dissertation explores a vexing issue for local governments; their pursuit of tourism under the banner of local economic development, while front-line workers in the hospitality subsector are excluded from the economic benefits of the industry. I begin with a review of the distribution of the primary economic benefits in the hospitality subsector and how secondary economic benefits are conceptualized and measured in the broader tourism industry. I then turn to 1) a review of the literature of external and internal forces associated with changes in the wage structure of various service sectors and 2) a review of the public economic benefits associated with the hospitality subsector. It is in this last section where I identify significant gaps in the existing literature - the origins and distribution of public profits from the hospitality subsector.

My primary hypothesis, based on one of several theoretical frameworks which can be applied to this problem, is that public officials are using tax revenue from tourism for self-enrichment. Building on previous research, I also hypothesize that there is a causal pathway from natural amenities to local government wages through the tax revenue generated from tourism. The findings from this study will make a significant contribution to the discourse on the wage structure problem in the tourism industry. If the findings indicate public officials are using tourism tax revenue for self-enrichment, and that natural amenities are the origins of this revenue, it will open a new avenue for discussions on the redistribution of economic benefits and the utility of commons planning advocated by Peter Marcuse (Marcuse, 2009). If the findings do

not support the hypotheses, it will challenge previous research by public choice economists, and focus the wage debate, as Fainstein and Harvey suggested, on the redistribution of private economic benefits to address the wage structure issues in the industry.

Distribution Theories Considered

Economists have put forward several hypotheses, theories, and concepts to predict how profits are, or should be, distributed in the tourism industry– five of which I detail below. The first two are offered by two pairs of public choice economists: Richard Musgrave and Peggy Musgrave, and Geoffrey Brennan and James Buchannan. These economists view economic policy from a presumption that bureaucrats and politicians are rational actors and enter government service to pursue their own self-interests (Black et al., 2012).

Musgrave and Musgrave frame their theory of public expenditures as a "Leviathan Hypothesis" based on the classic work of Thomas Hobbes (Hobbes, 1996, p. xx). They suggest that, while bureaucrats are motivated by rational self-interests to divert excess tax revenue to larger staff and increased salaries, their efforts are counterbalanced by politicians driven to increase services desired by a majority of the electorate. In this tug-of war between rational interests, the outcome is increased public services (Musgrave & Musgrave, 1989). Under this hypothesis, local governments would be expected to use excess tax revenue from tourism to boost local expenditures that serve the public interest.

The Power to Tax theory, developed by Geoffrey Brennan and Nobel laureate James Buchanan, challenge the Leviathan Hypothesis. Their theory casts public officials as egoistic despots, intent on increasing their own compensation and numbers with the taxes they collect, and capable of deflecting the spending priorities of elected officials (Brennan & Buchanan,

2000). So, while both public choice theories expect public officials to seize opportunities to push taxes upward, they differ in characterizing the use of these tax revenues as either benevolent or malevolent, respectfully.

The public good concept can also be used to predict the distribution of economic benefits. Espoused by neo-liberal economists, this concept suggests the most efficient use of tourism tax revenue is for public expenditures that sustain or develop the tourism sector. These expenditures could include subsidies for convention facilities and visitor attractions, or marketing and promotional campaigns to attract visitors. Since private tourism-related businesses do not have a mechanism to capture secondary and tertiary benefits of visitor spending, and therefore cannot incorporate those revenues into marketing and development, it is left to the public sector to capture a portion of this tourism revenue through taxes and invest those proceeds in activities that support the industry (Britton, 1991; Dwyer et al., 2010).

The final two distributive concepts considered here are normative and centered on the employee. The first is a proposition from Adam Smith in Wealth of Nations (1776). Smith argued for wages sufficient for a worker to raise a family on one income. Smith's rationale was that families needed to thrive in order to provide capitalists with a future supply of workers (Smith, 1776). The current Federal minimum wage does not accomplish Smith's goal, but many local governments have moved in that direction by imposing living wage requirements (Reich et al., 2014). The second proposition is offered by Karl Marx. He assumed that workers would earn a living wage, but argued that this was not sufficient nor just, and that employees should receive a portion of business revenues. His labor theory calculated the worth of an employee based on their contribution to company revenues (Marx, 1867). Under Marx's theory, local governments

would take steps to ensure not only a family wage but would also require profit sharing for employees.

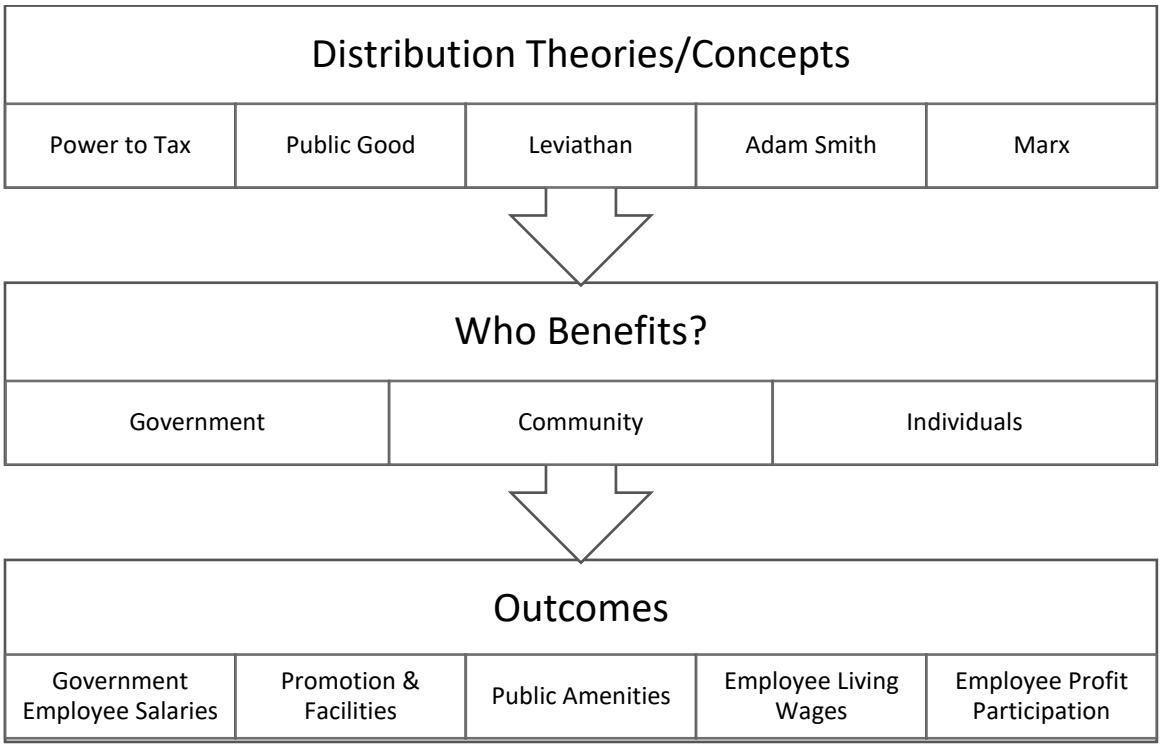
Table 1 illustrates how the application of these models would direct the use of excess tax revenue from tourism.

Table 1: Distribution Theories

Theory/Concept	**Proponents**	**Distribution of Tourism Taxes**
Power to Tax	Brennan and Buchanan	Boost salaries of public officials
Public Good	Dwyer et al	Tourism promotion and facilities
Leviathan	Musgrave and Musgrave	Benevolent expenditures for the good of the public at large
Family Wage	Adam Smith	Employee wages
Labor Theory of Value	Karl Marx	Employee profit sharing

The figure below illustrates how these distributive theories and concepts can be viewed on a continuum based on outcomes.

Figure 1: Continuum of Distribution Theories and Concepts



For this study, the Power to Tax theory is selected as the framework to investigate the distribution of public benefits (i.e., tax revenue) from tourism. There are three reasons for this selection. First, using a public choice theory to address social equity issues is supported in public administration literature. H. George Frederickson, the first champion for injecting social equity into public administration, called for public administrators to address the principles of public choice theory in their pursuit of social equity (Frederickson, 1991). Second, expenditures on local government employees (average salaries and total payroll) are measured annually by the U.S. Government and therefore can be operationalized more accurately than the less well-defined benevolent expenditures, spending on tourism promotion and marketing, family wages, or employee profit sharing. And, finally, recent studies by public choice economists have tested the Power to Tax theory using government employee compensation as an outcome variable

(Brueckner & Neumark, 2014; Diamond, 2017). This dissertation can build on these recent public choice studies, using standardized variables to measure government employee compensation (Gerring, 2012).

Research Design & Methodology

The primary research problems being addressed in this dissertation are 1) identifying the distribution of public economic benefits from tourism activity and 2) evaluating the role of natural amenities in generating tourism activity. The Power to Tax theory is used as the theoretical framework for the distribution of benefits and the general hypothesis is that hotel tax revenues (independent variable) are being used to boost public employee salaries and overall payrolls (dependent variable). In addition, several other research questions emanating from the literature review are addressed. These include whether or not the external forces of unionization are associated with higher wages in the accommodation (hotel) subsector, and if the differential in racial composition between supervisors and back of house employees, is an internal force associated with lower wage levels for back of house hotel employees.

The proposal is to use a non-experimental associational design for each of the research questions. It is non-experimental because the independent variables cannot be manipulated and the interaction between variables is only being tested for one group (there is no control group). It is associational because the specific purpose of this design type is to explore relationships between variables (Gerring, 2012) This study uses cross-sectional data and is conducted at the meso-level with the unit of analysis being Metropolitan Statistical Areas (MSAs) for one set of hypotheses (due to a limitation of the data sets) and counties for another set of hypotheses.

The concepts addressed in the study (i.e., tourism, natural amenities, self-enrichment, unionization, urban vs. rural, split-labor market, etc.) are operationalized in many cases by using established measurement scales or drawn from other studies. The partial replication of other studies and the use of existing measurement scales strengthens the internal and external validity of the measurements (Gerring, 2012). All variables, except for urbanization, are measured at the interval or ratio level, permitting more precise measurement and more options for advanced statistical techniques (Gerring, 2012). Urbanization is measured categorically due to the highly skewed nature of the data. The variables used in these hypotheses are fully described in Chapter 3.

The remainder of this dissertation is organized in four chapters; Chapter 2 provides detailed background on the topic and a literature review, Chapter 3 outlines the research design and methods, Chapter 4 provides the findings, and Chapter 5 provides the conclusions. These chapters are followed by an appendix, bibliography, and my current Curriculum Vitae.

Chapter 2: Background & Literature Review

Urban and rural interest in tourism, from a local economic development perspective, gained traction in the early 1990s as town and country struggled to retain traditional employers. Cities worked diligently to renovate and convert spaces, once dedicated to production, and often in a state of decline, to areas which could support consumption by visitors (Judd & Fainstein, 1999). Upon completion of these new spaces, cities marketed them as commodities in hopes of drawing visitors, creating jobs, and producing new tax revenue (Fainstein & Gladstone, 1999). Rural communities, instead of rebuilding town centers to create amenities for visitors, focused on commodifying natural amenities (Halseth et al., 2010; Hassebrook, 2003) or leveraging interest in tours of agri-business (e.g., wineries, farms and dairies) (Britton, 1991).

Planning theorists noted at the time of the resurgence in tourism that there were several issues with the sector that should be addressed by public officials with new regulations. Destinations needed protection from environmental impacts, unwanted commercialization, and in some cases increased crime associated with visitors. Conversely, cities need to construct safeguards to protect visitors – which is a critical component for protecting the reputation of the destination. These safeguards, in turn, can contribute to additional issues such as gentrification and spatial segregation (Hoffman et al., 2003). The burden for addressing issues of justice, however, such as low wages was left explicitly to labor organizations and community organizers (Judd & Fainstein, 1999).

Twenty years removed from this call for regulatory controls, and with no substantial changes in the wages structure of the industry, Fainstein revisited the topic in *The Just City* (2010). Based on the significant public investment in tourism over the prior two decades, she heightened her

call for regulating private investment in the industry through "injecting concerns of justice into policy making." A critical part of this charge was for local planners to study the distribution of private economic benefits within the tourism industry (Fainstein, 2010, pp. 179–183).

The task of identifying the private distribution of economic benefits in the tourism industry is complex. The tourism industry is comprised of several sectors and subsectors classified under the North American Industry Classification System (NAICS). For most of these subsectors, spending of residents and travelers must be divided to isolate tourism related activity. The U.S. Bureau of Economic Analysis performs this split at the National and State levels using guidelines promulgated by the United Nations. Table 2 provides this calculation of employment and spending activity for each of the subsectors associated with the tourism industry in the United States (Franks & Osborne, 2019).

Table 2: Composition of the United States Tourism Industry, 2018

Subsectors	**Employment (000's)**		**Visitor Spending (000's)**	
Hospitality (Hotels)	1,538	26.0%	$191,786	18.1%
Restaurants	1,665	28.1%	$122,105	11.5%
Air Transportation	582	9.82%	$215,167	20.27%
Car Rental	104	1.76%	$36,634	3.45%
Travel Reservations	199	3.36%	$49,843	4.70%
Gasoline Stations	189	3.19%	$159,449	15.02%
Other Transportation Services	326	5.25%	$50,721	4.78%
Recreation	575	9.7%	$97,523	9.2%
Shopping	505	8.5%	$135,087	12.7%
Other	242	4.1%	$2,956	0.3%
Total	5,925	100%	$1,061,271	100%

Source: Survey of Current Business, U.S. Bureau of Economic Analysis (Franks & Osborne, 2019)

The quantitative and qualitative research on tourism include several ways to measure the economic benefits of tourism for business owners, local communities, government agencies, family units, and individuals. Some of these measures can be applied across the spectrum of

subsectors which comprise the tourism industry (e.g., hospitality, restaurants, transportation, recreation, and shopping). However, to create a manageable scope for this dissertation, I limit the focus of much of the literature review to the accommodation subsector. The accommodation, or hospitality subsector is an appropriate segment on which to focus as hotels are the cornerstone of tourism industry, serving as the temporary residence for visitors – their home base for sight-seeing excursions, shopping trips, dining out and attending shows and sporting events. Hotels, as opposed to Airbnb rentals, restaurants, museums, and other businesses which support tourism, are used exclusively by visitors and comprise one of the largest components of local spending by tourists (Guttentag, 2015; *Measuring Employment in the Tourism Industries: Guide with Best Practices*, 2014).

The literature review which follows is divided into five sections. The first section reviews literature on the distribution of private economic benefits in the accommodation subsector. The second section reviews literature specific to the wage structure of service sectors which comprise the tourism industry - and the external and internal forces associated with changes in wages. The third section reviews the distribution of the primary public economic benefit from hotel properties – transient occupancy taxes. It is in this section where a gap in the literature is identified, and one of the primary research questions is developed. The fourth section reviews the literature on the relationship between natural amenities and tourism. It is in this section where the other primary research question is developed. The final section presents all the research questions to be studied, and the theoretical frameworks used to establish the direction of associations for the hypotheses. The chapter concludes with a set of hypotheses to carry forward into Chapter 3 (research design and methodology).

How do you measure the distribution of economic benefits from tourism?

Fainstein argues that understanding the distribution of economic benefits within the tourism industry is important for planners to inject matters of social equity into policymaking (Fainstein, 2010). A rich source of information on the distribution of private economic benefits generated by hotels is the economic feasibility studies sponsored by local governments. These studies contain microsimulation models of hotel operations and are commissioned by local governments to study and promote the feasibility of constructing new hotels in their jurisdictions. The studies project the detailed revenues, expenditures, and net income of prospective hotels. In these line items, the distribution of private economic benefits is on full display. In some studies, the consulting analyst goes further and projects the wage structure within the prospective hotel and the local taxes that would be paid by hotel guests. Microsimulation models are gaining popularity in policy analysis (Figari et al., 2014), and these studies on individual hotels can serve as a basis to build models for planners to extrapolate to, and assess the distribution of economic benefits for, the entire hospitality subsector in their community.

Example: Prospective Business Class Hotel

A hotel feasibility study which provides a comprehensive projection of private and public economic benefits was conducted for a municipality outside Birmingham, Alabama by Interim Hospitality Consultants (IHC). The study is for a business class hotel (Hampton Inn and Suites by Hilton) of 70 rooms, approximating the national average of 71 rooms per hotel (*Economic Survey*, 2012). Table 3 replicates a summary of projected annual revenues, profit by department, and expenditures presented in the hotel feasibility study.

Table 3: Summary of Revenues and Expenditures for a Proposed Business Class Hotel

Revenue			
Rooms		$	2,027,393
Telecommunications (Complementary)		$	-0-
Retail Center		$	53,030
Other Revenue		$	35,360
Total Revenue		$	2,115,783
Department Profit*			
Rooms		$	1,504,348
Telecommunications		$	(30,852)
Retail Center		$	26,444
Other Hotel		$	17,630
Total Dept./House Profit		$	1,517,570
Deductions from Income			
Administrative & General		$	199,014
Sales & Marketing		$	83,999
Complimentary Guest Services		$	99,386
Marketing fee (% of Room Rev)	3.00%	$	60,822
Franchise fee (%of Room Rev)	6.00%	$	121,644
Utilities		$	128,207
Repairs & Maintenance		$	92,348
Total Deductions from Income		$	785,419
Gross Operating Profit (Department Profits less Deductions from Income)		$	732,151
Management Fee		$	63,640
Fixed Costs			
Real Estate Tax		$	50,000
Insurance		$	25,000
Replacement Reserves		$	21,210
Total Fixed Cost & Management Fee		$	159,850
Net Operating Income		$	572,301

* Net revenue after deduction for expenses
Data sources: Interim Hospitality Consultants 2011 (Schedule 1, page H-2)

The purpose of Table 3 is to communicate to prospective investors the feasibility of a hotel development. Investors validate the accuracy of the individual line items and then focus on the Net Operating Income (NOI). The NOI is the annual cashflow received by the investor and it

is used to calculate the prospective value of the hotel. This is the primary private economic benefit generated by a hotel, and the distribution of this benefit is made solely to investors. However, there are several other private economic benefits and recipients embedded in each of the line items listed above the NOI. IHC provides additional schedules in their report which detail the beneficiaries of these expenditures. These expenses are secondary benefits and are typically used by economists and public policy makers to support development of hotel properties. Neo-liberal economists, heterodox economists, sociologists and urban theorists view this, and other data associated with hotel operations, in different ways. Neo-liberal economists, in general, favor pairing hotel revenue data with input-output (I/O) models to measure economic benefits while heterodox economists and others tend to focus on wage data and business-to-business expenditures to measure economic sustainability.

Measuring Economic Benefits with Input-Output Models

The input-output models favored by neo-liberal economists are widely used by local governments to characterize the private economic benefits of tourism investments. These models are presented as economic impact assessments and focus on measuring consumer spending activity and how the injection of outside money into a local economy multiplies as spending flows from the tourist to business, from business to business, from business to employee wages, and then once again from employees spending their wages in the local service sector for groceries and other goods (Bess & Ambargis, 2011). These assessments are promoted as useful tools to inform policy makers on the prioritization of public resources (Dwyer et al., 2010).

Input-output models calculate economic impacts by applying multipliers to economic inputs to calculate economic outputs. Inputs vary across sectors, but for the tourism industry, visitor spending is typically used as the input. This includes visitor spending on hotels,

transportation, meals, entertainment and shopping. The multiplier used to calculate outputs (indirect and induced spending) is ideally customized based on local wages, availability of tourism-related business to purchase goods locally (indirect impacts), and the opportunities for tourism employees to spend their earnings locally (induced impacts).

Input-out models can produce striking numbers and are routinely used to justify public investment in tourism. However, there are critics, even among neo-liberal economists, of input-output models. One of the primary criticisms is the limitations of the models to accurately capture benefits within a specified geographic boundary (State, region, city). Predicting where businesses and employees will spend income received from tourist activity requires detailed research specific to the subject location. Yet virtually all input-output models rely on generic composite multipliers. Another criticism is the inability of input-output models to capture the full range of costs and benefits associated with an infusion of tourist spending into a community. On the cost side, this includes the inability of the model to capture the costs to the public associated with adding low-wage employees into the local economy. On the benefit side, the model does not estimate the tax revenue brought into a community by tourists, compared to the cost to provide those visitors public services. Because of the significance of these and other limitations, some economists believe the input-output models are ineffective for measuring and evaluating the distribution of economic benefits to a specific geographic location. As an alternative, Dwyer et al (2010) suggest public officials use community benefit assessments to measure a broad range of economic factors, including social and environmental impacts, to understand better the distribution of economic benefits within a defined geographic location (Dwyer et al., 2010).

Measuring Economic Benefits through Community Benefit Assessments

A community benefit assessment involves segregating expenditures between those likely associated with local business, and those associated with non-local entities. By organizing the expenditures this way, it is possible to isolate the economic benefits accruing to local businesses and residents, from those expenditures benefiting non-local entities. Table 4 presents how a community benefits assessment can be structured. Sixty-seven (67) line-items from the various department expense projections from the business class hotel model are summarized into 16 categories for this table and placed into three groups (local benefit, external benefit, and unclassified). The local benefit category includes the portion of payroll supporting living wages[1] and expenses paid to local businesses or government agencies. Slightly more than a quarter of the hotel expenditures (27.5%) from the model provide local benefits. A majority of the expenditures (55.5%) are made outside the community and provide external benefits to other jurisdictions. The external benefits include investor returns and fees paid to franchisees (marketing, management, revenue sharing), items that can be purchased in bulk, payments to national service corporations, and business travel out of the area. The unclassified expenditures represent the segment of the payroll which provides employees with sub-living wages. It is undetermined how this segment of the payroll impacts the local community because it is unknown how the individuals make up the gap in their wages. Seventeen percent (17%) of hotel expenditures in the model are distributed to this unclassified segment. Appendix A provides additional details on the wage composition of the workforce in this model.

[1] The living wage is based on a single individual living alone as calculated by the MIT wage calculator.

Table 4: Local and Non-Local Economic Beneficiaries

Category		Amount	
Annual Revenue	$	2,528,521	
Local Benefit			
Living Wages [A]	$	305,623	
Local Utilities	$	128,207	
Local food purchases	$	52,889	
Taxes and Licenses	$	52,000	
Local services	$	46,830	
Maintenance	$	44,510	
Charitable contributions	$	3,600	
Subtotal: Local Benefit	$	633,659	25.1%
External Benefit (Leakage)			
Profit & Fees [B]	$	818,406	
Bulk Supplies	$	143,737	
Marketing & Travel	$	50,126	
Service contracts	$	49,252	
Credit Card Commissions	$	40,548	
Insurance	$	25,000	
Guest relations	$	12,682	
Miscellaneous	$	35,872	
Subtotal: External Benefit	$	1,175,623	46.5%
Unclassified [C]	$	359,275	14.2%

A. Four full-time and one part-time staff
B. Marketing, Franchise, Management fees
C. Sub-living wage payroll
Source data: Interim Hospitality Consultants 2011, Schedule 1, Page H-1

The local economic benefit of hotel spending in the IHC business class hotel model is $633,885. It is worth noting here that an estimate of annual economic activity projected with an input-output model, for this same group of expenditures, would be in the range of $4.0 million.[2] This illustrates the vast difference between local economic activity and all economic activity

[2] IHC consultants applied a multiplier of 1.94 to annual revenues on another hotel in the same geographical region to estimate economic activity from that hotel.

generated by tourism expenditures, and why some discourage public officials from using input-output models to support local public investment in tourism (Dwyer et al., 2010).

Measuring Economic Benefits from a Sustainability Perspective

Heterodox economists and sociologists have developed additional ways to measure the distribution of economic activity within a community. These measures fall under the general concept of economically sustainable development. The importance of sustainable development, with both environmental and economic dimensions, emerged after a series of environmental disasters in the 1970's, and following sixteen years of study by the United Nations. The concept was introduced in 1987 though the Brundtland Report (*Brundtland Report, Our Common Future*, 1987, p. 41). The Commission defined the sustainable development this way,

> *"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs."*

Although the language in report does not provide operational definitions or measures for economic or environmental sustainability, subsequent studies by researchers and public organizations have suggested measures for these concepts.

Much of the work to define and measure sustainable economic activity comes from quantitative methods used to study international tourism development. This research includes efforts to measure local ownership, local business opportunities, and employee wage rates (Choi

& Sirakaya, 2006; Franzoni, 2015; Garrigos-Simon et al., 2015). Professional organizations have also defined and developed quantitative measures for economic sustainability. The United Nations Environment Programme and World Trade Organization published a policy guide specific to the tourism industry, with a stated goal to "ensure viable, long-term economic operations, providing socio-economic benefits to all stakeholders that are fairly distributed, including stable employment and income-earning opportunities and social services to host communities, and contributing to poverty alleviation (*Making Tourism More Sustainable: A Guide for Policy Makers*, 2005, p. 11). The American Planning Association, whose guidance on sustainability primarily addresses non-economic issues, also issued guidelines for planners to favor local businesses over out-of-area corporations, and "encourage businesses that meet human needs fairly and efficiently (*APA Policy Guide on Planning for Sustainability*, 2000, p. 11; Godschalk & Rouse, 2015).

Table 5 provides several examples of quantitative measures of sustainable economic activity as identified by researchers and professional organizations.

Table 5: Economic Sustainability Measures

Category	Measurements	Author
Employee Wages	Comparative ratio of new wages to local average wage	Choi & Sirakaya
	Income per capita of the resident population	Franzoni
	Average income of a worker in the tourism sector	Franzoni
Employment Rate	Rate of employment (by sector)	Franzoni
	Ratio of part time to full time employment in tourism	Franzoni
	Local unemployment rate in low season	Franzoni
	% of employment of the community in the last three years	Franzoni
Local Businesses	Percent of income leakage from the community	Garrigos-Simon
	Entrepreneurial opportunities for residents	Garrigos-Simon et al, Choi & Sirakaya
	No. of tourism firms in the community	Franzoni
	Longevity of tourism firms (rate of turnover)	Franzoni
	Economic and social benefits (employment)	United Nations
	Fulfill local employment and consumer needs without degrading the environment	APA
	Promote financial and social equity in the workplace	APA
	Income generated by the community	Franzoni
Taxes	Local government revenue	Choi & Sirakaya
	Revenue from income tax	Franzoni
	Net tourism revenues accruing to the community	Franzoni
	Revenue from business permits and taxation	Franzoni
Land-use	Measure effects on existing business	United Nations
	Utilization of existing business capacity	United Nations
	Utilization of existing buildings	United Nations
	Plans for after-use of sites.	United Nations
	% of increase/decrease in the prices of land	Franzoni

Researchers have also used qualitative and mixed methods to explore dimensions of sustainable economic activity. This literature contains both discrete measures and general observations and tends to focus on how employment in the tourism sector impacts the well-being of individuals and their social network. Case studies and ethnographies are common in these studies. One group of researchers evaluated life expectancy at birth and literacy rates in developing countries focused on tourism (Sanchez-Rivero et al., 2013). Another, studying tourism development on the coast of Belize, measured the importance of tourism income to family units, assessed how local elites shaped the economic benefits received by residents, and

compared the number of residents self-employed in tourism related activities to those employed by outside corporation (Belsky, 1999).

In summary, practitioners and academics are using a variety of methods and measures to capture the private economic benefits of tourism. While profit, or net operating income, is of primary concern to owners and investors, there are several other measures identified above which are useful to gather descriptive data for policy makers considering public investments to support the industry, or regulations to shape the distribution of economic benefits. Some of these measures (i.e., local business ownership and participation, seasonal employment, ratio of part-time to full-time employment) are also valuable as independent variables to test forces which may change the distribution of economic benefits within the industry.

What forces change the distribution of private economic benefits to improve wages?

Fainstein and Harvey identified the need to address the distribution of economic benefits from tourism with the end to improve the wage structure in the industry (Fainstein, 2010; Harvey, 2012). Tourism is comprised of several service sectors, which collectively, are receiving significant attention by researchers concerned with living wages. The attention on service sector wages has been heightened in the past three decades as the American economy has shifted from a heavy manufacturing base to one consisting primarily of service sectors (Sherman, 2007; Stiglitz, 2015). However, there is a split among economists on the need for policies to lift service sector wages. In a survey of 166 U.S. based economists conducted by the University of New Hampshire, nearly three quarters of the respondents opposed raising the minimum wage to $15.00 per hours and approximately half want the federal minimum wage eliminated or kept at the same level. Support for raising the minimum wage falls roughly along political affiliation. A

majority of respondents identifying as Republican or Independent support lowering or maintaining the current minimum wage, while a majority of those identifying as Democrat support raising the minimum wage to just above $10.00 (Fowler & Smith, 2015) .

Public officials are also reticent to address raising wages. At the state level, twenty-six state legislatures have passed laws preempting local officials from even considering raising wages (Huizar & Lathrop, 2019). In a survey of local officials engaged in economic development, addressing matters of income inequality is the least important motivator for guiding policies and program development (while promoting tourism was rated the second most important economic development activity) (*Economic Development 2014 Survey Results*, 2014). Three of the largest states for tourism, California, Florida and Virginia, while actively promoting business interests within the industry, are silent in their planning documents on the wage structure of those working in the industry.

In Florida's strategic plan for tourism, the stated goal is to maximize the economic impact of travel and tourism, with an objective to achieve $100 billion in tourism related spend by 2020 (*2020 Strategic Plan*, 2015). In the Commonwealth of Virginia, the responsibility for promoting tourism falls to the Virginia Tourism Corporation (VTC). The corporation still operates under a vision plan adopted in 2002. The goal of the plan is to increase tourism market-share and annual visitor spending in Virginia, (*Vision Plan for Virginia's Tourism Industry*, 2002). In California, tourism officials set three goals in their 2012 strategic plan: 1) Garner approval of a 2013 state-wide referendum on rental car assessments, 2) elevate legislators' perceptions of the importance of the industry, and 3) raise consumer perceptions of California and increase media chatter with positive press articles that mention California and the economic benefits of travel (*Visit California's Strategic Business Plan; 2011-2016,* 2011). Strikingly, the missions, goals and

objectives of all three states mention nothing of employee wages, even though the accommodation sector (i.e., resorts, hotels, motels) is nested within the lowest paying industry sector (accommodation and food services) in all three states (Table 6).

Table 6: Median Wages for Accommodation and Food Sector

Sector	California	Florida	Virginia
Utilities	$78,871	$53,973	$62,177
Professional, scientific, and technical services	65,591	48,115	80,199
Management of companies and enterprises	65,267	51,416	70,188
Public administration	61,441	45,624	71,295
Information	60,746	41,863	56,351
Finance and insurance	55,081	44,828	52,354
Manufacturing	44,133	38,634	44,335
Educational services	40,015	36,632	38,928
Wholesale trade	39,287	38,948	42,899
Real estate and rental and leasing	39,099	32,205	41,324
Transportation and warehousing	38,322	36,642	40,617
Health care and social assistance	36,951	32,407	33,895
Arts, entertainment, and recreation	24,541	22,409	17,262
Administrative and support and waste management services	23,708	22,705	26,444
Retail trade	22,660	21,292	21,686
Other services, except public administration	21,481	21,056	27,593
Agriculture, forestry, fishing and hunting, and mining:	20,581	20,948	31,508
Accommodation and food services	**16,544**	**16,667**	**14,990**
Civilian employed population median wage	$34,818	$30,415	$38,396
Accommodation and food service: % of median wage	48%	55%	39%
Data source: 2014 American Community Survey			

Researchers concerned with addressing the wage structure problem in the service sector focus on unions as an external force for change. There is ample evidence that collective bargaining, strengthened by union membership, produces wage increases for employees (Card, 2001; Mishel & Walters, 2003; Vella & Verbeek, 1998). These wage benefits typically accrue to lower skill levels often associated with tourism subsectors (Card, 1996; Freeman, 1980, 1982). However, the wage benefits accruing to private sector union members has dropped significantly

due to decreasing membership rates (*Worker Voice in a Time of Rising Inequality*, 2015). Initially, the primary force driving down membership was adoption of the Taft Act in 1947. More recently, declines in union membership are associated with the proliferation of State legislation making it more difficult to organize and sustain union memberships (Ellwood & Fine, 1987). And today, many large private employers are adopting strong anti-organizing tactics to further suppress union membership (Bronfenbrenner, 2009).

The federal inaction on increasing minimum wages and the private sector drive to suppress collective bargaining has spurred community activism, often in partnership with labor organizations, to promote local ordinances to raise wage levels (Levi et al., 2002; Reich et al., 2014). One of the first successful cities to adopt a series of local wage ordinances was the City-County of San Francisco. Adopted in the early 1990's, the city-county grounded their policies in research on New Jersey's action to raise their state minimum wage. The New Jersey study surveyed 410 fast food restaurants in New Jersey and Eastern Pennsylvania and compared employment growth between stores with a State-imposed wage increase (New Jersey) and those without (Eastern Pennsylvania). That research found no measurable negative impact on employment in the New Jersey restaurants resulting from the wage increase (Card & Krueger, 1994). An analysis of San Francisco's wage ordinance, years after adoption, found similar results – that the ordinances did not impact business operations (Reich et al., 2014, pp. 312–313). Nevertheless, despite the early success of San Francisco and other cities adopting living wage policies, just over 140 local governments employ some form of living wage program today. This represents only a small fraction of the 25,000 local communities in the United States.

Determinants of a successful local wage campaigns are varied, with most efforts succeeding in adopting some form of ordinance. Few campaigns fail. Some are derailed by State

Legislatures or Courts (Adams & Neumark, 2005). In other cases, a lack of coordination with union organizations is cited as the reason for failure to win adoption (Luce, 2005). For those ordinances which have passed, troubles exist with effectiveness and execution. Effectiveness is hampered by limitations written into the language of the ordinances. Exclusions and phasing of wage increases limit effectiveness, and officials can undercut the ordinance through lax enforcement or liberal granting of waivers. For these reasons, the benefits of adopting wage ordinances are not measured solely by researchers with improvements to wages, but to related improvements in union membership, contributions to national campaigns on wage issues, and strengthening local alliances working on other social equity issues (Luce, 2012).

In addition to research focused on external forces suppressing tourism wages, several qualitative researchers are studying internal forces within the industry which could influence wage outcomes. This research, conducted primarily by sociologists, recognizes a unique aspect of tourism employment. Some workers in the industry simultaneously produce a product and are the product. The social interaction between hotel management and front desk workers and their guests, or wait staff and restaurant customers is an important element measured and commodified by business owners (Britton, 1991; Sherman, 2007; Urry, 1990). In contrast, workers in the back of house (housekeeping and maintenance staff) provide physical labor and are tasked with being invisible to guests (this invisible labor is usually comprised of immigrants and minorities).

The tension between these two groups of laborers (front and back of house) was apparent to Rachel Sherman during her qualitative research, as she immersed herself into hotel operations. The front desk staff negotiated inequities with their guests by creating genuine relationships which bolstered self-respect, while back of house labor had no such outlet and felt the full brunt

of the inequity (Sherman, 2007). This difference in the hospitality workforce, applying the split labor market theory of Edna Bonacich (Bonacich, 1972), could be an internal factor in suppressing the wages of back of house workers. Additional discussion on the impact of split labor markets on wages is discussed below in the section on theoretical frameworks associated with the research questions.

How are public economic benefits distributed?

Taxes are the primary economic benefit of tourism to State and local governments. Hotel owners pay property taxes and their transient occupants also pay sales tax on local purchases – just like local residents. In addition, hotel occupants pay a transient occupancy tax based on their daily room rate which is not imposed on permanent residents. These taxes are applied by local and state governments. Some jurisdictions characterize the tax as a "sales" or "bed" tax. Since transient occupants of hotels require no more public services than permanent residents, the unique transient occupancy tax applied to hotel occupants is likely a source of profit for local and state governments. This conclusion is why some researchers promote tourism taxes as a source income which can be used to subsidize services to existing residents (Boley et al., 2014).

Table 7 replicates the projected tax revenue schedule from the IHC Business Class Hotel Model (Interim Hospitality Consultants, 2013). The taxes collected exclusively on room revenue and overall revenue for the hotel are $434,870. This excludes property tax paid by the hotel ($50,000 as identified in the supporting schedules) and any taxes paid by hotel guests at airports, renting cars, purchasing gasoline, shopping in stores, dining in restaurants, or attending cultural or sporting events. In this respect, the hotel tax revenue collected by local and state governments

can be viewed as being more than what is necessary to provide public services to temporary residents.

Hotel tax revenue, the primary public economic benefit, is similar in magnitude to the annual private profit (NOI) of $572,301 estimated for the hotel investors (see Table 3). This tax revenue is taken in by local and state governments, and then allocated to public purposes in the annual or biannual budget process. This public economic benefit has the potential to address concerns of social equity in the tourism sector. The use of the revenue, however, has not yet been addressed in the planning literature.

Table 7: Projected Tax Revenues from a Proposed Business Class Hotel

	Tax Rate	**Year 1**
Room Revenue		$2,032,950
Total Revenue		$2,121,340
Occupancy Tax on Hotel Revenue		
City of Montevallo	5%	$101,650
Shelby County	7%	$142,310
Sales Tax on Total Revenues		
City of Montevallo	4%	$84,850
Shelby County	1%	$21,210
State of Alabama	4%	$84,850
Total Taxes		**$434,870**

Source: IHC Feasibility Study, Page H-10

How do natural amenities influence tourism development and taxation?

Fainstein and Harvey focus on the public investment in tourist attractions as justification to address wage inequities in the industry. However, there is some literature which indicates that

natural amenities are an important element of tourism development – as well as a source of leverage for local government officials exploiting taxation powers.

Much of the literature connecting natural amenities with tourism comes from rural studies. Rural communities, instead of building amenities for visitors, can focus on promoting natural amenities as attractions (Halseth et al., 2010; Hassebrook, 2003) or leveraging interest in tours of agri-business (e.g., wineries, farms and dairies) (Britton, 1991). John Penders and his collaborators described this approach as "Amenity-Based Development." They argue that "for places with significant natural (or cultural) amenities such as mountains, lakes, and beaches, it may be possible to increase local income and wealth, diversify the economy, and achieve more sustainable rural development through increased tourism, recreation, and retirement development" (Pender et al., 2012, p. 19).

Marcouiller et al (2004) in their research found that natural amenities are positively associated with hotel activity. Their study used five separate scales to measure natural amenities using various recreational activities associated with land-based, river-based, lake-based, warm-weather, and cold-weather environments. Outcomes in tourism activity, as measured in three states (Wisconsin, Minnesota and Michigan) were tourism employment, the number of tourism firms, and retail service employment (Marcouiller et al., 2004).

Public choice economists recognize that strong natural amenities create an environment which could lead to local government to leverage tax increases on residents. Brueckner and Neumark posit that "in locations with strong amenities, public sector workers may have more ability to extract rents [taxes], as these amenities drive wedges between the utility of taxpayers in

different locations that public sector workers can exploit." Their research confirmed this hypothesis (Brueckner & Neumark, 2014).

Research Questions from the Literature Review

Using micro-simulation models to understand the economics of the hospitality subsector responds in part to Fainstein's charge to local government officials to provide the public with accurate information on the distribution of private economic benefits within the tourism sector. The models are instructive for assessing the economic benefits generated by hotel properties and for understanding the wage structure in the local hospitality market. The distribution of public economic benefits (hotel tax revenues) from the hospitality subsector, however, cannot be addressed with an economic model of hotel operations. To address this line of inquiry, patterns of public expenditures must be analyzed. Given the magnitude of the public economic benefits potentially generated by the hospitality sector, and the lack of any research addressing this aspect of the industry, one of the primary research questions of this dissertation is, how are public economic benefits from the hospitality subsector being distributed? The other primary research question goes to the role of natural amenities in hotel development and is, are natural amenities an important element in the promotion and taxation of tourism?

Other research questions in this dissertation seek to test suppositions or explore observations from the literature review relating to external and internal forces that impact wages. Here then, in Table 8 below, are the proposed research questions, the sourcing of each question, and where applicable, the theoretical framework which predict the direction of the hypotheses associated with the subject question (the hypotheses are detailed in Chapter 3). The rationale for choosing the theoretical frameworks follows the table below.

Table 8: Research Questions, Sourcing and Theoretical Frameworks

Research Questions		Source	Theoretical Framework
1.	How are the public economic benefits of the hospitality subsector distributed?	Gap in the literature.	Power to Tax Theory
2.	Are natural amenities an important element in the promotion and taxation of tourism?	Gap in the literature	Power to Tax Theory
3.	Have unions improved the wage structure in their local hospitality subsector?	Based on previous research findings.	Not applicable
4.	Do differences in race between front of house and back of house employees in the hospitality subsector reduce the wages of back of house employees?	Based on field observations of Rachel Sherman during her qualitative research of hotel operations, and the wage inequality research of Edna Bonacich.	Wage Conflict: Split Labor Market theory

Theoretical Frameworks to Predict Direction of Associations

Power to Tax Theory: Distribution of Public Economic Benefits

Although there is a significant gap in the literature exploring the distribution of public economic benefits from the tourism industry, there are several economists who put forward theories or articulate principles which could predict the use of these benefits. I review these above in the introductory chapter. Of the options reviewed, the Power to Tax theory is selected to predict the direction of the hypotheses associated with the distribution of public economic benefits. Power to Tax theory, a product of public choice economics, suggests that public officials will use the public economic benefits to enrich themselves, by increasing the number and salaries of public employees. This theory is appropriate for this study for three reasons. First, recognizing and addressing the negative influence of bureaucrats pursing their own self-interests is supported in the public administration literature. H. George Frederickson, the first champion for social equity in public administration, suggest identifying and rooting out self-interests in

order to preserve credibility for government institutions (Frederickson, 1991). Second, expenditures on local government employees (average salaries and total payroll) are measured annually by the U.S. Government and therefore can be operationalized more accurately than other potential uses (benevolent expenditures, spending on tourism promotion and marketing, living wages, or employee profit sharing). And finally, recent studies by public choice economists have tested the Power to Tax theory using government employee compensation as an outcome variable (Brueckner & Neumark, 2014; Diamond, 2017). This dissertation can benefit from these past efforts, and contribute to future research, through use of standardized variables operationalizing government compensation (Gerring, 2012).

The previous Power to Tax-based studies by Brueckner, Neumark and Diamond posit that certain conditions inhibit residents from migrating, or "voting with their feet," in the face of higher taxes. Charles Tiebout first advanced the proposition that residents controlled the level of taxation in their community with the ability to migrate to another location (Tiebout, 1956). The mobility inhibitors tested in these previous studies were natural amenities (Brueckner & Neumark, 2014) and homogeneity in regional housing prices (Diamond, 2017). Brueckner and Neumark posited that "in locations with strong amenities, public sector workers may have more ability to extract rents [taxes], as these amenities drive wedges between the utility of taxpayers in different locations that public sector workers can exploit" (Brueckner & Neumark, 2014). Local amenities included mild climate, dry weather, proximity to coastal areas, and population density. Diamond hypothesized that governments presiding over jurisdictions with less elastic housing supplies (no option to move to nearby lower cost areas) are able to raise taxes without providing taxpayers additional government services (Diamond, 2017). These studies, using Power to Tax theory as a framework, posited that the higher tax revenues imposed on residents with limited

mobility would in turn be used by local government officials to inflate their own salaries or increase their numbers (the dependent variable in the studies). Government self-enrichment was operationalized in these studies as local government wages per capita (Diamond, 2017) and the differential between public and private sector wages (Brueckner & Neumark, 2014) with counties or Metropolitan Statistical Areas serving as the unit of analysis. Cost of living variations between communities was controlled using housing prices. Diamond's findings on the relationship between limitations on the mobility of residents and higher local government wages per capita were statistically significant with a one (1) standard deviation increase in an MSA's land unavailability increasing government payrolls per county resident by 5.2 percent, government full-time equivalents per county resident by 1.5 percent, and average government worker wages by 3.7 percent.

One of the primary purposes of this dissertation proposal is to study the distribution of public economic benefits from tourism. The presumption, based on Power to Tax theory, is that public officials will use hotel tax revenues generated by tourism for self-enrichment. If the findings are consistent with the Power to Tax theory, they will clarify, at least in part, how the public economic benefits of tourism are being distributed. If this study determines that government officials are using tourism development as a mechanism to distribute public economic benefits for self-enrichment, the findings will become a significant element in the policy debate on social equity within the industry. This type of finding would be of interest to tourism employees, unions, and social equity advocates.

Wage Conflict Theory: Wage Suppression in Back-of-House Occupations:

Rachel Sherman, in her qualitative study of hotel operations, observed tension between front-of-house (managers, front-desk) and back-of-house (housekeeping) employees. Sherman's

observations, in part, alluded to differences in race and nationality between these two groups (Sherman, 2007). It is proposed to explore the implications of this observation by assessing any wage differential between supervisors and employees in the housekeeping classification, based on the racial disparity of these two groups. Although Sherman did not reference this in her study, wage conflict theory suggests there would be a negative impact on wages for housekeeping employees as the racial disparity between supervisors and employees increases. Due to limitations in the availability of wage data by classification and industry, this analysis will encompass housekeepers and housekeeper supervisors in all industry sectors. The accommodation subsector is the largest user of the housekeeping classification (49%) and the second largest user of the supervisor classification (21%) (Table 9).

Table 9: Distribution of Housekeeping Occupation Classifications by Industry

2016 Industry Employment	**Housekeepers**		**Housekeeping Supervisors**	
	Number	Percent	Number	Percent
Traveler Accommodation	452,620	49%	33,390	21%
Services to Buildings and Dwellings	115,040	12%	53,060	33%
General Medical and Surgical Hospitals	102,560	11%	7,320	5%
Nursing Care Facilities	69,330	7%	6,030	4%
All other subsectors	185,090	20%	61,340	38%
Total Employment	924,640	100%	161,140	100%

Wage conflict theories are rooted in the works of Karl Marx. One of his theories states the power of capital, controlled by the elite (bourgeois), over labor (the proletariat) is exercised through means of production, with the objective being the exploitation of workers and suppression of wages (Marx, 1867). Edna Bonacich's split labor market theory is a variation of wage conflict theory which addresses race and ethnicity. In this theory, labor is divided into two groups based on the willingness to accept lower pay for the same job. The group willing to

accept the lower pay is typically the ethnic or racial group marginalized by groups in power. The split between marginalized wage earners, dominant wage earners, and businesses creates a three-class system. The business wants to suppress all workers, the dominant wage earners want to protect their premium wage, and the low-wage earners want to hold on to their job. This theory suggests racial or ethnic tension between the two classes of wage earners as the business works against both groups to suppress each of their wages (Bonacich, 1972).

Chapter 3: Research Design, Methods & Data Preparation

Consistent with past studies that are being partially replicated here, the research questions in this study will be addressed with a non-experimental associational design. It is non-experimental because the independent variables cannot be manipulated and the interaction between variables is only being tested for one group (there is no control group). It is associational because the specific purpose of this design type is to explore relationships between variables (Gerring, 2012). This study uses cross-sectional data collected at a single point in time. A single cross section is used, in part, due to the use of mediated linear regression to answer, in part, the primary research question. The study is conducted at the meso-level with the unit of measure being MSAs for some (based on the limitation of unionization data), and the geographical boundaries of counties for others (consistent with previous studies). The variables of interest are operationalized, where possible, based on approaches used in previous studies to bolster internal validity. The research design is depicted by the symbols:

N O

The single row indicates there is only one group in the study. The "N" indicates the cases in the single group (MSAs/counties) will be selected naturally. The single O" indicates data was collected at a single point in time.

Table 10 provides a summary of the research questions, the testable hypothesis proposed to answer each question, and notes on the direction of association. Following this table, detailed information is provided on datasets, operational definitions for each variable, and diagrams illustrating the proposed statistical tests.

Table 10: Overview of Research Questions and Hypotheses

	Research Question	Hypotheses	Notes
1.	How are the public economic benefits of the hospitality subsector distributed?	*H_1: Counties with higher levels of per capita hotel revenue will have higher levels of per capita local government wages.*	H_1 is the primary focus of this study. The direction of association is based on Power to Tax Theory.
2.	Are natural amenities an important element in the promotion and taxation of tourism?	*H_2: Counties with higher scores on the USDA Natural Amenities Scale will have higher per capita hotel revenue.* *H_3: Counties with higher scores on the USDA Natural Amenities Scale will have higher levels of per capita local government wages.*	H_2 and H_3 replicate previous studies and comprise two paths (H_1 is the third) of a mediated linear regression analysis.
		H_4: County scores on the USDA Natural Amenities Scale will not influence per capita local government wages independent of its effect on per capita hotel revenue (conditioned on confirmation of preceding hypotheses).	H_4 tests whether a previously established association (H_3) is mediated by per capita hotel revenue.
		H_5: Rural counties with higher levels of per capita hotel revenue will have higher levels of per capita local government wages than urban counties.	The direction of association is based on Power to Tax Theory. Rural governments can direct more tax revenue for self-enrichment because they do not have to build attractions.
3.	Have unions improved the wage structure in their local hospitality subsector?	*H_6: MSA's with higher levels of union membership will have higher levels of accommodation subsector wages.*	The direction of association is based on previous literature cited in Chapter 2.
4..	Do differences in race between front of house and back of house employees in the hospitality subsector suppress the wages of back of house employees?	*H_7: MSA's with a higher differential in racial composition between housekeeping supervisors and housekeeping employees will have lower housekeeping wages.*	The direction of association is based on split labor market theory.

Research Hypotheses (H_1 – H_7)

There are seven research hypotheses associated with the four research questions. Each hypothesis is presented below and followed with a diagram illustrating the relationships being tested.

Hypothesis 1 addresses the first research question; 1) How are the public economic benefits of the hospitality subsector distributed? Based on power to tax theory, the hypothesis posits that public hospitality subsector benefits, as measured by per capita hotel revenue (a proxy for local hotel taxes), is positively associated with higher per capita local government wages (Figure 3):

> *H_1: Counties with higher levels of per capita hotel revenue will have higher levels of per capita local government wages*

The second, third, fourth and fifth research hypotheses for this study are associated with the second question; 2) Are natural amenities an important element in the promotion and exploitation of tourism? Hypothesis 2 partially replicates a previous study and tests the direct association between natural amenities and tourism. Hypothesis 3 also partially replicates a previous Power to Tax based study which tests the association between natural amenities and local government wages. The fourth hypothesis combines the first three hypotheses to assess, through mediated linear regression, whether per capita hotel revenue is the mechanism which links the association between natural amenities and higher per capita local public wages. The conceptual diagram for this analysis is depicted in Figure 2. Hypothesis 2 is the first path in this mediation model (path a) and is predicted based on the previous research of Marcouiller et al (2004) and posits that natural amenities are positively associated with hotel revenues.

> *H_2: Counties with higher scores on the USDA Natural Amenities Scale will have higher per capita hotel revenue.*

The second path in this mediation model (path b) is the test of Hypothesis 1 (from above) with a predicted positive relationship between hotel wages per capita and per capita local government wages.

Hypothesis 3 is the third path in this mediation model (path c) and is predicted based on the previous research of Brueckner and Neumark (2014) and posits that natural amenities are positively associated with per capita local government wages:

> *H_3: Counties with higher scores on the USDA Natural Amenities Scale will have higher levels of per capita local government wages.*

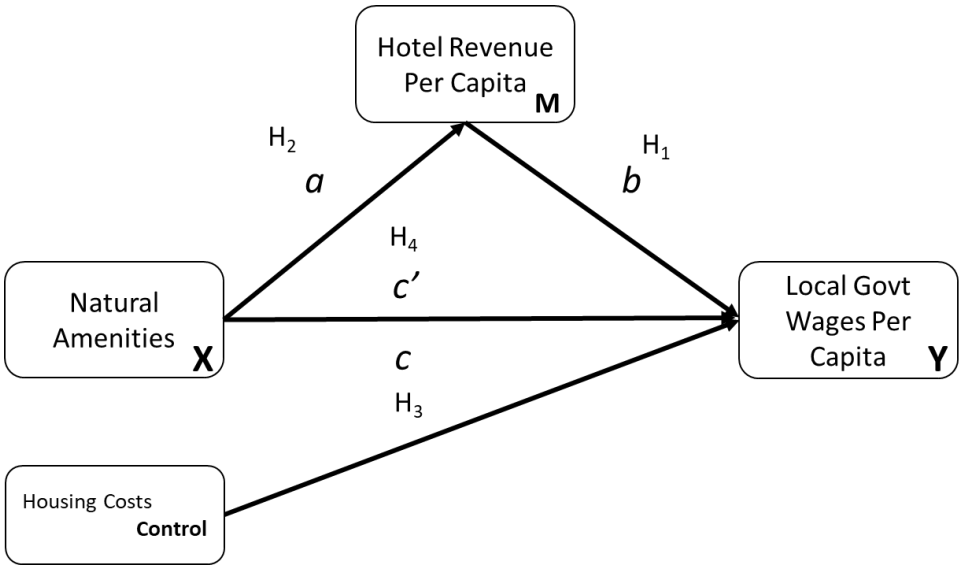
The fourth path in this mediation model (path *ab*) tests whether or not hotel revenue is the mechanism that mediates the relationship between natural amenities and higher per capita local government wages. Since high levels of natural amenities are a logical antecedent to tourism development, and tax revenues from tourism (hotels, retail sales, car rentals, etc.) are necessary to boost local government salaries, the hypothesis is that tourism activity (as measured by hotel revenue) will be the mechanism that mediates the relationship between natural amenities and higher per capita local government wages:

> *H_4: County scores on the USDA Natural Amenities Scale will not influence per capita local government wages independent of its effect on hotel revenue per capita.*[3]

This hypothesis will be tested using mediated linear regression (PROCESS Model 4) (Hayes, 2018, p. 585).

[3] The language used in this hypothesis is modeled after language from Andrew Hayes' Introduction to Mediation, Moderation and Conditional Process Analysis (Hayes, 2018, p. 518).

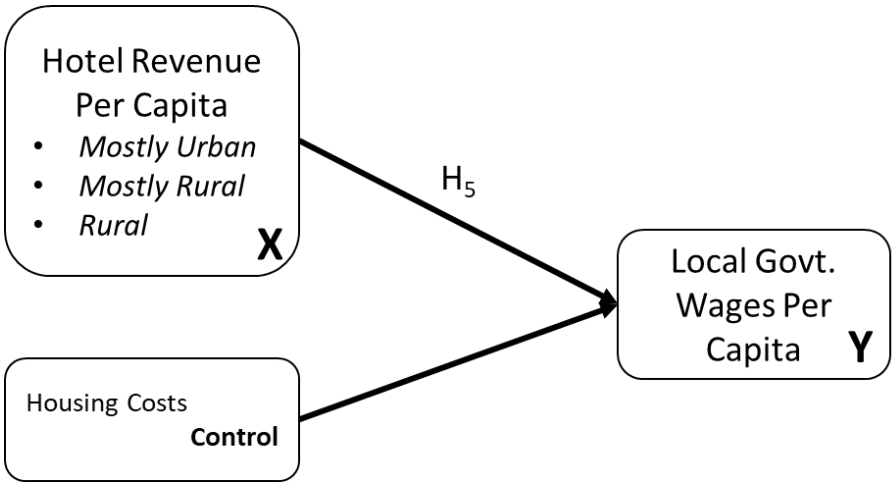
Figure 2: Conceptual Diagram of Statistical Test for Hypotheses #1 - #4



Hypothesis 5 also addresses the second research question. The literature suggests that rural areas require less public investment in built amenities to attract tourists. Rural areas can rely on existing natural amenities and agritourism to draw in tourists. This reliance on existing assets could permit local government officials to direct more public economic benefits, based on Power to Tax theory, towards their own self-enrichment.

H_5: There will be a stronger positive relationship between per capita hotel revenue and per capita local government wages in Mostly Rural and Rural counties as compared to Mostly Urban counties.

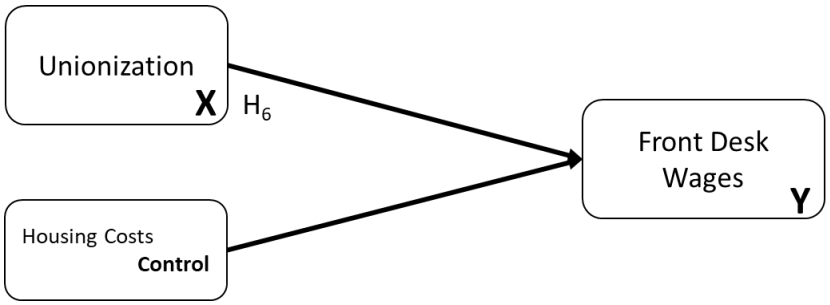
Figure 3: Conceptual Diagram of Statistical Test (with split file) for Hypothesis #5



Hypothesis 6 addresses part of the third research question; Have unions improved the wage structure in their local hospitality subsector? This hypothesis explores the supposition by Fainstein that unions can have a positive impact on wages in the tourism sector (Figure 4).

H_6: MSA's with higher levels of union membership will have higher levels of accommodation subsector wages.

Figure 4: Conceptual Diagram of Statistical Test for Hypothesis #6

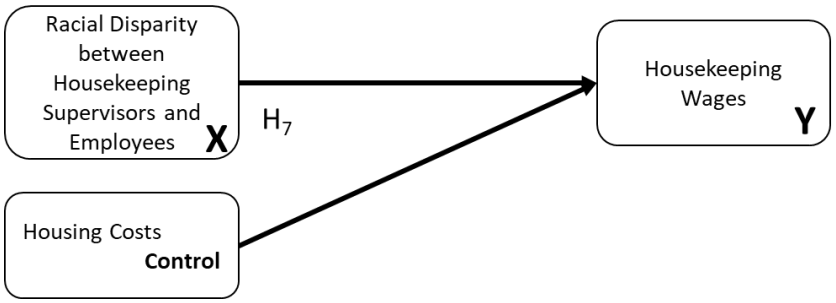


The seventh hypothesis, using wage conflict theory, addresses internal forces affecting the wages of a classification popular in the hospitality subsector: housekeepers and maids. It answers the question: Do differences in race between housekeeping supervisors and housekeepers suppress the wages of housekeepers? This hypothesis predicts that, based on split-

labor market theory, wages of housekeepers will be lower when there is a greater differential in race between housekeeping supervisors and housekeepers (Figure 5).

H_7: Counties with a higher differential in racial composition between housekeeping supervisors and housekeeping employees will have lower housekeeping wages.

Figure 5: Conceptual Diagram of Statistical Test for Hypothesis #7



Operational Definitions and Data Sets for Variables of Interest

As they appear in order above, below is an explanation of how each variable in this study is operationalized.

Per Capita Hotel Revenue (proxy for hotel taxes): Marcouiller et al (2004) in their study of tourism activity in three states (Wisconsin, Minnesota and Michigan) operationalized tourism activity using tourism employment, the number of tourism firms, and retail service employment. The challenge with these measurements of tourism activity is that they are not easily replicated for the national scope of this study. The tourism "industry" is not a defined industry sector in the North American Industry Classification System (NAICS). Tourism-related economic activity is spread across multiple subsectors in the NAICS system – most of which serve both tourists and local residents. This process of splitting activities between tourists and local residents introduces

potential reliability and validity concerns. The only subsector that is allocated entirely (100%) to the tourism industry is the accommodation subsector (i.e., hotels, resorts, bed and breakfast). Therefore, for this study, operationalization of tourism activity will focus on data collected from the accommodation subsector.

Data on employment, payroll, and revenue for the accommodation subsector is collected by the U.S. Government at the local government level. Of these three data elements, hotel revenue is the best fit for this study. Hotel revenue is a good fit since it is used by local governments to assess (collect) local occupancy taxes. The Economic Census provides hotel revenue data. The Economic Census is the major source of facts about the structure and functioning of the United States economy. The producers of this data set, the United States Census Bureau, state that "The local governments use the data to assess business activities and tax bases within their jurisdictions, as well as to develop programs to attract business," and that trade associations use the data to "study trends in their own and competing industries, which allows them to keep their members informed of market changes" (*Economic Survey*, 2012). Data from the 2012 Economic Census will be used in this study. The revenue will be divided by the 2012 county populations to produce hotel revenue per capita.

Hotel revenue estimates are available for 1,813 counties or county equivalents through the Economic Census. The availability of hotel revenue data is limited by non-responses to data requests (215 non-responsive counties) and privacy concerns (1,114 counties). Privacy concerns exist where there are a limited number of hotels in a county, and release of the revenue data would permit users to associate revenue with specific hotels ("Economic Census: Reliability of Data," 2019). This dataset, therefore, is potentially a limiting factor for the number of counties which can be studied. Estimating processes to replace missing data are detailed below.

Per Capita Local Government Wages (proxy for local government self-enrichment): Diamond operationalized local government self-enrichment using per capita payrolls for local governments. This study uses a similar measurement. Local government payrolls (NAICS code 92/Type 3) for each county are derived from the Bureau of Labor Statistics Quarterly Census of Employment Wages (*Quarterly Census of Employment and Wages*, 2014). The annual payrolls for 2014 are used for each county. This allows for a two-year lag, as suggested by Warner (Warner, 2013), for the local government to collect and allocate (through the budget process) hotel revenue for potential self-enrichment. This data was then transformed into a per capita basis using 2014 population data from the American Community Survey.

Median Gross Rent (Control Variable): To address a competing explanation for high local government wages, the local cost of living (using housing cost as a proxy) is used as a control variable. This is consistent with similar research conducted by Diamond (2017) and Brueckner et al (2014). Monthly median gross housing rent (Table B25064 of the ACS) serves as a proxy for cost of living. The presumption here is with a higher the cost of living (using gross rent as a proxy), local governments will have to offer higher salaries to recruit and retain employees. Housing costs were also used as the control variable in the Brueckner and Neumark study (Brueckner & Neumark, 2014).

USDA Natural Amenities Scale: Natural amenities were operationalized by Brueckner and Neumark with four individual scales: mild weather, dry weather, proximity to a major body of water, and population density (Brueckner & Neumark, 2014). Marcouiller et al (2014) use five separate scales to measure natural amenities using various recreational activities associated with land-based, river-based, lake-based, warm-weather, and cold-weather environments. For this study a single standardized scale, which incorporates elements from both Brueckner and

Marcouiller, will be used to operationalize natural amenities – the Natural Amenities Scale produced by the United States Department of Agriculture (USDA) Economic Research Service.

The USDA describes their Natural Amenities Scale as:

> "a measure of the physical characteristics of a county area that enhance the location as a place to live. The scale was constructed by combining six measures of climate, topography, and water area that reflect environmental qualities most people prefer. These measures are warm winter, winter sun, temperate summer, low summer humidity, topographic variation, and water area (*Natural Amenities Scale*, 2018)."

The USDA provides data for counties or county equivalents in the lower 48 States. Counties in Hawaii and Alaska are excluded, so the available cases are 3,111. The USDA cites the unavailability of data as the reason for excluding Hawaii and Alaska from their dataset. For the continental U.S. The dataset contains the original measures and standardized scores for each county. The level of analysis for the scale is interval, with scores ranging from a high of 11.17 (Ventura County, CA) to a low of -6.4 (Red Lake County, MN) (*Natural Amenities Scale*, 2018). The scale has been used in previous studies testing migration patterns of people between geographic regions in the United States (Hunter et al., 2005; Nelson, 2006).

Union Membership: The percentage of union membership at the state and metropolitan statistical area (MSA) in both the public and private sector is collected by the Bureau of Labor Statistics. Barry Hirsch of Georgia State University and David Macpherson of Trinity University organize this data for researchers and make it available on the web at unionstats.gsu.edu.

Hotel Employee Wages: The Bureau of Labor Statistics (BLS) provides wages by employee classification. Narrowing the focus to just front-line employees, the subject of this

study, comes with some limitations. Data on wages for front-line classifications (i.e., front desk clerk, housekeeper) is only available by industry at the State level. However, some classifications are highly concentrated in certain industries. For example, 94% of the hotel desk clerk positions nationally are in the accommodation subsector. Furthermore, the mean wages of hotel desk clerks in the accommodation subsector are within .02% of the average of hotel desk clerks from all industries (as measured at the State level). Therefore, the hotel desk clerk wages were selected at the Metropolitan and Micropolitan Statistical Area level for all industries and used as a proxy for front-line wages in the accommodation subsector. The 2016 wage data for hotel desk clerks (Classification 43-4081) was obtained from the Occupational Employment Statistics (OES) Survey conducted by the BLS. This permits a two year period between the independent (union participation) and dependent variable (hotel desk clerk wages) per the recommendation of Warner (Warner, 2013).

Difference in racial composition between housekeeping supervisors and housekeeping workforce: This will be measured by the difference between the percentage of white housekeeping supervisors (Occupation Code 37-1011) and white housekeeping employees (Occupation Code 37-2012). This data is drawn from a unique component of the 2010 American Community Survey and is sponsored by four Federal agencies: 1) the Equal Employment Opportunity Commission, 2) the Employment Litigation Section of the Civil Rights Division at the Department of Justice, 3) the Office of Federal Contract Compliance Programs at the Department of Labor, and 3) the Office of Personnel Management. Although racial composition of classifications is available at the industry subsector level with the 2010 data set, the wages for these classifications are not available by industry. Therefore, the racial disparity will be calculated across all industries for the subject classifications. The accommodation subsector is

the largest user of the housekeeping classification and the second largest user of the housekeeping supervisor classification (Table 9). There is no known literature in which this theory (split labor market) is operationalized.

2010 Housekeeping wages: The 2010 wage data for housekeeping and maids (Classification 37--2012) was obtained from the Occupational Employment Statistics (OES) Survey conducted by the Bureau of Labor Statistics (BLS). The wages represent the average across all industries – consistent with the make-up of the independent variable (racial disparity between housekeeping supervisors and employees).

Urban-Rural Split: There are several ways to split geographical designations into either urban or rural classifications. All classifications start with census data on population density and land coverage collected at the finest geographical area – the census tract (i.e., blocks). Census tracts are defined as urban if the population density is more than 1,000 residents per square mile. Adjustments are made to this threshold if there are large public spaces in the census tract (i.e., parks, airports, cemeteries). Any census tract not defined as urban is by default rural. One option to classifying the urban or rural character of counties involves calculating the percentage a population living in either an urban or rural census tract within the county. Using this approach, the Census Bureau has established three ways to define counties: Mostly urban, mostly rural, and completely rural (Ratcliffe et al., 2016). These are the three categories of "urban" and "rural" which will be used in this study.

A summary of all variables and sources is provided in Table 11.

Table 11: Data Sources for Variables

Role	Variable	Level of Measurement & Unit of Analysis	Source	Year
Association of Natural Amenities & Hotel Revenue with Higher Local Government Wages				
Y: Dependent	Local Government Salaries Per Capita	Ratio/County	Bureau of Labor Statistics: NAICS 92 (Local only) American Community Survey 2014 Population	2014
X: Independent & M: Mediator	Hotel Revenue Per Capita	Ratio/County	2012 Economic Census: NAICS 721 American Community Survey 2012 Population	2012
X: Independent	Natural Amenities Scale	Interval/County	United States Department of Agriculture	2010
X: Independent	Rural Classification	Categorical/County	United States Department of Agriculture	2010
Control	Housing Cost (Median Gross Rent)	Ratio/County	American Community Survey 5-year estimates 2010-2014; Table B25064	2014
Association of Unionization with Tourism Wages				
Y: Dependent	Hotel Clerk Wages	Ratio/MSA	Occupational Employment Statistics Survey, Bureau of Labor Statistics	2016
X: Independent	Unionization	Ratio/MSA	Unionstats.gsu.edu (compilation of Bureau of Labor data)	2014
Control	Housing Cost (Median Gross Rents)	Ratio/MSA	American Community Survey 5-year estimates 2012-2016; Table B25064	2014
Association of Racial Disparity in Workforce and Housekeeping Wages				
Y: Dependent	Housekeeping Employee wages	Ratio/MSA	Occupational Employment Statistics Survey, Bureau of Labor Statistics	2010
X: Independent	Difference in Racial Composition of Housekeeping Supervisors and Housekeeping Employees	Ratio/MSA	American Community Survey (EEO-ALL01W) NAICS 721	2010
Control	Housing Cost (Median Gross Rents)	Ratio/MSA	American Community Survey 5-year estimates 2006-2010; Table B25064	2010

Data Analysis Techniques

All hypotheses, except Hypothesis 4, will be tested with linear regression using IBM's SPSS software (Version 26). Hypothesis 4 will be tested using the PROCESS module (model 4) for SPSS developed by Andrew Hayes (Hayes, 2018). This module permits the testing of a mediated linear regression model in a single analysis.

Hypothesis 5 uses the same data sets as Hypothesis 1, expect that data will be split into mostly urban, mostly rural and rural categories. The differences between the tests for each group will be compared.

Validity, Reliability and Limitations

The research design is non-experimental/associational using cross-sectional data. Non-experimental designs, while very common in the literature, are problematic because of a lack of a comparator group and an intervention (Gorard, 2013) – neither of which can be introduced into this study. The limitation of this design is mitigated by careful construction and alignment of the design and methods.

The proposed research design and methods were carefully constructed, framed in existing theory, and rooted in existing literature to minimize bias (de Vaus, 2001; Gorard, 2013; Shadish et al., 2002). The research design and methods align the problem statement, theoretical framework, research questions, testable hypotheses, operationalized variables of interest, data collection and statistical analysis. The problem identified is the inequitable distribution of economic benefits from tourism. The gap in the literature which is addressed in the research design is clarifying the public sector's distribution of economic benefits from tourism. The theoretical framework selected to explore this gap is Power to Tax theory, which predicts that

public officials will use public economic benefits from tourism (taxes) to enrich their own numbers and compensation. One of the testable hypotheses that follows posits, in general terms, that higher levels of hotel revenue in a county (a proxy for hotel tax revenue accruing to the county) will be associated with higher expenditures on local government salaries.

The concepts addressed in the study (i.e., tourism, self-enrichment, etc.) are operationalized in many cases by using established measurement scales or drawn from other studies which are partially replicated. The partial replication of other studies and the use of existing measurement scales strengthens the internal and external validity of the measurements, and the use of established secondary data sets also strengthens the reliability of the measurements. All variables are measured at the interval or ratio level, permitting more precise measurement and more options for advanced statistical techniques (Gerring, 2012). There is no logical or theoretical basis for testing reciprocal associations between the key variables.

There are reliability concerns with the dataset used for hotel revenue and union membership. The technical notes for the 2012 Economic Census, the source of hotel revenue, indicates the presence of non-sampling errors and a significant percentage of the values are imputed. Revenue data was collected from 2,927 of the potential 3,143 counties and county equivalents. However, due to privacy concerns, data for 1,114 of these counties is masked, leaving only 1,813 cases (counties) with actual revenue data. Furthermore, of the cases with accessible data, 34 have an imputation rate above 50%, 115 cases have imputation rates between 25% and 50%, and 352 cases have imputation rates between 10% and 25% (*Economic Census: Reliability of Data*, 2019). Despite these weaknesses, the Economic Census is widely regarded as the best business census in the world (Boettcher & Gaines, 2004) .

The unionization data is presented at the MSA level (n=264) based on the disaggregation of BLS data by Hirsch and Macpherson (Hirsch & Macpherson, 2019). The BLS does not disaggregate the data due to concerns about sample size. Using BLS data only would limit analysis to unionization data aggregated at the state level (n=50). The smaller population of BLS data, and the heterogeneity of data likely coming from larger states, is viewed as a greater limitation than the sample size concerns with the larger MSA data set prepared by Hirsch and Macpherson.

Assessment of Findings

Using power to tax theory as a theoretical framework, the primary purpose of this study is to study the relationship between natural amenities, tourism (using hotel revenues as a proxy) and higher local government employee salaries. Previous research has studied the association of natural amenities and tourism, and natural amenities and higher local government employee salaries. The relationship between natural amenities and tourism was established also using different data sets than in this study. The relationship between hotel revenues and higher local government employee wages, and potentially, the mediating influence of hotel revenues between natural amenities and higher wages will be tested in this study and address a gap in the literature. If research hypotheses 1 and 4 are validated, the findings will provide additional support for the Power to Tax theory and clarify, at least in part, how the public economic benefits of tourism are being derived and distributed.

The answer to these research questions could provide the necessary context to address some of the problems identified by Fainstein and Harvey on the allocation of benefits in the tourism industry. The answers may also reveal, as Power to Tax theory suggests, that solving the wage

problem in the tourism industry may not simply involve unions negotiating with the private sector, but rather, there could be a significant opportunity for advocates to challenge the allocation of excess tax revenues by local governments. These findings would be of interest to tourism employees, unions, and social equity advocates. Conversely, if there is no connection between tourism and public employee wages, the findings will challenge support for the Power to Tax theory.

Data Preparation: H_1 through H_5

The following sections detail the data preparation for each of the hypotheses. The data cleaning process applied to all data is outlined in Appendix B. The process is based on recommendations in Tabachnick & Fidell for ungrouped data (Tabachnick & Fidell, 2013). The format of this section includes a numerical/alphabetical sequence to permit easier tracking of the steps taken in the data preparation process. There are four sections for each hypothesis. Section 1 covers the univariate screening for each variable. The variables are further itemized by lower case letters (i.e., a, b, c, etc.). Section 2 covers the bivariate screening. Section 3 includes the multivariate screening and finally Section 4 provides a summary of missing data and limitations. Appendix C provides graphs and tables used during the data screening process.

1. Data Acquisition and Univariate Screening

a. Dependent Variable: Local Government Wages per Capita (H_1 and H_3)

Local government wages per capita for 2014 is a computed variable which takes total local government wages for a county divided by the population for the county. The data source for local government wages is the Bureau of Labor Statistics and the source for population is the Census Bureau's American Community Survey (5 year). There are 3,143 counties in the United States. There was one case (Bedford City, VA) missing data for population. The 2012 population

for this case was used to replace the missing data. There were 337 cases missing data for local government wages. To estimate values for missing local government wages, wage data between the years 2010 and 2015 were reviewed to identify values from which to extrapolate a 2014 estimate. For example, if there was data available in 2013 and 2015 for the case, the value for 2014 was computed by taking the average of 2013 and 2015. Using this approach, 148 values were estimated for cases with missing data. After this process there were 189 cases (6.0%) remaining with missing values. The two values were then combined by dividing local government wages with population to compute a local government wages per capita variable. There were 2,954 cases out of a possible 3,143 to continue with the screening process.

Z scores were prepared for all cases. There were 34 cases with Z scores above 3.3. These cases were evaluated for input errors and extreme outliers. Finding none, all 2,954 cases were analyzed for normality of distribution. Descriptive statistics (skewness: 4.05) and visual inspection of a histogram revealed a strong positive skewness to the data. The common log of the data was calculated to transform the data to a near-normal distribution (skewness:.808). Graphs and tables associated with this review and transformation are available in the appendix (Figures C-1 and C-2, Table C-1).

b. Independent/Dependent/Mediating Variable: Hotel Revenue per Capita (H_1, H_2 & H_4)

Hotel revenue per capita for 2012 is a computed value which takes hotel revenue in a county divided by the population of the county. Hotel revenue data comes from the Economic Survey data set collected by the Census Bureau and population data comes from the American Community Survey. About 44%, or 1,330 of the 3,143 counties are missing hotel revenue data in the 2012 Economic Survey is missing – either supressed for confidentialy purposes or non-

reported. There are1113 counties without data due to confidentiality concerns and 217 counties due to non-responses to the survey.

A two-step process was used to estimate suppressed or missing data. First, hotel employment was estimated for each case using data from the County Business Patterns data set. This data is collected annually and provides a range of employees for cases with suppressed data. This estimating process involved solving for the difference between actual state totals (every state has an actual employment total) and actual county data and then allocating the difference among the counties with missing data. The second step was to multiply the mean revenue per employee from actual data ($74,847 in hotel revenue/per employee) with the estimated employee total to produce a replacement revenue value. One thousand one hundred and eleven (1,111) cases were populated with estimated values through this process. Employees are a valid component of this estimating process because there is high correlation between hotel employees and hotel revenue among actual data (ρ .989, see Table C-2). Estimating employees using ranges provided in the County Business Patterns to address missing data is a common practice (Isserman & Westervelt, 2006).

Z scores were prepared for all cases. There were 24 cases with Z scores above 3.3. These were reviewed for input errors and extreme outliers. Finding none, all 2,926 cases were analyzed for normality of distribution. Descriptive statistics (skewness:23.40) and visual inspection of a histogram revealed a strong positive skewness to the data. The common log (Log 10) of the data was calculated to transform the data to a near-normal distribution (skewness: .349). Graphs and tables with data associated with this review and transformation are available in the appendix (Figures C-3 and C-4, Table C-3).

c. Independent Variable: Natural Amenities Scale (H_2, H_3 and H_4)

The Natural Amenities Scale dataset was acquired from a webpage maintained by the United States Department of Agriculture. The data was downloaded in the form of an Excel spreadsheet. The data included raw data and Z-scores for six components of the scale: January temperature, January sunshine, June Temperature, June humidity, topography, and percentage of water coverage. The scale is based on the sum of these six Z-scores. There were 35 cases with missing data. Alaska (29), Hawaii (5), and Colorado (Broomfield County) were missing data. The values for a city within Broomfield County were used to replace the missing data for that county. The USDA did not include Alaska and Hawaii in their scale citing the unavailability of data for counties in those two states. Values for these states were not estimated.

Z scores were calculated for the Natural Amenities Scale. Twenty-two cases (22) were over 3.3 standard deviations from the mean in either direction. These were reviewed for input errors and extreme outliers. Finding none, all 3,108 cases were analyzed for normality of distribution. Descriptive statistics (skewness: .951) and visual inspection of a histogram (Figure C-5) revealed a near normal distribution, so no transformation was necessary.

d. Split-file Categorical Variable: Urban-Rural Classifications (H_5)

Rural classification data was acquired from U.S. Census Bureau. This data is contained in an Excel spreadsheet and provides the percent of population in each county (from 0% to 100%) that is designated as rural. The data is based on 2010 populations. The data also places each county in one of three categories: Mostly Urban, Mostly Rural, and Rural. Mostly Urban counties are less than 50% rural, Mostly Rural counties are more than 50% rural, but not 100% rural and Rural counties are those with 100% of the population being rural. There were two counties missing data. Based on population, these were placed in the Rural category. No

percentage was assigned to these counties. The breakdown between classification is Mostly Urban: 1,253, Mostly Rural: 1,185, and Rural: 704.

e. Control Variable: Median Gross Rent (H_1, H_3, and H_4)

Median Gross Rents for all counties for 2014 from the American Community Survey (Table ID B25064) was downloaded via the Census Bureau website. The data was downloaded in an Excel spreadsheet, which in turn was imported into SPSS. There were 3,143 cases within the United States. No missing values were identified.

Z scores were prepared for all cases. There were 45 cases with Z scores above 3.3. These were cases reviewed for errors and extreme outliers. Finding none, all 3,143 cases were analyzed for normality of distribution. Descriptive statistics (skewness: 1.70) and visual inspection of a histogram revealed a strong positive skewness to the data. The Log 10 of the data was calculated to transform the data to a near-normal distribution (skewness: .703). See Figure C-6, Table C-4 and Figure C-7 for more details.

2. Bivariate Screening of County-based Variables

Scatter plots were prepared with:

a) Log (Hotel Revenue per Capita) and Log (Local Government Wages per Capita) (Figure C-8),

b) Natural Amenities and Log (Local Government Wages Per Capita) (Figure C-9),

c) Natural Amenities and Log (Hotel Revenue per Capita) (Figure C-10), and

d) Log (Local Government Wages per Capita) and Log (Median Gross Rent) (Figure C-11).

Based on visual inspection of these scatterplots, twelve (12) outliers were removed from further analysis (Table C-5).

3. Multivariate Screening for County-based Variables

H_1: Hierarchical multiple regression was used to assess the ability of Log (Hotel Revenue per Capita) to predict Log (Local Government Wages per Capita) after controlling for the influence of cost of living [Log (Median Gross rent)]. A preliminary regression analysis was conducted to identify multivariate outliers. Five cases which exceeded a Mahalanobis value of 16.23 were removed from the final analysis.

H_2: A preliminary regression analysis was conducted to identify multivariate outliers. Four (4) cases which exceed the Mahalanobis cutoff value of 13.82 were removed from the final analysis.

H_3: A preliminary regression analysis was conducted to identify multivariate outliers. Twenty-four (24) cases which exceed the Mahalanobis cutoff value of 16.23 were removed from the final analysis.

H_4: This hypothesis is tested with a statistical model (PROCESS Model 4) which does not employ multivariate outlier screening.

H_5: This hypothesis tests Hypothesis 1 with a split file based on urban-rural categories. All multivariate outliers from Hypothesis #1 were removed prior to the final statistical analysis.

4. Summary of Missing Data & Limitations

After replacing missing data for most cases, there remains 186 cases (6%) missing data for Local Government Wages per Capita, 217 cases (7%) missing Hotel Revenue per Capita, 33 cases (1.1%) missing data for Natural Amenities, and no cases missing Median Gross Rent. Little's MCAR test was conducted, and it was determined that the missing data was not random (p<.000). As previously states, the missing Natural Amenities data was from Hawaii and Alaska. The counties missing Hotel Revenue per Capita data average approximately 7,000 in population, while counties with data average approximately 100,000. Likewise, counties missing Local Government Wages per Capita data tend to have smaller populations than counties with data. The average population of counties missing wage data is approximately 50,000, while counties with data have populations averaging approximately 100,000. Based on the distribution of missing data, the findings in this study are generally applicable to larger cities within the continental United States.

Data Preparation: H_6

1. Data Acquisition and Univariate Screening

a. Dependent Variable: Hotel Desk Clerk Wages

The 2016 wage data for hotel desk clerks (Classification 43-4081) was obtained from the Occupational Employment Statistics (OES) Survey conducted by the Bureau of Labor Statistics (BLS). The data comes from BLS in an Excel spreadsheet and then was imported into SPSS. There are 369 Metropolitan Statistical Areas with data (out of 381) for Desk Clerk wages. Only six (6) of the 552 Micropolitan Statistical Areas had wage data. There is no estimating process available to replace missing data for Micropolitan Areas, so these cases are trimmed from the dataset to focus further analysis on Metropolitan Statistical Areas.

Z scores were prepared for all cases. There were 5 cases with Z scores above 3.3. These were cases assessed for accuracy and extreme outliers. All were accurate, but two wages (Kahului-Wailuku-Lahaina and Urban Honolulu, HI) were over 6 Standard Deviations from the mean. These extreme outliers were filtered out of further analysis. The remaining 367 Metropolitan Statistical Areas were analyzed for normality of distribution. Descriptive statistics (skewness: 1.43) and visual inspection of a histogram revealed a small positive skewness to the data. The Square root and Log 10 of the data was calculated to assess the potential improvement in the distribution of the data. These transformations did not substantially improve the distribution (SQRT skewness: 1.207, Log 10 Skewness:.999), so no changes were made to the variable. See figures C-12 and C-13.

b. Independent Variable: Private Union Membership

Union density data was obtained from unionstats.com by downloading an excel spreadsheet with 2016 MSA data. This data was imported into SPSS and analyzed for missing data. There are 260 MSA's with data for private union membership rates. No method was identified to estimate missing data for the 121 MSAs missing data. To assess the nature of the missing data, the MSAs were divided into three equally sized groups (127 each) by population. There was one case missing data for the 127 in the top group (0.8%), twenty-six (26) cases missing data for the 127 in the middle group (20.5%), and ninety four (94) cases missing data for the 127 cases in the lowest group (76%). To reduce the non-randomness of the missing data, the thirty-three (33) cases with data in the bottom third were removed, leaving 254 cases (211 with Union Membership Data) for study in high and middle population groups. These represent MSAs with a population over 160,000.

The remaining 211 Metropolitan Statistical Areas with Private Union Membership Data were analyzed for normality of distribution. Descriptive statistics (skewness: 2.004) and visual inspection of a histogram revealed a strong positive skewness to the data. The Log 10 of the data was calculated to assess the potential improvement in the distribution of the data. This transformation reduced the improve the distribution (Log 10 Skewness: -352), so the data was transformed with a Log 10. See Figures C-14 and C-15.

c. Control Variable: Median Gross Rent

Median Gross Rents for all MSAs for 2016 from the American Community Survey (Table ID B25064) was downloaded via the Census Bureau website. The data was downloaded in an Excel spreadsheet, which in turn was imported into SPSS. There was rent data for all 211 cases with union participation data (the dependent variable).

Z scores were prepared for all cases. There were 5 cases with Z scores above 3.3. These were assessed for errors and extreme outliers. Finding none, no cases were filtered out based on this review. All cases were analyzed for normality of distribution. Descriptive statistics (skewness: 1.60) and visual inspection of a histogram revealed a positive skewness to the data. The data was transformed using the square root and log 10 of the data to produce a more normal distribution. The square root produced a skewness of 1.26 and the log 10 produced a skewness of .906. The log 10 of the data was selected for use in the statistical analysis (see Figures C-16 and C-17 for histograms of Median Gross Rent and Log (Median Gross Rent).

2. Bivariate Screening of MSA-based Variables

A scatter plot with Log (Hotel Desk Clerk Wages) and Log (Private Union Membership)) was prepared to identify bivariate outliers. The relationship between the variables was linear and

there were no extreme outliers based on visual inspection of the scatterplot (Figure C-18). A scatter plot with Log (Hotel Desk Clerk Wages) and Log (Median Gross Rent) was also prepared to identify bivariate outliers. The relationship between the variables was linear and no outliers were identified with visual inspection. (Figure C-19).

3. Multivariate Screening

A preliminary regression analysis was conducted to identify multivariate outliers. No cases exceeded a Mahalanobis value of 16.23, so no cases were removed from the final analysis.

4. Summary of Missing Data & Limitations

Union density data was the limiting factor among the three variables tested in this hypothesis. There was union membership data for 260 of the 369 MSAs with wage data (from a total population of 381 MSAs). The most missing data was from the less populated MSAs. Seventy-six (76) percent of the bottom third of MSAs, by population, were missing data. To reduce the non-randomness of the missing data, the thirty-three (33) cases with data in the bottom third were removed, leaving 211 MSAs with Union Membership Data) for study in high and middle population groups. These represent MSAs with a population over 160,000.

Data Preparation: H_7

1. Data Acquisition and Univariate Screening

a. Dependent Variable: Housekeeping Wages

The 2010 wage data for hotel desk clerks (Classification 37-2012) was obtained from the Occupational Employment Statistics (OES) Survey conducted by the Bureau of Labor Statistics (BLS). The data comes from BLS in an Excel spreadsheet and then was imported into SPSS.

There are 359 Metropolitan Statistical Areas with data (out of 381) for Housekeeping wages (94.2%). Z scores were prepared for all cases. There were 3 cases with Z scores above 3.3. Finding no errors or extreme outliers in this group, all Metropolitan Statistical Areas were analyzed for normality of distribution. Descriptive statistics (skewness: 1.55) and visual inspection of a histogram revealed a small positive skewness to the data (Figure C-20). The Log 10 of the data was calculated to assess the potential improvement in the distribution of the data. This transformation improved the distribution (Log 10 Skewness: 1.13), so the Log 10 transformation was used for further analysis (Table C-6, Figure C-21).

b. Independent Variable: Racial Disparity between Housekeeping Supervisors and Housekeeping Employees

The racial composition of housekeeping supervisors (representing front-of-house employees) and housekeepers (representing back-of-house employees) is available in the 2010 Equal Employment Opportunity Survey. The data for each classification was acquired by MSA from the Census Bureau website (EEO_10_5YR_EEOALL1W_Data). The category selected to define the racial composition of the two classifications was the number of employees designated as "Not Hispanic or Latino, one race - White alone; Total, both sexes." This data was imported into SPSS, where values were computed for percent of white housekeeping supervisors and percent of white housekeepers, and the gap between these two values. There were 354 MSAs with gap data. No method was identified to replace missing data with estimates. Z scores were prepared for all cases. There was 1 case with a Z score above 3.3. This single case was an extreme outlier (4.92 SD) and removed from further analysis. The remaining 353 Metropolitan Statistical Areas were analyzed for normality of distribution. Descriptive statistics (skewness: -

.306) and visual inspection of a histogram revealed a near normal distribution (Figure C-22). No transformation was performed.

c. Control Variable: Median Gross Rent

Median Gross Rents for all MSAs for 2010 from the American Community Survey (Table ID B25064) were downloaded via the Census Bureau website. The data was downloaded in an Excel spreadsheet, which in turn was imported into SPSS. There was no missing data.

Z scores were prepared for all 354 cases with data for the dependent variable (racial disparity). There were 4 cases with Z scores above 3.3. There were no input errors or extreme outliers in this group. Therefore, Median Gross Rent for all 354 cases were analyzed for normality of distribution. Descriptive statistics (skewness: 1.32) and visual inspection of a histogram revealed a moderate positive skewness to the data (Figure C-23). The Log 10 of the data was calculated to transform the data to a near-normal distribution (skewness: .762) (Table C-7, Figure C-24).

2. Bivariate Screening

A scatter plot with Racial Disparity (X) and Log (Housekeeping Wages) (Y) was prepared to identify bivariate outliers. There were seven extreme outliers based on visual inspection of the scatterplot. These outliers were removed prior to the statistical analysis (Figure C-25)

A scatter plot with Log (Housekeeping Wages) (Y) and Log (Median Gross Rent) was prepared to identify bivariate outliers. There were no outliers based on visual inspection of the scatterplot (Figure C-26).

3. Multivariate Screening

A preliminary regression analysis was conducted to identify multivariate outliers. No cases exceeded a Mahalanobis value of 16.23, so no cases were removed from the final analysis.

4. Summary of Missing Data & Limitations

There are 359 Metropolitan Statistical Areas with data (out of 381) for Housekeeping wages (94.2%). There were 357 MSAs with gap data. No method was identified to replace missing data with estimates.

Chapter 4: Statistical Analysis and Findings

This study is focused on identifying potential forces associated with the wage problem in the hospitality industry. The primary thesis, using Power to Tax theory as a theoretical framework, is that local government officials are using the public economic benefits from tourism to boost their own compensation and numbers. Several additional hypotheses are presented which go beyond the primary thesis to explore dimensions of the wage problem in the industry. Due to limitations in datasets, there are two types of cases for the hypotheses; Counties are used in Hypotheses 1-5, and Metropolitan Statistical Areas are used in Hypotheses 6 and 7. Statistical information is presented in text and tables as recommended by Nicol and Pexman for linear regression (Nicol & Pexman, 2010) and Hayes for mediated linear regression (Hayes, 2018).

Overview of Findings

For the primary focus of this study, a significant relationship was found between hotel revenue and local government wages. The effect of this relationship was large, based on definitions set forth by Cohen (Warner, 2013, p. 208), with hotel revenue accounting for over 11% of the change in local government wages per capita (H_1) after controlling for cost of living. Other notable findings include a determination that natural amenities do not have a significant effect on local government wages independent of its effect through hotel revenue (H_4), and a significant and large effect of union density (H_6) on wages in the accommodation subsector for MSAs with populations over 160,000. Finally, there was a significant and medium effect of the racial disparity between supervisors and front-line housekeepers and the wages of front-line housekeepers (H_7). This last finding has limitations due to the alignment of the supervisor -

employee classifications across the accommodation subsector. The findings provide support for the Power to Tax theory (H_1) and are consistent with Split labor market Theory (H_7).

Table 12: Overview of Findings

Associations tested by Hypothesis	Relationship	Null Hypothesis Rejected	Alternative Hypothesis Accepted
H_1. Hotel Revenue (X) and Local Government Wages (Y)	Positive	Yes	Yes
H_2. Natural Amenities (X) and Hotel Revenue (Y)	Positive	Yes	Yes
H_3. Natural Amenities (X) and Local Government Wages (Y)	Positive	Yes	Yes
H_4. Hotel Revenue (M) mediating relationship between Natural Amenities (X) and Local Government Wages (Y)	Positive	Yes	Yes
H_5. Rurality, Hotel Revenue (X) and Local Government Wages (Y)	Positive	No	No
H_6. Union Density (X) and Hotel Wages (Y)	Positive	Yes	Yes
H7. Race Disparity between Housekeeping Supervisors and Employees (X) and Wages of Housekeeping Employees (Y)	Negative	Yes	Yes (with Limitations)

Below are the statistical analyses and detailed findings for each hypothesis.

H_1: Counties with higher levels of per capita hotel revenue will have higher levels of per capita local government wages

For the final analysis, Log (Median Gross Rent) was entered as Step 1, explaining 1.5% of the variance in Log (Local Government Wages per Capita). After entry of Log (Hotel Revenue per Capita) at Step 2 the total variance explained by the model as a whole was 12.4%, F (2, 2758) =194.57, $p < .001$. The predictor variable explained an additional 10.9% of the variance in Log (Local Government Wages per Capita) after controlling for cost of living, R squared change = .109, F change (1,2758) = 341.68, $p < .001$. In the final model, only the

predictor variable [(Log10 (Hotel Revenue per Capita Log)] was statistically significant and no issues with multicollinearity between variables were identified:

Log (Local Government Wages Per Capita) =

2.95 + .026 x Median Gross Rent + .097 x Log (Hotel Revenue Per Capita)

These findings permit rejection of the null hypothesis and validate the subject alternative hypothesis (H_1).

Table 13: Hierarchical Regression Analysis Summary for Log (Hotel Revenue per Capita) predicting Log (Local Government Wages per Capita) (N=2,761)

Step and Variable	*B*	*SE B*	β	R^2	ΔR^2
Step 1: Median Gross Rent	.190	.029	.123***	.015***	--
Step 2: Log (Hotel Revenue per Capita)	.097	.005	.346***	.124***	.109***

*** p < .001, ** p < .01, * p < .05

After converting the log transformation of the variables, it can be stated that for every ten percent increase in hotel revenue per capita, local government wages per capita increases by 1.0%. This finding is consistent with Power to Tax theory which posits that public officials are rational actors who will bend public policy (i.e., taxation, spending) towards their self-interests.

H_2: Counties with higher scores on the USDA Natural Amenities Scale will have higher per capita hotel revenue

Simple linear regression was used to assess the ability of natural amenities to predict Log (hotel revenue per capita). The final regression model explains 7.8% of the variance (R^2) and was significant, F (1,2868) = 243.25, p <.001. It was found that natural amenities significantly, with a medium to large effect, predicted hotel activity (β_1= .265, p < .001). No issues with multicollinearity between variables were identified in the final analysis.

The final model was:

Log (Hotel Revenue per Capita) = 2.28 + .07 x Natural Amenities

These findings permit rejection of the null hypothesis and validate the subject alternative hypothesis (H_2).

After exponentiating the common log coefficient (.07), two counties that differ by one unit on the Natural Amenities Scale are estimated to differ by 7.25% in Hotel Revenue per Capita. The Natural Amenities Scale ranges from a low of -6.4 to a high of 11.17 for a range of 17.57. This validates previous research which found an association between natural amenities and tourism development and serves as a foundation for Hypothesis #4 – which tests whether hotel revenue per capita is a causal link between natural amenities and local government wages per capita.

Practitioners in both the planning and public finance disciplines should consider how the source of tourism tax revenues should reshape local economic development initiatives targeted at

the low-wage tourism sector. Taxes derived from a common resource may deserve special consideration in how they are used to further public policy goals. This is especially relevant when the revenues, as the literature suggests, far exceed the cost of public service associated with the activity which is taxed.

H_3: Counties with higher scores on the USDA Natural Amenities Scale will have higher levels of per capita local government wages

Hierarchical multiple regression was used to assess the ability of Natural Amenities to predict Log (Local government wages per capita), after controlling for the influence of cost of living [Log (Median Gross Rent)].

The Log (Median Gross Rent) was entered as Step 1, explaining 0.9% of the variance in Log (Local Government Wages per Capita). After entry of Natural Amenities at Step 2 the total variance explained by the model as a whole was 1.1%, F (2, 2888) = 16.186, $p < .001$. The predictor variable explained an additional .2% (small effect) of the variance in Log (Local Government Wages per Capita) after controlling for cost of living, R squared change = .2, F change (1, 2888) = 6.04, $p = .014$. In the final model the control variable [Log (Median Gross Rent)] scored a higher beta value (*beta* = .08, $p = .001$)) than Log (Local Government Wages) (*beta* = .048, $p = .014$). No issues with multicollinearity between variables were identified in the preliminary analysis:

Log (Local Government Wages Per Capita) =

2.88 + .128 x Log (Median Gross Rent) + .004 x Natural Amenities

These findings permit rejection of the null hypothesis and validate the subject alternative hypothesis (H_2).

Table 14: Hierarchical Regression Analysis Summary for Natural Amenities predicting Log (Local Government Wages) (N = 2,828)

Step and Predictor Variable	*B*	*SE B*	β	R^2	ΔR^2
Step 1: Median Gross Rent (Log)	.153	.030	.095***	.009***	--
Step 2: Natural Amenities	.004	.001	.048*	.011*	.002*

*** p < .001, ** p < .01, * p < .05

After exponentiating the common log coefficient (.004), two counties that differ by one unit on the Natural Amenities Scale are estimated to differ by 0.4% in Local Government Wages per Capita. The Natural Amenities Scale ranges from a low of -6.4 to a high of 11.17 for a range of 17.57 units. This finding corroborates previous research by public choice economists testing Power to Tax theory. Those researchers paired Power to Tax theory with Charles Tiebout's proposition that residents controlled the level of taxation in their community by voting with their feet. Brueckner and Neumark tested natural amenities as an inhibitor to Tiebout's proposition, while Diamond tested the homogeneity of housing prices as the inhibitor. These economists tested the association between residents with limited mobility and higher local government spending on public salaries (the dependent variable in the studies). In this respect, the findings in this dissertation are confirmatory and do not contribute anything new to the literature.

H_4: County scores on the USDA Natural Amenities Scale will not influence per capita local government wages independent of its effect on hotel revenue per capita

A list-wise mediated linear regression was conducted to assess whether Log (Hotel Revenue per Capita) mediated the relationship between Natural Amenities and Log (Local Government Wages per Capita). The number of cases tested in the model with the list-wise condition was 2,712. Since there are fewer cases tested in this combined model, the results associated with the previous three hypotheses differ slightly.

From a simple mediation analysis conducted using an ordinary least squares path analysis, the findings are that Natural Amenities indirectly influenced Log (Local Government Wages per Capita) through its effect on Log (Hotel Revenue per Capita). As illustrated below in Figure 6 and Table 18, the level of Natural Amenities in a county was associated with the amount of Log (Hotel Revenue per Capita) in that county (*a*: .055) and levels of Log (Hotel Revenue per Capita) in a county were associated with the Log (Local Government Wages per Capita) (*b*: .0978). A bootstrap confidence interval for the indirect effect of Natural Amenities on Log (Local Government Wages per Capita) (*ab* = .0054) based on 5,000 bootstrap samples was entirely above zero (.0043 to .0066).

There was no evidence that natural amenities influenced Log (Local Wages per Capita) independent of its effect on Log (Hotel Revenue per Capita) (c': -.0020, p = .14).

Figure 6: Simple Mediation Model Results for H_4

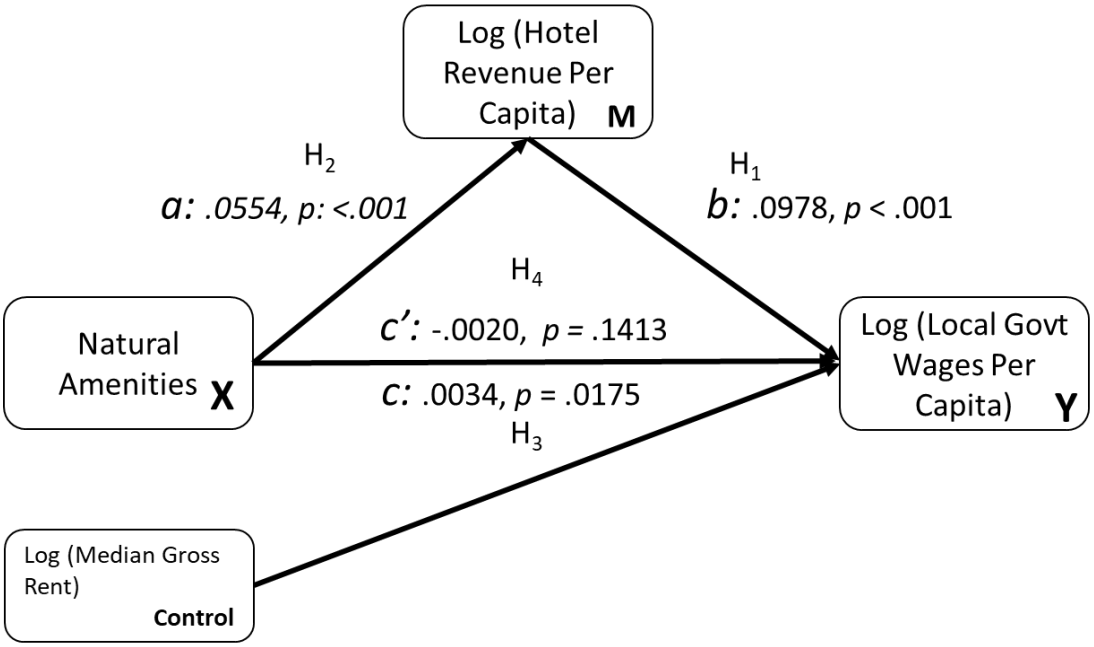


Table 15 Results of Simple Mediation Model for H_4 (N=2,712)

		Consequent						
		M: Log (Hotel Revenue Per Capita)				Y: Log (Loc. Govt. Wages Per Capita)		
Antecedent		*B*	*SE*	*p*		*B*	*SE*	*p*
X: Natural Amenities	*a*	.0554	.0048	.0000	*c'*	-.0020	.0014	.1413
M: Log (Hotel Rev Per Cap)		—	—	—	*b*	.0978	.0054	.0000
C_2 : Log (Median Gross Rent)	f_2	1.2203	.1083	.0000	g_2	-.0034	.0309	.9121
Constant	i_m	-1.1802	.3065	.0001	i_y	3.0296	.0858	.0000
		R^2 = .1224				R^2 = .1181		
		F (2,2709) = 188.88, p = .0000				F (3, 2708) = 120.86, p = .0000		

After converting the common log values[4] of hotel revenue per capita and local government wages per capita to their original values, the findings can be stated as follows:

[4] See Appendix E for details on process used to convert log values.

Path b: For every ten percent increase in hotel revenue per capita, local government wages per capita increase by just under 1% (0.94%). This is a large effect (R^2=.1181) and statistically significant (p = <.001).

Path a: Two counties that differ by one unit on the Natural Amenities Scale are estimated to differ by 5.7% in Hotel Revenue per Capita. The Natural Amenities Scale range is 17.57 units (-6.4 to 11.17). This is a large effect (R^2 .1224) and statistically significant (p = < .001).

Path c: Two counties that differ by one unit on the Natural Amenities Scale are estimated to differ by 0.34% in Local Government Wages per Capita. This direct path is statistically significant (p = .0175). However, as part of the mediation model **(**path c'**)**, the coefficient is negative (-.002) and not statistically significant (p = .1413). This change indicates there was no evidence that Natural Amenities influenced Local Wages per Capita independent of its effect on Hotel Revenue per Capita).

Path *ab* (Hypothesis 4): Two counties that differ by one unit on the Natural Amenities Scale will differ by 0.54% in Local Government Wages per Capita. This finding is statistically significant as a bootstrap confidence interval for this indirect effect, based on 5,000 bootstrap samples, was entirely above zero (.0043 to .0066). Since this range of coefficients do not include zero, the null hypothesis can be rejected, and the alternative hypothesis is confirmed.

The finding for path *ab*, which indicate pathway from natural amenities to hotel revenue per capita to local government wages per capita, validate previous research which found an association between natural amenities and tourism development, but challenge previous research

finding a direct association between natural amenities and local government wages per capita. The findings for path *ab* suggest there is not a direct association between natural amenities and local government wages per capita independent of the pathway through hotel revenue per capita. This finding provides important foundational information for drawing conclusions relative to the wage structure problem in the tourism industry. Since the findings indicates that tourism monetizes natural amenities, and in turn, local governments use this value to boost their own wage structure, it suggests that solving the wage structure problem in the tourism industry may be rooted in how local planning and public finance practitioners view and treat the origins of tourism taxes. Do they consider the tax revenue as a public economic benefit derived from local natural amenities, is it a product of private enterprise, or does the origin of this revenue not matter and the revenue simply gets lost as it is blended with other tax revenues during the budgeting process?

H_5: There will be a stronger positive relationship between <u>per capita hotel revenue</u> and <u>per capita local government wages</u> in Mostly Rural and Rural counties as compared to Mostly Urban counties

After removing the same multivariate outliers from Hypothesis 1, the data for independent, dependent and control variables were split into three groups: Mostly Urban, Mostly Rural, and Rural. This test is conducted to assess whether local governments in rural counties extract more of their wages from hotel taxes than urbanized counties. The premise being that rural counties can spend less on built amenities to attract visitors, and therefore can extract more hotel tax revenue for wages. As with Hypothesis 1, hierarchical regression was used to assess the ability of Log (Hotel Revenue Per Capita) to predict Log (Local Government Wages Per Capita) – by counties designated rural, mostly rural and mostly urban. Table 16 provides a recap of the

findings by urban-rural classification. The findings indicate the association between Log (Hotel Revenue per Capita) and Log (local government wages per capita) does not change materially across urban-rural classifications – with R^2 change ranging from 8.5% to 11.4%.

Table 16: Log (Hotel Revenue per Capita) and Log (Local Government Wages per Capita) by Rural Classification

Step and Variable	*B*	*SE B*	β	R^2	ΔR^2
All Counties Step 1: Log (Median Gross Rent)	.139	.031	.087***	.007***	--
Step 2: Log (Hotel Revenue per Capita)	.095	.005	.321***	.114***	.106***
Rural Counties (n=489) Step 1: Log (Median Gross Rent)	.202	.104	.088	.008	--
Step 2: Log (Hotel Revenue per Capita)	.112	.014	.355***	.114***	.096***
Mostly Rural Counties (n=1105) Step 1: Log (Median Gross Rent)	.240	.061	.117***	.014***	--
Step 2: Log (Hotel Revenue per Capita)	.082	008	.303***	.085***	.091***
Mostly Urban Counties (n=1168) Step 1: Log (Median Gross Rent)	.133	.038	.102***	.010	--
Step 2: Log (Hotel Revenue per Capita)	.085	.008	.308***	.090***	.093***

*** p < .001, ** p < .01, * p < .05

H_6: MSA's with higher levels of <u>union membership</u> will have higher levels of <u>accommodation subsector wages</u>

Hierarchical multiple regression was used to assess the ability of Log (Private Union Membership) to predict Log (Hotel Desk Clerk Wages), after controlling for the influence of cost of living [Log (Median Gross Rent)]. For the final analysis, The Log (Median Gross Rent) was entered as Step 1, explaining of 54.7% of the variance in Log (Hotel Desk Clerk Wages). After

entry of Log (Private Union Membership) at Step 2 the total variance explained by the model as a whole was 62.9%, F (2, 203) = 171.86, $p < .001$. The predictor variable explained an additional 8.0% of the variance in Log (hotel desk clerk wages), after controlling for cost of living, R squared change = .08, F change (1, 203) = 43.65, $p < .001$. In the final model, both the control and predictor variables were statistically significant with the control variable [Log (Median Gross Rent)] scoring a higher beta value (*beta* = .721, $p = < .001$)) than Log (Private Union Membership Log) (*beta* = ..283, $p = < .001$);

Log (Hotel Desk Clerk Wages) =

-.335 + .451 x Log (Median Gross Rent) + .044 x Log (Private Union Membership)

Table 17: Hierarchical Regression Analysis Summary for Private Union Membership Predicting Hotel Desk Clerk Wages

Step and Predictor Variable	*B*	*SE B*	β	R^2	ΔR^2
Step 1: Log (Median Gross Rent)	.464	.029	.741***	.549***	--
Step 2: Log (Private Union Membership	.044	.007	.283***	.629***	.08***

*** p < .001, ** p < .01, * p < .05

After converting the common log, it can be stated that for every 25% percent increase in private union membership, hotel clerk wages increase by 1%.

H_7: Counties with a higher <u>differential in racial composition between housekeeping supervisors and housekeeping employees</u> will have lower <u>housekeeping wages</u>

Hierarchical multiple regression was used to assess the ability of the racial disparity between supervisors and front-line employees to predict the employee wages, after controlling for the influence of cost of living [(Log (Median Gross Rent)]. The Log (Median Gross Rent) was entered as Step 1, explaining 23.2% of the variance in employee wages. After entry of the racial disparity between employee groups at Step 2, the total variance explained by the model increased to 26.6%, F (2, 346) = 66.46, $p < .001$. The predictor variable (racial disparity) explained an additional 3.3% variance (medium effect) in employee wages, after controlling for cost of living, R squared change = .033, F change (1, 347) = 15.78, <.001. In the final model, both predictor variables were statistically significant with the Log (Median Gross Rent) variable recording a higher beta value (.533, p<.001) than the Racial Disparity variable (-.187, p<.001).

Log (Housekeeping Wages) =

.291 + .24 x Log (Median Gross Rent) + .0 x Racial Disparity

Table 18: Hierarchical Regression Analysis Summary for Racial Disparity between Supervisors and Employees predicting Minority Wages

Step and Predictor Variable	*B*	*SE B*	β	R^2	ΔR^2
Step 1: (Log) Median Gross Rent	.338	.062	-.522***	.232***	--
Step 2: Racial Gap	.000	.000	-.187***	.266***	.033***

*** p < .001, ** p < .01, * p < .05

The results indicate that for one standard deviation change in the racial gap between supervisors and workers, there is a negative one standard deviation change in wages. There are significant limitations with these findings, as the data for occupations (housekeeping supervisors and housekeepers) can only be separated by industry at the State level. Therefore, the county data includes multiple industries which may have different dynamics than the hospitality subsector.

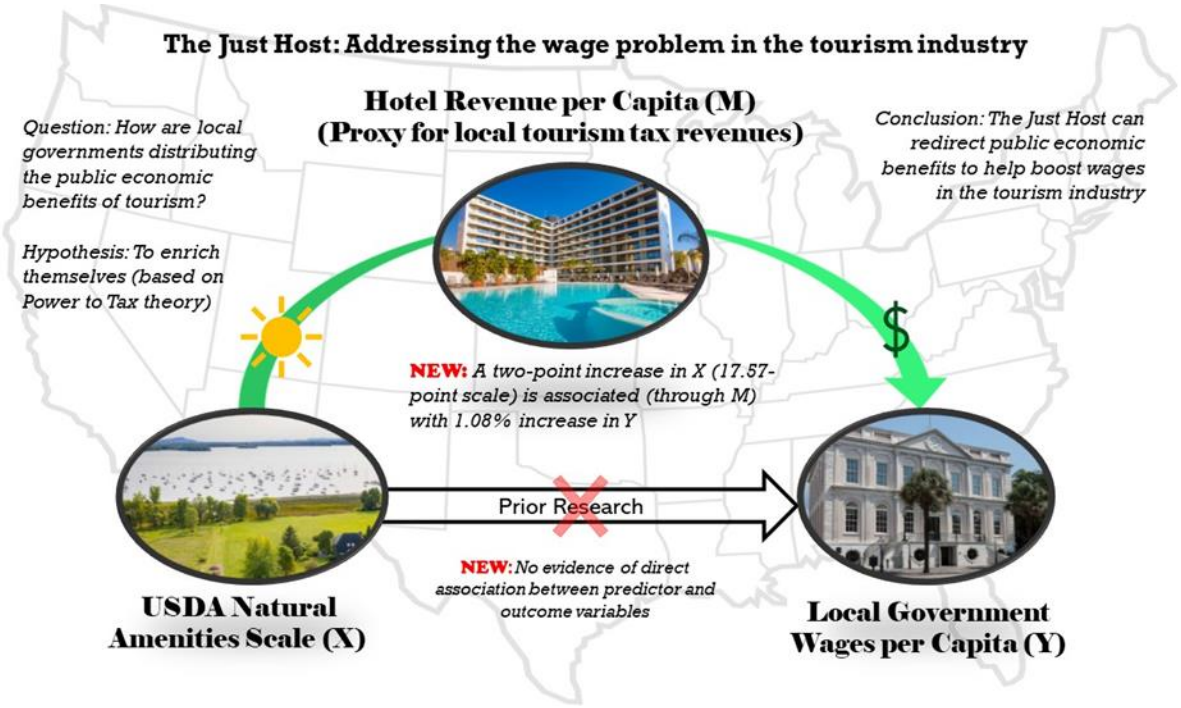
Chapter 5: Discussion

This dissertation explores a unique dimension to the wage problem in the tourism industry by addressing the distribution of public economic benefits from the industry. The analyses focus on the cornerstone of the industry - the hospitality subsector. The primary findings indicate that local government employees are directing some tax revenue from hotel activity to boost their own numbers and compensation. Furthermore, the findings, corroborated in part by previous studies, indicate local government employees are commodifying the natural amenities in their communities through hotel taxes. Taken together, the findings reveal a conduit by which local government employees first commodify natural amenities through hotel taxes, and then use this economic benefit to boost their payrolls by either increasing their numbers or compensation.

The key findings and new contributions to the literature are illustrated in the figure below, and can be stated as follows:

- A ten percent in Hotel Revenue per Capita is associated with an increase of just under 1% (0.94%) in Local Government Wages per Capita (H_1),
- For every unit increase in the USDA Natural Amenities Scale (mediated by the influence of Hotel Revenue per Capita) there is an increase of 0.54% in Local Government Wages per Capita.
- There is no direct association between the USDA Natural Amenities Scale and Local Government Wages per Capita, challenging previous research.

Figure 7: New Contributions



Hotel revenue per capita is a proxy for tourism tax revenue - which previous research indicates far exceeds the cost of providing services to the visitors who generate such taxes. The findings indicate that there is a strong association between these tourism-related taxes and local government wages. This finding indicates that at least some of the public economic benefits of tourism are being distributed to local government payrolls - either though exceptional wages or increased numbers of employees. This finding addresses a gap in the existing literature regarding the distribution of public economic benefits from tourism and the primary research question: How are the public economic benefits of the hospitality subsector distributed? Practitioners in both planning and public finance disciplines should consider how this finding could reshape local economic development initiatives targeted at the low-wage tourism sector.

The findings also indicate an indirect association between natural amenities and local government wages when mediated by hotel revenue per capita. This validates previous research

which found an association between natural amenities and tourism development (Marcouiller et al., 2004), but challenges previous research finding a direct association between natural amenities and local government wages per capita.

This finding of a path from Natural Amenities to Hotel Revenue per Capita to Local Government Wages per Capita provides important foundational information for drawing conclusions relative to the wage structure problem in the tourism industry. Since the findings indicates that tourism monetizes natural amenities, and in turn, local governments use this value to boost their own wage structure, it suggests that solving the wage structure problem in the tourism industry may be rooted in how local planning and public finance practitioners apply the origins of tourism taxes to subsequent distribution policies. Do they consider the tourism tax revenue as a public economic benefit derived from local natural amenities, is it a product of private enterprise, or is the origin irrelevant and the economic benefit simply blended with other tax revenues during the budgeting process?

If tourism tax revenue is directly associated with the natural amenities of a community, the potential exists, as with other unique revenues, that it could be tied to a specific public purpose associated with its origins. There are many examples of planners and public financial officials investing new incremental tax revenues in activities which are believed to generate those new revenues (i.e., office buildings and housing in targeted redevelopment areas, retail centers, and hotel development). In the hypothesis tested here, there are two ingredients that come together to generate the new revenue – natural amenities and tourism development. To date, the focus of practitioners and urban theorists Susan Fainstein and David Harvey has been that public and private investment in tourism development is the only source of this new tax revenue. This likely has shaped the reinvestment strategies of planners and public finance

officials, and the solutions urban theorists have raised to address the wage structure problem in the tourism industry (extracting a share of private economic benefits to balance the distribution between labor and capital).

These findings suggest that solving the wage problem in the tourism industry not only involves addressing the distribution of private economic benefits, as suggested by Susan Fainstein and David Harvey (Fainstein, 2010; Harvey, 2012), but requires attention to the bias of local policymakers in bending the distribution of public economic benefits for their own self-enrichment (H_1), and recognition that natural amenities are an important element of tourism development (H_4). Public choice economists will not be surprised by the findings for Hypothesis #1. They will see the behavior quantified in the analysis as no more than rational actors pursing their own self-interests. For public administrators and planners charged with policymaking at the local level, however, this finding reveals a potential blind spot that raises questions about the techniques used to evaluate the benefits of tourism, transparency on the distribution of public economic benefits and about the limits of planners to address the wage problem in the tourism industry. The finding of a causal pathway between natural amenities and local government wages through hotel revenue raises questions about the ability of Power to Tax theory to stand alone, and the potential need to incorporate commons planning into local tourism policies.

Other findings are 1) the association between Hotel Revenue per Capita and Local Government Wages per capita does not change materially between urban-rural population categories, 2) increased private union membership in a county is associated with slight increases in hotel clerk wages, and 3) there is a small negative relationship between the racial composition of supervisors and workers and worker wages. The existing literature suggests that rural counties can leverage natural amenities to develop a local tourism industry (Hassebrook, 2003). While

this may be true, the findings indicate that local governments in rural counties are not exploiting these natural amenities for financial gain any more so than their urban counterparts.

The other two findings, while suffering from some limitations in the underlying data, address more direct ways in which wages are influenced in the tourism industry. The finding on union membership and wages answers the research question, have unions improved the wage structure in their local hospitality subsector (?), in the affirmative. There is a positive and statistically significant association between higher union participation and higher wages. This finding confirms prior research (Card, 2001; Mishel & Walters, 2003) and supports efforts that advocate for development of unions as a means to address the wage structure problem in the tourism industry.

The finding on racial disparities between supervisors and line workers and minority wages answers the research question "do differences in race between front of house and back of house employees in the hospitality subsector reduce the wages of back of house employees?" The answer, subject to the limitations of the data, is yes, differences in race between supervisors and frontline employees in the housekeeping occupation is associated with reduced wages for frontline employees. There are significant limitations with these findings, as the data for occupations (housekeeping supervisors and housekeepers) can only be separated by industry at the State level. Therefore, the county data includes multiple industries which may have different dynamics than the hospitality subsector.

Conclusions and Recommendations

To draw conclusions and make recommendations based on the findings of this dissertation I use Fainstein's Just City Model of planning and the past work of tourism scholars

and public choice economists. Fainstein's system parallels, in part, the work of H. George Frederickson in the public administration literature. Frederickson challenged public administrators to think beyond whether a program is effective or good, but to consider for whom the program is effective and good (Frederickson, 1992). Fainstein's Just City Model suggests a multi-dimensional planning approach to replace the current process-oriented model used in most urban settings. Fainstein adds the principles of equity and diversity to the existing emphasis planners place on democracy, encourages a more active role by planners in managing markets, empowers planners to become advocates for the disenfranchised, and emphasizes the strategic importance of information in a just planning process.

The work of tourism scholars intersects with Fainstein's recommended planning approach in some respects. The use of community benefit assessments to replace economic input-output models meets Fainstein's objective of providing useful information to decision makers on matters of equity and diversity. Another useful tool found among tourism practitioners are the micro-simulation models which detail the distribution of private economic benefits – a necessity if planners are to present options on how to direct these benefits for just outcomes (See Interim Hospitality Consultants). These models can also be modified by planners, with help from public finance colleagues, to assess the public economic benefits of individual business activities and industry sectors. Finally, there are several measures of equity and diversity being constructed and evaluated by scholars for developing countries which can be employed by planners in the United States (See Table 5).

The work of public choice economists also intersects with Fainstein's proposed planning approach. Public choice economists position government employees as rational actors. Their research, while often suggesting a lessor role for States with markets, can be incorporated by

public officials to present a complete range of options to policymakers. Specifically, public officials should assess and present historical policy decisions through the lens of public choice theories. This includes measuring the effect of any rational acting which may have resulted in self-enrichment by public employees. Finally, the work of sociologists and heterodox economists on wage issues is another area of research which connects with Fainstein's planning approach. The work of these researchers raises issues for planners with respect to wage standards, enforcement, and the distribution of private economic benefits. For example, Edna Bonacich's work, tested in this study, identifies the potential for unchecked systematic racism to suppress wages among workers of color.

The findings of this dissertation suggest new areas for planners to consider when planning the distribution of economic benefits from tourism development. Below are four specific recommendations based on the existing literature and the findings of this study.

1. Focus on the distribution of public economic benefits

In addressing the wage problem in the tourism industry, Fainstein and Harvey focus their attention on the redistribution of private economic benefits. For several reasons, the distribution of public economic benefits is potentially a more fruitful starting place. First, visitors, either for business or pleasure, are unlikely to alter destinations based on hotel taxes. Raising taxes on these temporary residents is likely to be a continuing source of new revenue for local governments. Second, microsimulation models reveal that tax revenue received by local governments from hotel operations are roughly equal to the private economic benefits received by private capital (Interim Hospitality Consultants, 2013). Third, these public economic benefits are in large part associated with the natural amenities in a community (a form of commons) and the commodification of the hospitality of employees. Since public economic benefits from

hotels can be expanded (with higher taxes on visitors), are roughly equal to the private economic benefits accruing to private capital, are generated in part by the commons and the hospitality of residents, and controlled by local government employees and elected officials, there is the opportunity for adopting policies which direct some of these public economic benefits to address the wage structure problem in the industry.

2. Consider the past and present influence of rational actors

One of the focusses of public choice economics is the rational behavior of politicians and public employees - while public administration and planning scholars generally presume that public servants suppress self-interests. This study reveals that public economic benefits from tourism are partly directed to self-enrichment of local government employees – including the planners and public administrators charged with crafting policy options which could address the wage structure problem in the tourism industry. This finding, combined with previous findings in research conducted by public choice economists Brueckner, Neumark and Diamond (Brueckner & Neumark, 2014; Diamond, 2017) suggests the need for reflexivity among public officials involved in the distribution of public economic benefits.

Specifically, public officials should consider reviewing past allocations of public economic benefits and consider process changes to make the distribution decisions more transparent. Working together with public finance colleagues, planners should identify the full distribution of public economic benefits (investment in tourist attractions, offsets to resident taxes, subsidies to tourism developers, and any boost to public payrolls). A full accounting of past distributions, compared against the historic wages of tourism employees, will allow elected officials, unions, businesses, and employees to critique past outcomes (intended or unintended) and develop a fuller range of recommendations on future distributions.

To this end, local government officials should develop Community Benefit Assessment (CBA) models to measure the distribution of past and project future public economic benefits. The CBA approach can tie the economic activity of tourism directly to the benefits received by public entities and employees in the industry. Conversely, the use of economic input-output models should be limited to comparing public investments options among several projects or industries, and not be used for standalone justifications for investments in individual projects.

3. Promote Integrated Planning

The methods and findings of this dissertation suggest that planners alone cannot address the distribution of public economic benefits from tourism. Analyzing the public investment and distribution of associated economic benefits and determining options to alter past practices and policies requires an interdisciplinary team within local government. The team should be comprised of employees with backgrounds in planning, public finance, demographics, and local economic development. Public finance officials can identify the direct and indirect financial assistance to the industry, as well as the distribution of public economic benefits. Planners and local economic development officials can identify and quantify the value of regulatory incentives granted for new development. Demographers can analyze wage and demographic data to determine the nature of the wage problem in the tourism industry for a specific community and distribution across groups.

An interdisciplinary team would have breadth of knowledge and experience with public interventions which could be adapted or modified to address the wage structure problem in tourism. For example, public finance and economic development officials could assess the potential for new taxes (achieved either by higher tax rates or industry growth) to be used to

mitigate wage problems. These officials have experience using tax growth to achieve public objectives.

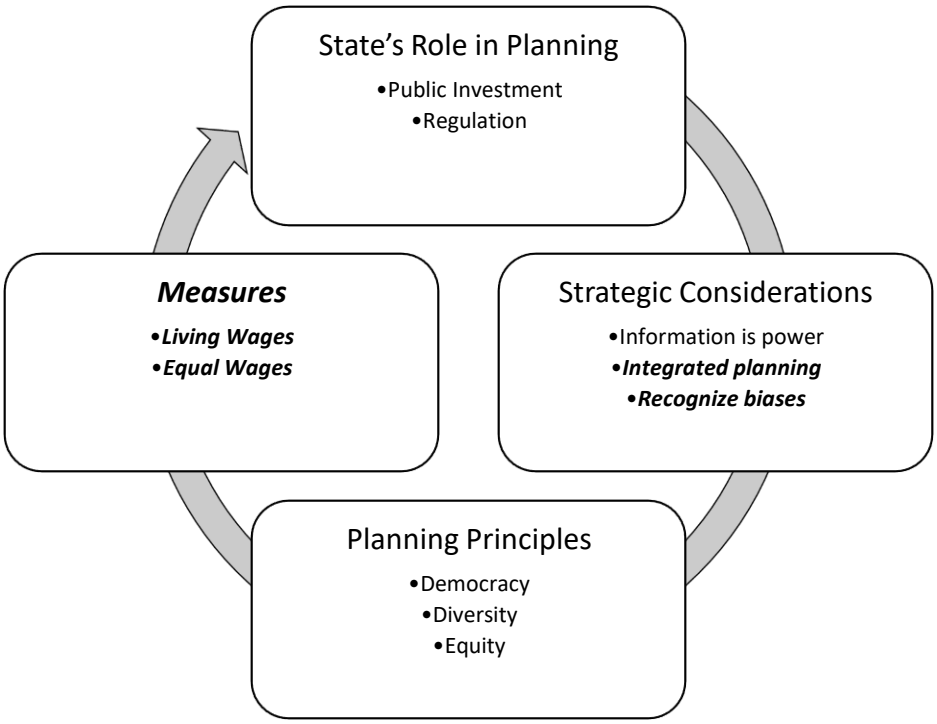
Pledging future increases in taxes, commonly referred to as tax increment financing (TIF), is a common practice to meet the objectives of a community. TIF funds from property and sales taxes are often used for private development or public projects (i.e., community centers, cultural amenities) as a catalyst for increasing tourism. Adding wage equity to the list of uses of TIF funds and adding transient occupancy taxes to the sources of TIF funds are both logical extensions of existing practices by local governments. And for hotel developments which do not request development assistance and are not required by local ordinances to provide living wages to workers, rebating a portion of the local government's windfall in new hotel taxes to achieve higher wages, is also an extension of existing practices. Local governments routinely provide financial assistance to project developers who do not request assistance to achieve public objectives (i.e., community spaces, public art, architectural and design elements, etc.).

Beyond employing a team approach to address specific projects and social equity concerns, planners, public finance officials and public administrators in general, should consider joining the planning processes conducted by planners, and those conducted by public finance officers. The split planning process employed today, where planners prepare general and community specific plans, and public finance officers prepare operating and capital expenditure plans, allows critical issues to be addressed with only part of the local government's resources and expertise. Combining these two planning processes would create better information for policymakers and community members and expand the benefits of interdisciplinary teams from a project basis to all priorities and policies of the jurisdiction.

4. New strategic considerations and measures for Fainstein's Just City Model

Fainstein's recommended planning model for a Just City includes 1) recognition of the State's role in public investment and regulation, 2) recognition of the strategic importance of information to achieve just ends, and 3) adding equity and diversity (to democracy) to the principles which should guide planners Based on the findings in this study, I recommend that integrated planning and reflexivity (as discussed above) be added to Fainstein's strategic considerations and that measures relating to equity (i.e., local wages) extend the scope of the model. These measures would 1) establish a community baseline on matters of equity and diversity and 2) permit specific goal setting in the planning process. The wage measures suggested are the living wage metric discussed in Chapter 2 and the identifying any split labor markets as posed by Edna Bonacich (Bonacich, 1972). These new elements are indicated in italics in Figure 8 below.

Figure 8: Fainstein's Just City Planning Model & Recommended Additions (*italics/bold*)



Future Research

1. Other tourism subsectors

Future research on the lines of this dissertation can explore other segments of the tourism industry which benefit from public investment or generate significant tax revenues for State and local governments. Airports and rental car companies would be appropriate to study given the near exclusivity of these businesses in supporting tourism. Restaurants and retail are also worthy of study, but these industries would likely be difficult to connect with public tourism investment since they are highly dependent on the patronage of area residents. Studies of those subsectors which rely on the income and spending power of area residents and can involve inter-jurisdictional competition for sales taxes and would need to consider public investment and regulatory relief beyond tourism-related activities.

2. Evaluate Split Labor Markets within and across multiple industries

The split labor market component of this dissertation is worthy of additional study. The alignment of supervisor-employee classifications within the hospitality subsector was not ideal, but there could be better matches within other industry sectors, or across multiple industries. This would require extensive research to identify highly matched classifications, but the analysis which followed would permit stronger conclusions from the statistical analyses. In addition, a baseline study of the association of the racial composition of the target employment classification and wages would be an interesting and important addition to the hierarchal regression analysis. This approach would reveal the contribution the racial composition of the workforce makes to wage rates - before the racial disparity between supervisor and employee is considered.

This is an important area of study for planners since there are few, if any, remedies for the residents in their communities to address this problem. The path for employees to recover wages lost to systematic racism is generally through the court system which requires substantial time and financial resources. Addressing split labor markets in the planning process, with the support of demographers and public finance specialists, is consistent with Fainstein's recommendations for a justice-oriented planning approach.

3. Review impact of wage ordinances on tourism economics

Another perspective on the wage problem in the tourism industry could be gained by considering how local living wage ordinances in tourist destinations impact employment and business revenue. Using a regression discontinuity design, the impact of wage ordinances could be assessed by analyzing wage and revenue data prior to and after the effective date of the wage ordinances. The City of Seattle is one example of a tourist destination which recently adopted

such an ordinance. This type of study could identify how the redistribution of economic benefits impacts residents (through increased wages), the local service economy (more spending by residents due to higher wages) and tourism-based businesses (response to increased expenses).

4. Covid 19 and tourism resiliency

The impact of the Covid-19 Pandemic on tourism presents another potential dimension to explore. The crippling effect of the pandemic on tourism will result in many tourism-dependent businesses seeking bankruptcy protections or public subsidies to remain viable until the pandemic is under control. The significant amount of regulatory relief and direct public investment in these businesses will allow local government to potentially reset wage expectations for the industry, which in turn could be absorbed in the post-pandemic valuation of the real estate and fixed assets associated with tourism businesses (i.e., hotels, airplanes, rental cars). Public policies in the form of bankruptcy laws have permitted businesses to reset asset values in the past based on changes in economic conditions, so it would not be unprecedented for a new wage structure to be adopted as a condition of business accessing this public benefit. Assessing the use of bankruptcy protections by tourism-related business and the distribution of public and private economic benefits during the recovery of the industry, would be instructive in assessing the capacity of counter-cyclical policy interventions. This link between asset valuations and wage rates would be a valuable contribution to the emerging field of Domicology: the study of real estate, social equity, and sustainability.

Appendix A: Living Wage Data from Prospective Business Class Hotel Model

The table below presents employee wages in the Montevallo model with a column indicating whether or not the wage meets or exceed the estimated living wage for the area. I use the MIT wage calculator to estimate the living wage in Shelby County Alabama (Glasmeier, 2016) where the City of Montevallo is located. The living wage for a single person in Shelby County is estimated to be $10.98 per hour. Of the 34 positions budgeted for this hotel project, seven positions are scheduled to make more than the estimated living wage (Interim Hospitality Consultants, 2013).

Table A- 1: Wage Schedule for Business Class Hotel Model

Position	Full-Time	Part-time	Hourly Rate	Salary	Pay rate at or above Living Wage ($10.98/Hour)
General Manager	1			$50,000	Yes
Secretary/Accounting	1			$40,000	Yes
Sales and Marketing		1		$27,000	Yes
Chief Engineer	1			$40,000	Yes
Repair/Maintenance		1	$8.50		No
Host (Front Desk)	5	3	$9.00		No
Night Auditor	1	1	$11.00		Yes
Hostess (Breakfast)		2	$8.50		No
Hostess (Social Hour)		1	$8.50		No
Executive Housekeeper	1		----	$40,000	Yes
Inspectress Staff	1		$8.50		No
Houseman Staff	1	1	$8.50		No
Laundry	1	1	$8.50		No
Housekeepers	6	4	$8.50		No
Total	19	15			

Source data: Interim Hospitality Consultants 2011 and MIT Living Wage Calculator

Appendix B: Data Cleaning Steps

Univariate screening

*Input errors***:** All data sets were created by large professional data collection organizations, so it was presumed that data was inputted correctly, or that any errors were corrected since the original publication of the data. Also, in the unlikely event that input errors remained uncorrected, it was assumed that those errors would be identified with other screening techniques applied to the data.

Missing data: If more than 10% of data was missing, processes to estimate data were explored. After an estimation process was determined and executed, the randomness of the remaining missing data was tested to assess any potential for bias. If the missing data was non-random, options to trim the data set were explored. After all steps were taken any non-randomness remaining was noted as a limitation (potential bias).

Univariate Outliers: Z scores were created for each case. Any values above or below 3.3 SD from the mean, based on the recommended approach established by Tabachnick (2013, p 73), were reviewed for possible input errors and extreme outliers. If the data was accurate, there were just a few extreme outliers, all data was evaluated in the bivariate screening. This way, for example, a county with extremely high housing costs was not eliminated, unless there were not similarly high values for wages in that county.

Bivariate Screening

Linearity: X-Y Scatter Plots were prepared to identify outliers and check for linear distribution. Extreme outliers were removed if there were more than a small percentage (per Tabachnick, 2013). Statistical analyses were conducted with and without these outliers. In all cases the outliers increased the strength of the association being tested. To be conservative, the outliers

were removed. Transformation was considered if relationships were not linear, however, no data was transformed due to non-linearity.

Distribution of data (Normality): Histograms with overlays of normal distribution curves lines were created to evaluate the shape of distribution. Transformation was then considered following guidelines of Tabachnick (2013, p. 87-89). Linear regression is sensitive to distribution of data. Highly positively or negatively skewed data was transformed by calculating the square root or common log of the data. The distribution of this transformed data was then assessed to select the best version to use in the statistical analysis. A common log (10) transformation was conducted with several variables (Local government wages, hotel revenue, and median gross rent).

Multivariate Screening

Multivariate Outliers: A preliminary regression analysis was conducted for each hypothesis and Mahalanobis Distance calculations were saved. The Mahalanobis outlier threshold, based on a chi Square table using .001 as the cutoff were: 2 degrees of freedom (df) = 13.82, 3 df = 16.27, and 4 df = 18.47. Discretion was exercised removing these outliers based on the number and nature of the cases identified. Several cases were removed as multivariate outliers based on this test.

Distribution (heteroscedasticity): A second preliminary regression analysis was conducted if multivariate outliers were removed. A scatter plot was prepared for the residuals to confirm that cases were centered around zero in a circular distribution. Extreme outliers were removed based on visual inspection, and if the distribution was not centered symmetrically around zero, transformation of variables was revisited. No cases were removed as a result of this test and no transformations were conducted.

Multicollinearity of Variables: Partial correlations were conducted and reviewed during the final regression analysis to ensure there was no significant correlations between variables. No issues were found with this test.

Appendix C: Graphs and Tables used in Data Cleaning

Local Government Wages per Capita

Figure C- 1: Distribution of Data prior to Transformation

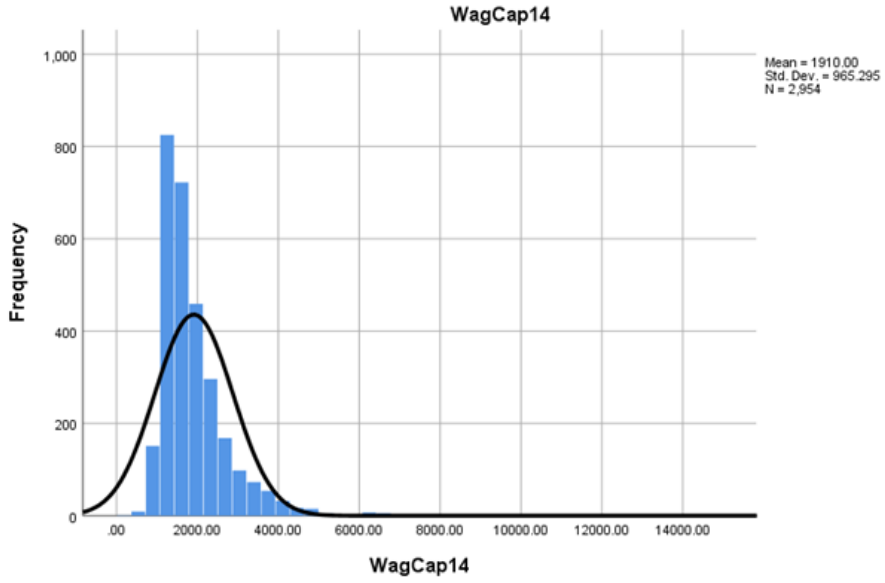


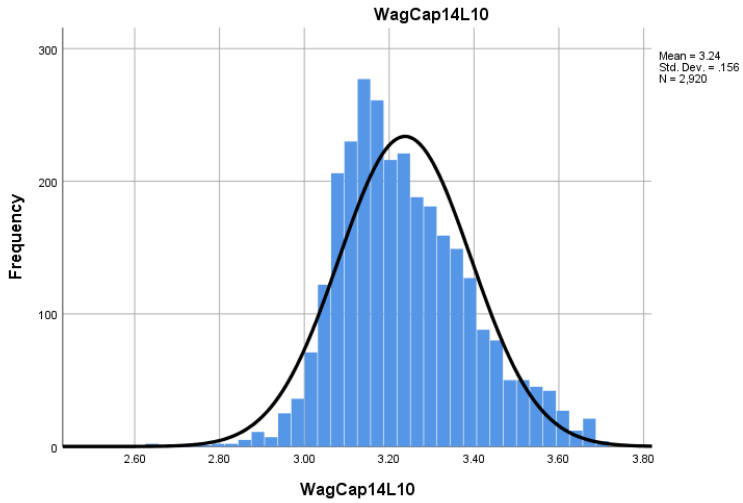
Table C- 1: Transformation Options for Local Government Wages Per Capita Data

Statistics

		WagCap14	WagCap14SQR	WagCap14L10
N	Valid	2954	2954	2954
	Missing	191	191	191
Skewness		4.051	1.910	.808
Std. Error of Skewness		.045	.045	.045
Kurtosis		33.660	7.808	1.670
Std. Error of Kurtosis		.090	.090	.090

Key: WagCap14: Local Government Wages per Capita; WagCap14SQR: SQRT (Local Government Wages per Capita); WagCap14L10: Log (Local Government Wages per Capita).

Figure C- 2: Distribution of Data for Local Government Wages after Transformation



Key: WagCap14L10: Log (Local Government Wages per Capita)

Hotel Revenue Per Capita

Table C- 2: Correlation among Hotel Data

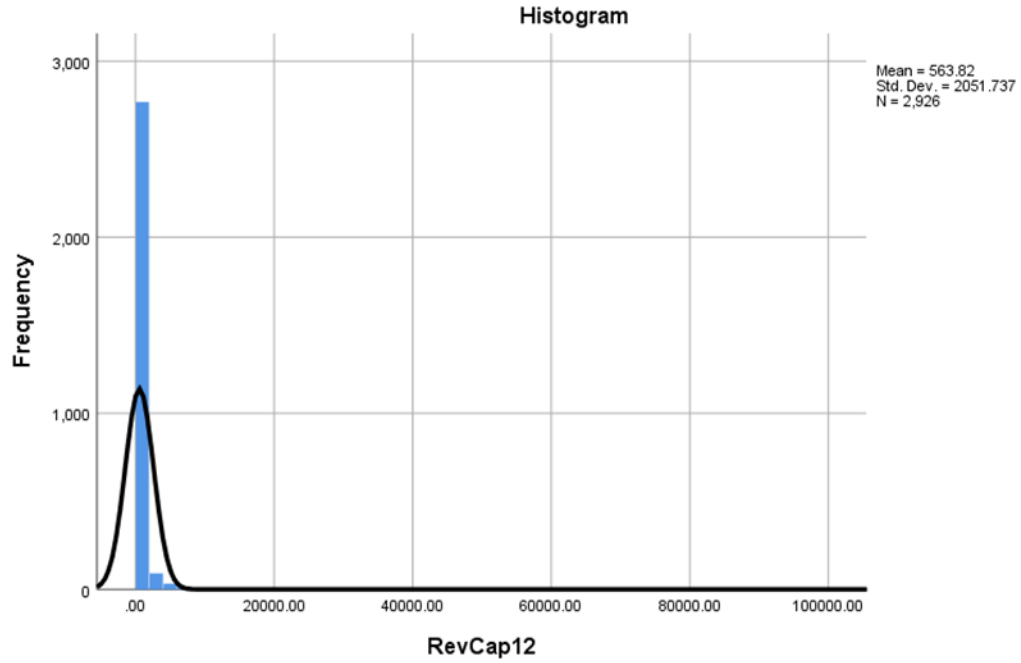
Correlations

		RCPTOT	PAYANN	EMP	ESTAB
RCPTOT	Pearson Correlation	1	.995**	.989**	.559**
	Sig. (2-tailed)		.000	.000	.000
	N	1813	1813	1813	1813
PAYANN	Pearson Correlation	.995**	1	.988**	.506**
	Sig. (2-tailed)	.000		.000	.000
	N	1813	1813	1813	1813
EMP	Pearson Correlation	.989**	.988**	1	.578**
	Sig. (2-tailed)	.000	.000		.000
	N	1813	1813	1813	1813
ESTAB	Pearson Correlation	.559**	.506**	.578**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	1813	1813	1813	2927

**. Correlation is significant at the 0.01 level (2-tailed).

Key: RCPTOT: Annual Hotel Revenue, PAYANN: Annual Hotel Payroll, Emp: Number of Hotel Employees, ESTAB: Number of Hotel Establishments

Figure C- 3: Distribution of Hotel Revenue Per Capita Data



Key: RevCap12: Hotel Revenue per Capita

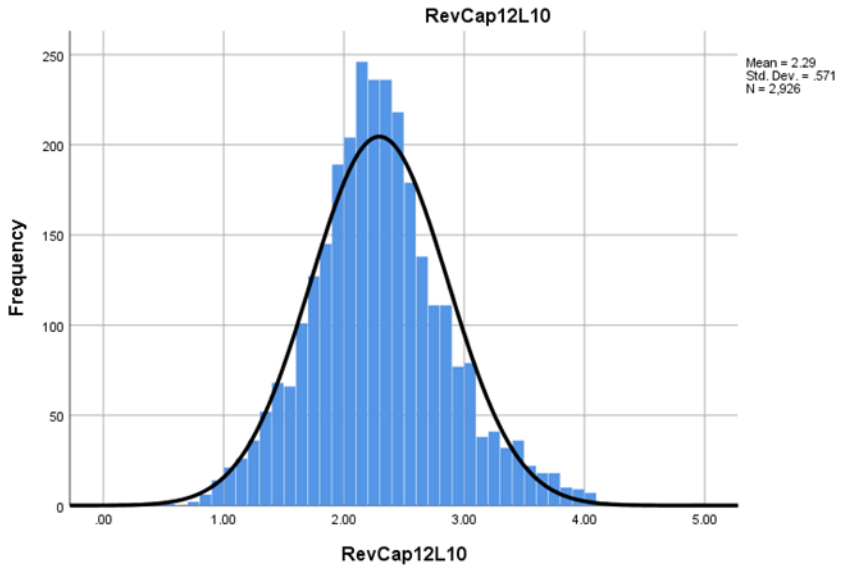
Table C- 3: Hotel Revenue Per Capita Data after Transformation

Statistics

		RevCap12	RevCap12SQR	RevCap12L10
N	Valid	2926	2926	2926
	Missing	219	219	219
Skewness		23.400	4.476	.349
Std. Error of Skewness		.045	.045	.045
Kurtosis		811.758	41.462	.551
Std. Error of Kurtosis		.090	.090	.090

Key: RevCap12: Hotel Revenue per Capita; RevCap12SQR: SQRT (Hotel Revenue per Capita; RevCap12L10: Log (Hotel Revenue per Capita).

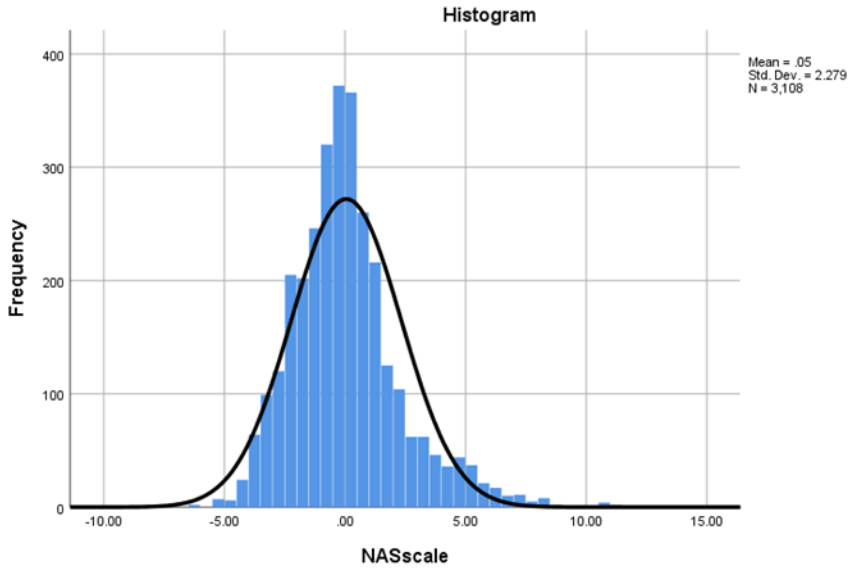
Figure C- 4: Common Log of Hotel Revenue Per Capita



Key: ReveCap12L10: Log (Hotel Revenue per Capita)

Natural Amenities

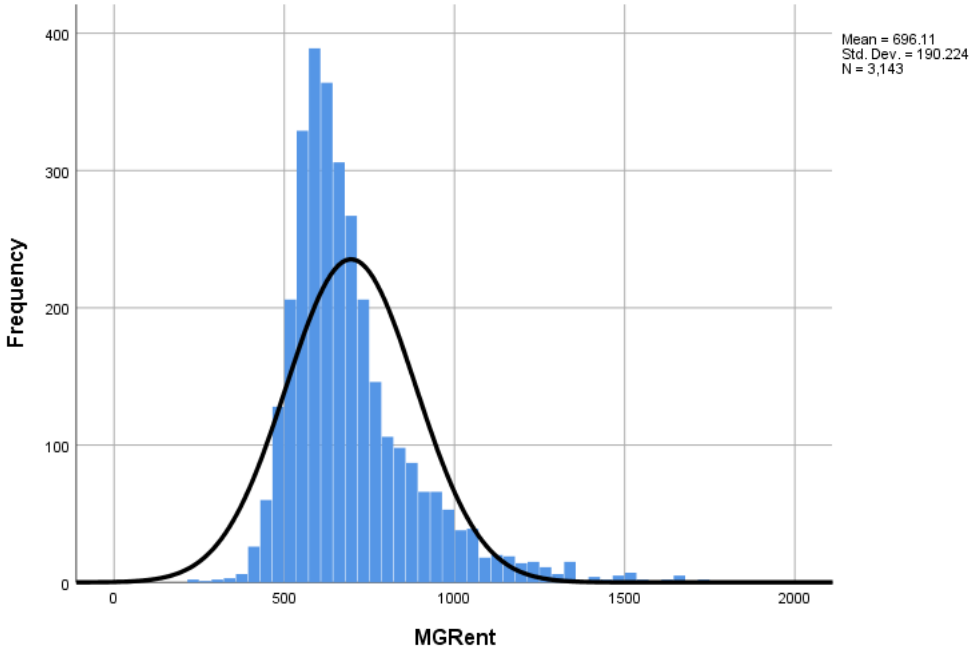
Figure C- 5: Distribution of Natural Amenities Scale



Key: NASscale: Natural Amenities Scale

Median Gross Rent (H_1-H_5)

Figure C- 6: Distribution of Median Gross Rent



Key: MGRent: Median Gross Rent

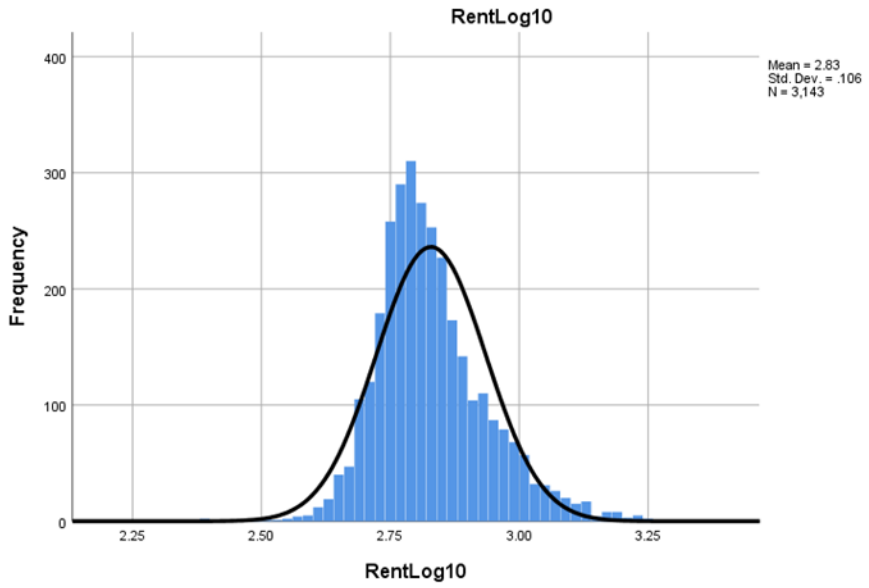
Table C- 4: Transformation of Median Gross Rent

Statistics

		MGRent	RentSQRT	RentLog10
N	Valid	3143	3143	3143
	Missing	0	0	0
Mean		696.11	26.1690	2.8289
Median		649.00	25.4755	2.8122
Std. Deviation		190.224	3.36111	.10618
Skewness		1.700	1.185	.703
Std. Error of Skewness		.044	.044	.044
Kurtosis		4.257	2.187	1.108
Std. Error of Kurtosis		.087	.087	.087
Minimum		246	15.68	2.39
Maximum		1802	42.45	3.26

Key: MGRent: Median Gross Rent; RentSQRT: SQRT (Median Gross Rent; RentLog10: Log (Median Gross Rent)

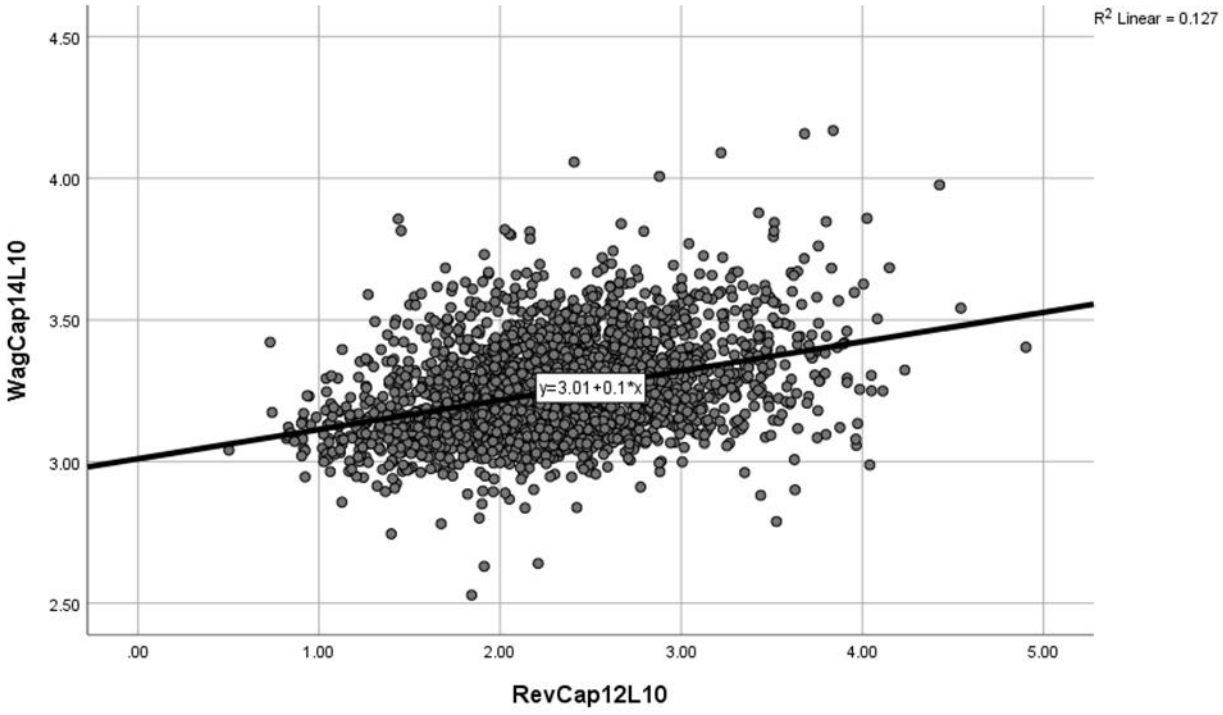
Figure C- 7: Transformation of Median Gross Rent



Key: RentLog10: Log (Median Gross Rent)

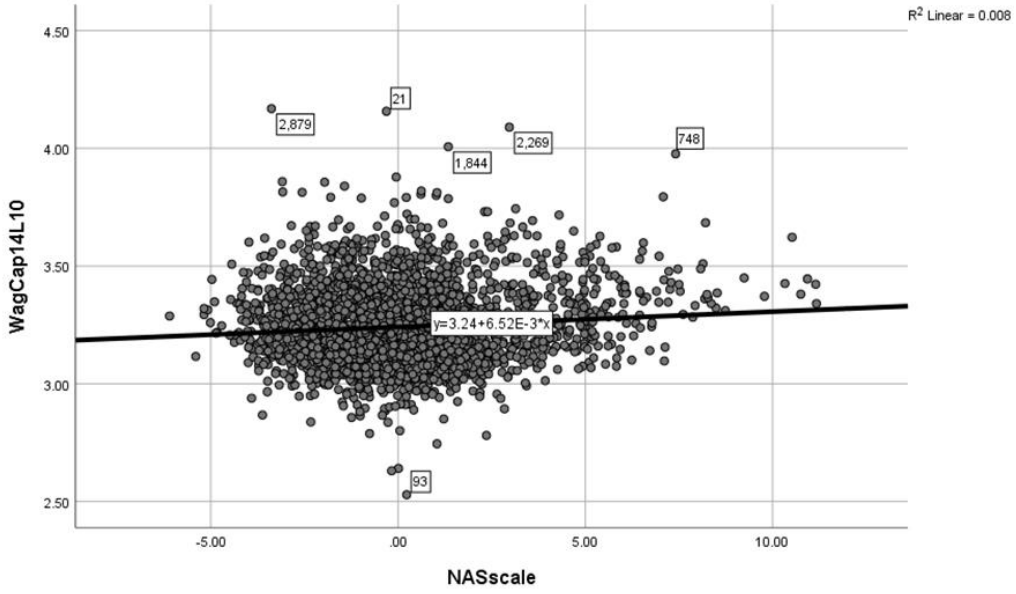
Bivariate Screening (H_1-H_5)

Figure C- 8: Bivariate Screening of Log (Local Government Wages per Capita) and Log (Hotel Revenue Per Capita)



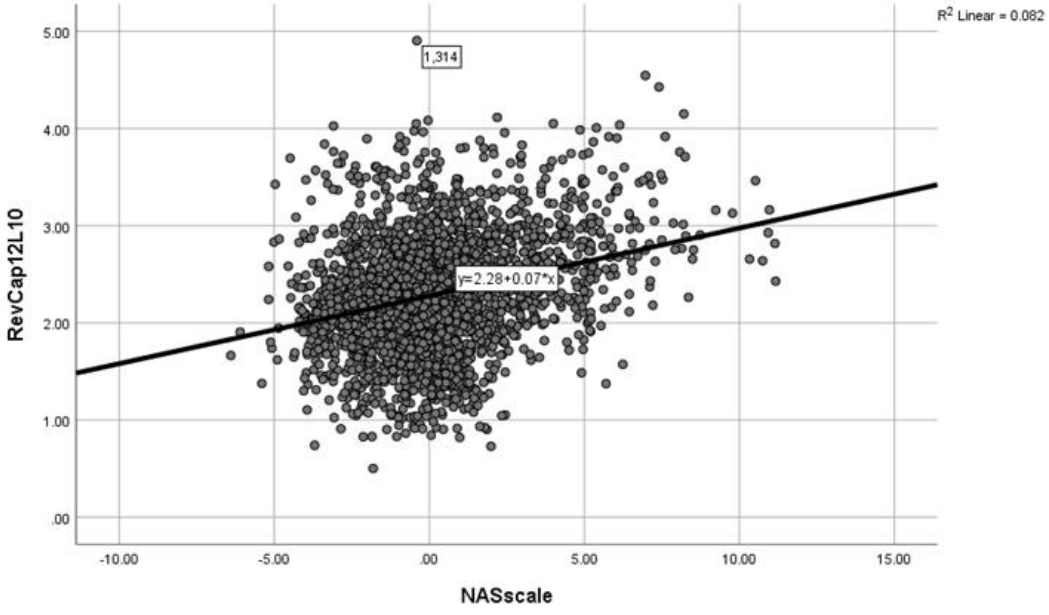
Key: RevCap12L10: Log (Hotel Revenue per Capita)

Figure C- 9: Log (Local Government Wages per Capita) and Natural Amenities



Outliers: : 21: New York County, New York; 748: Alpine County, California; 1844: Love County, Oklahoma; 2269: Swain County, North Carolina, 2879: Menominee County, Wisconsin.
Key: WagCap14L10: Log (Local Government Wages per Capita); NASscale: Natural Amenities Scale.

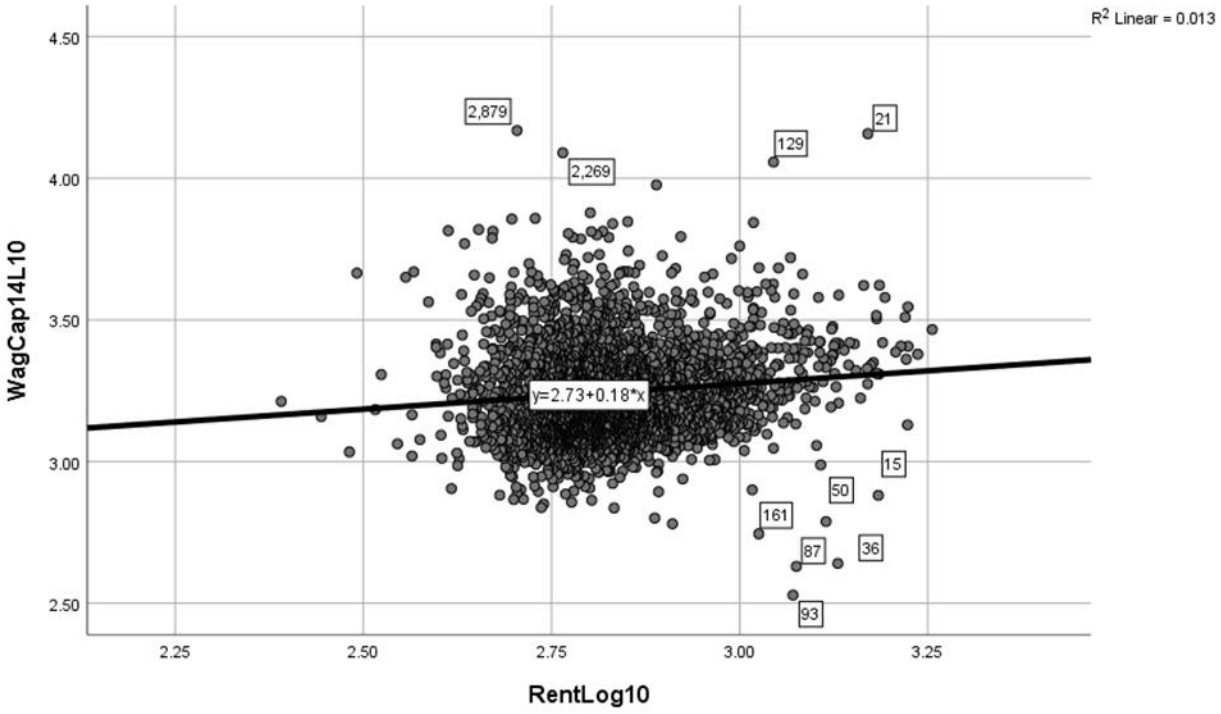
Figure C- 10: Log (Hotel Revenue per Capita) and Natural Amenities



Outliers: 1314: Tazewell County, Illinois

Key: RevCap12L10: Log (Hotel Revenue per Capita); NASscale: Natural Amenities Scale.

Figure C- 11: Log (Local Government Wages per Capita) and Log (Median Gross Rent)



Outliers: 2269: Swain County, North Carolina; 2879: Menominee County, Wisconsin; 129: North Slope Borough, Alaska; 21: New York County, New York; 15: Honolulu County, Hawaii; 50: District of Columbia, District of Columbia; 161: Bronx County, New York; 87 Kings County, New York; 36: Queens County, New York; 93: Richmond County, New York.

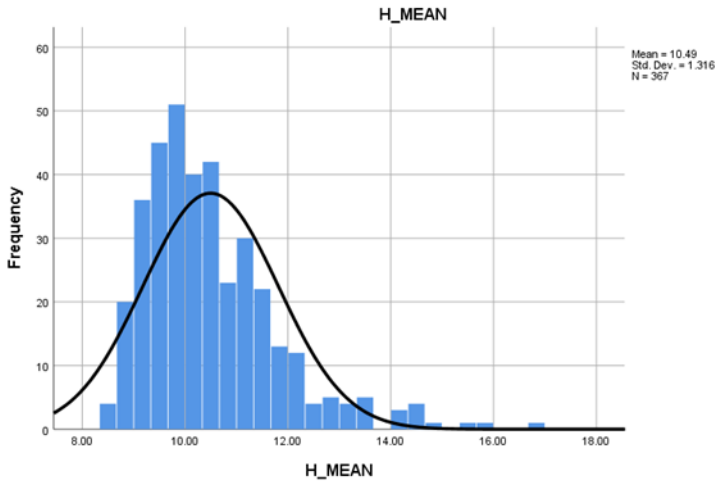
Key: WagCap12L10: Log (Local Government Wages per Capita); RentLog10: Log (Median Gross Rent).

Table C- 5: Outliers Removed

Outliers Removed Based on Bivariate Analysis
1. Alpine County, California
2. Bronx County, New York
3. District of Columbia, District of Columbia
4. Honolulu County, Hawaii
5. Kings County, New York
6. Love County Oklahoma
7. Menominee County, Wisconsin
8. New York County, New York
9. North Slope Borough, Alaska
10. Queens County, New York
11. Richmond County, New York
12. Swain County, North Carolina

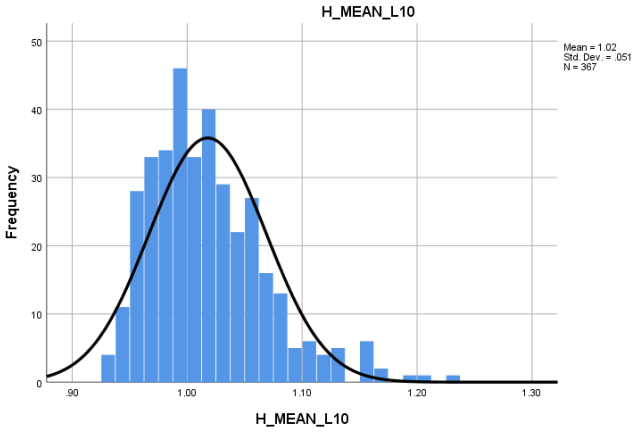
Hotel Clerk Wages (H_6)

Figure C- 12: Hotel Clerk Mean Hourly Wage



Key: H_Mean: Hotel Clerk Hourly Mean Wage

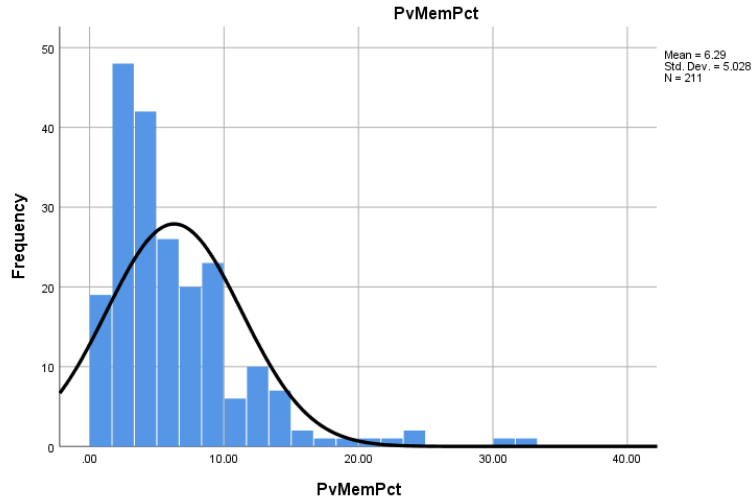
Figure C- 13: Log (Mean Hourly Hotel Clerk Wages)



Key: H_MEAN_L10: Log (Mean Hourly Hotel Clerk Wages)

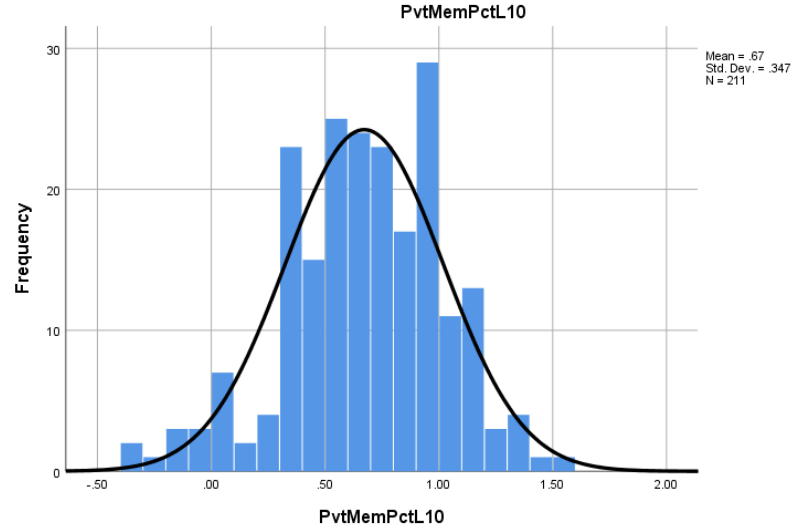
Union Membership (H_6)

Figure C- 14: Private Union Membership Percentage



Key: PvMemPct: Percentage of Private Union Membership

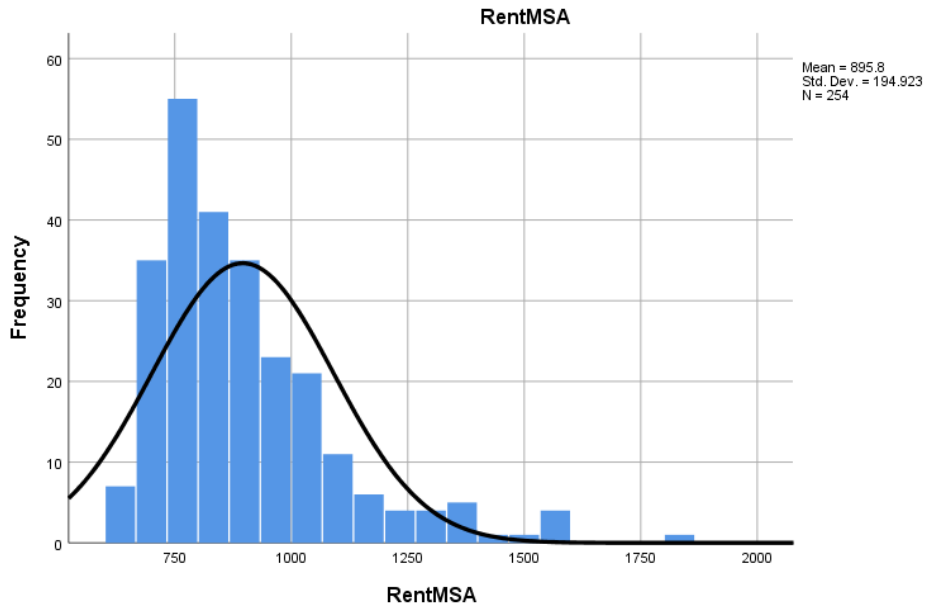
Figure C- 15: Log (Private Union Membership Percentage)



Key: PvMemPctL10: Log (Percentage of Private Union Membership)

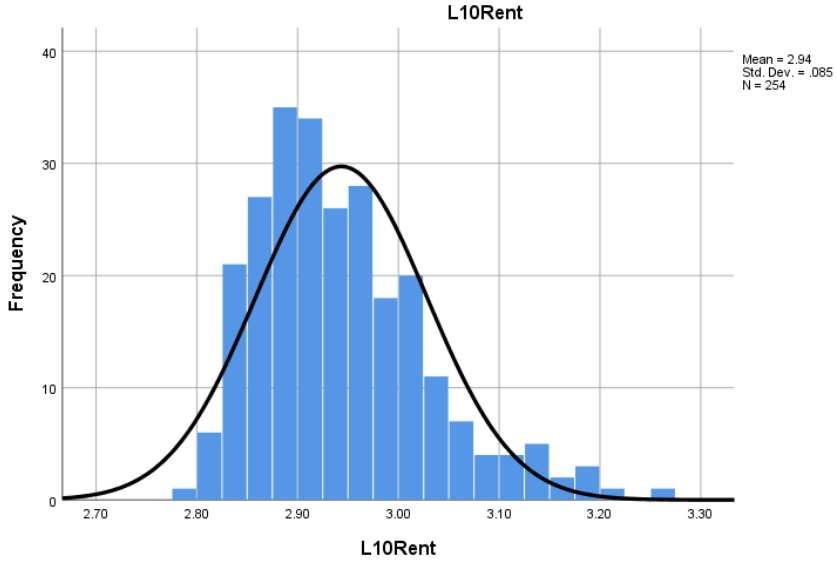
Median Gross Rent (H_6)

Figure C- 16: Median Gross Rent



Key: RentMSA: Median Gross Rent

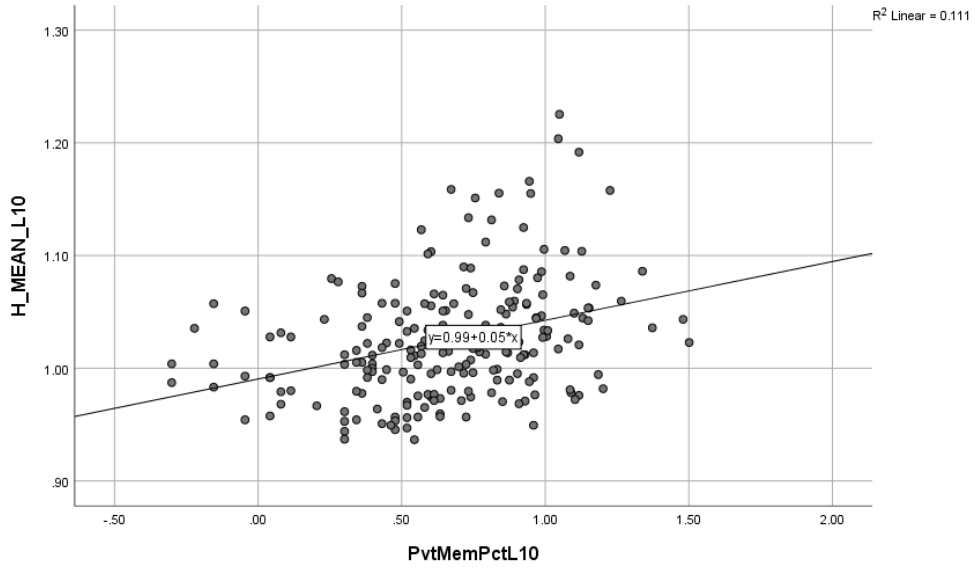
Figure C- 17: Log (Median Gross Rent)



Key: L10Rent: Log (Median Gross Rent)

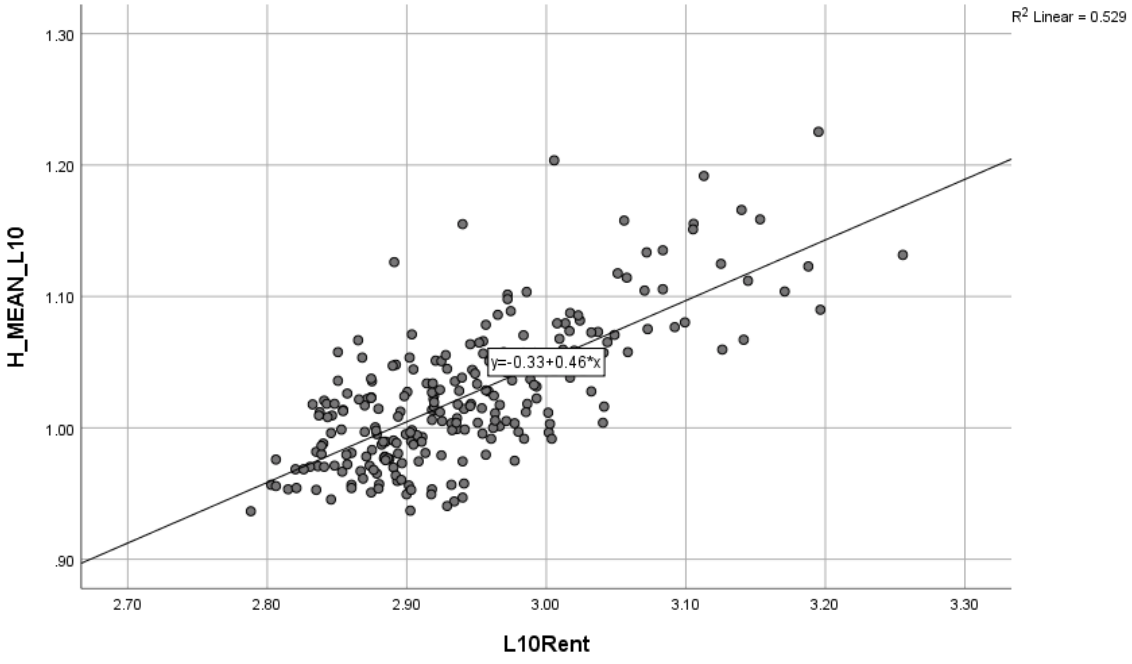
Bivariate Screening (H_6)

Figure C- 18: Log (Mean Hotel Clerk Hourly Wage) & Log (Private Union Membership Percentage)



Key: H_Mean_L10: Log (Hotel Clerk Hourly Mean Wage); PvMemPctL10: Log (Percentage of Private Union Membership)

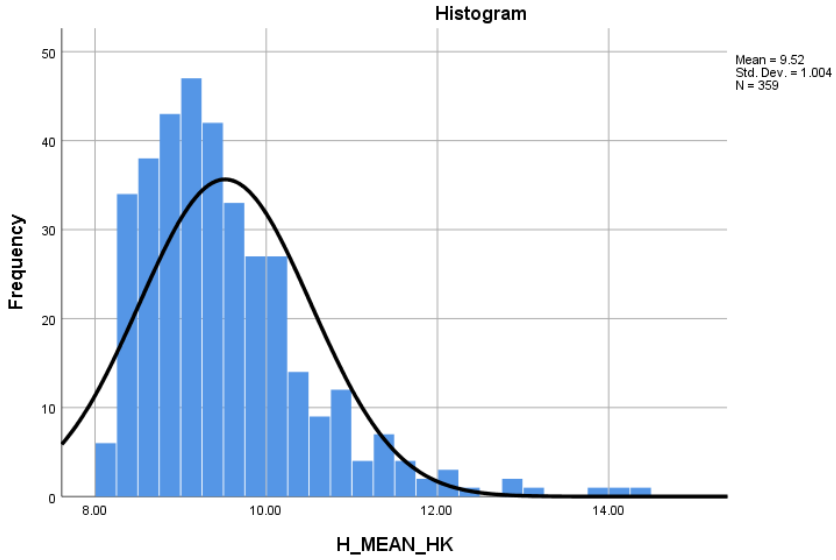
Figure C- 19: Log (Mean Hotel Clerk Hourly Wages) & Log (Median Gross Rent)



Key: H_Mean_L10: Log (Hotel Clerk Hourly Mean Wage); L10Rent: Log (Median Gross Rent).

Housekeeping Wages (H_7)

Figure C- 20: Mean Housekeeping Hourly Wages



Key: H_MEAN_HK: Housekeeping Hourly Mean Wage

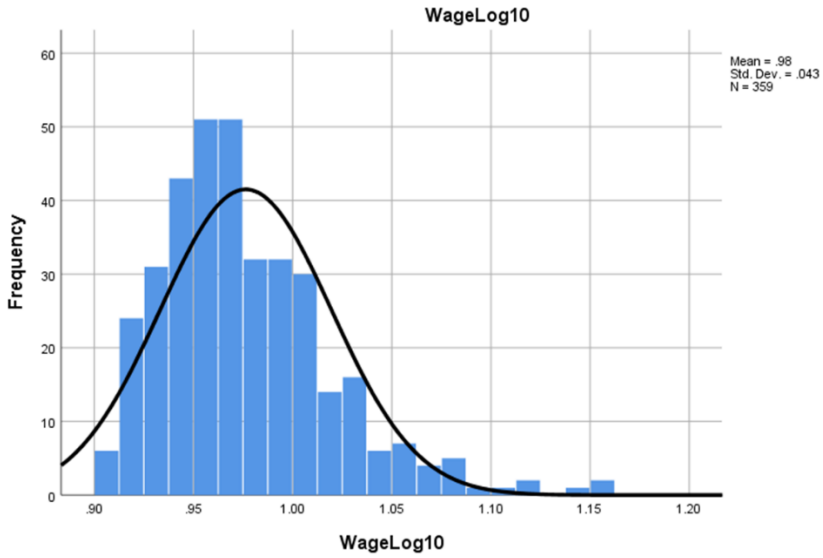
Table C- 6: Transformation of Mean Housekeeping Wages

Statistics

		H_MEAN_HK	WageLog10
N	Valid	359	359
	Missing	0	0
Mean		9.5192	.9764
Median		9.3100	.9689
Std. Deviation		1.00433	.04312
Variance		1.009	.002
Skewness		1.555	1.129
Std. Error of Skewness		.129	.129
Kurtosis		3.742	1.903
Std. Error of Kurtosis		.257	.257
Range		6.33	.25
Minimum		8.00	.90
Maximum		14.33	1.16

Key: H_MEAN_HK: Housekeeping Hourly Mean Wage; WageLog10: Log (Housekeeping Hourly Mean Wage).

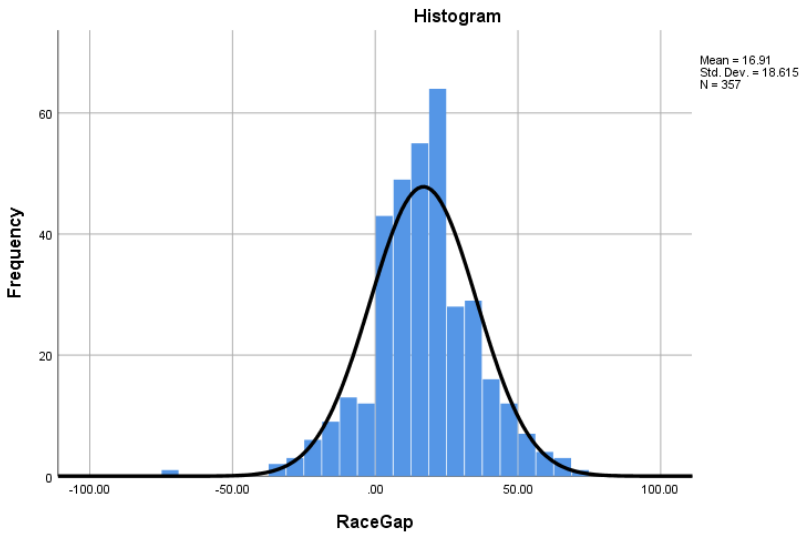
Figure C- 21: Log (Mean Housekeeping Hourly Wages)



Key: WageLog10: Log (Housekeeping Hourly Mean Wage).

Supervisor-Employee Racial Composition Gap (H_7)

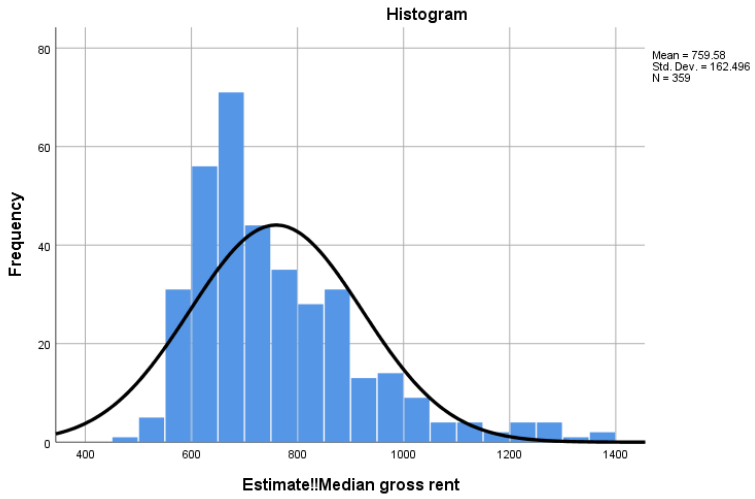
Figure C- 22: Racial Gap between Housekeeping Supervisors and Housekeepers



Key: RaceGap: Difference in racial composition of housekeeping supervisors and housekeepers.

Median Gross Rent (H_7)

Figure C- 23: Median Gross Rent 2010



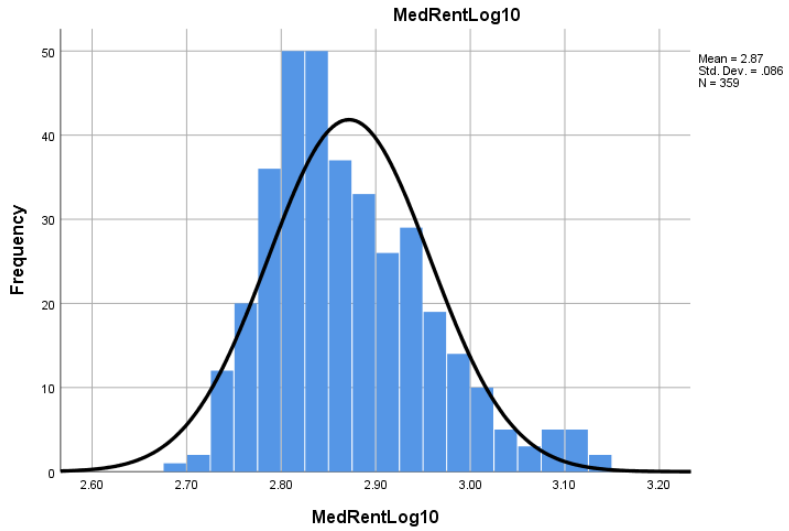
Key: Estimate!!Median gross rent: Median Gross Rent

Table C- 7: Median Gross Rent and Log (Median Gross Rent)

		Median gross rent	MedRentLog10
N	Valid	359	359
	Missing	0	0
Mean		759.58	2.8717
Median		716.00	2.8549
Std. Deviation		162.496	.08557
Variance		26404.858	.007
Skewness		1.320	.762
Std. Error of Skewness		.129	.129
Kurtosis		1.928	.349
Std. Error of Kurtosis		.257	.257
Range		913	.46
Minimum		484	2.68
Maximum		1397	3.15

Key: MedRentLog10: Log (Median Gross Rent)

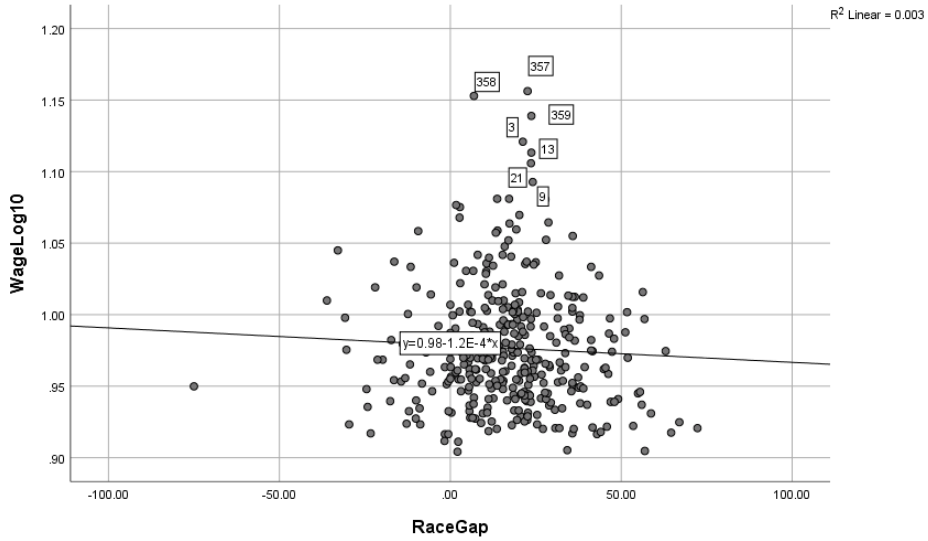
Figure C- 24: Log (Median Gross Rent)



Key: MedRentLog10: Log (Median Gross Rent)

Bivariate Screening (H_7)

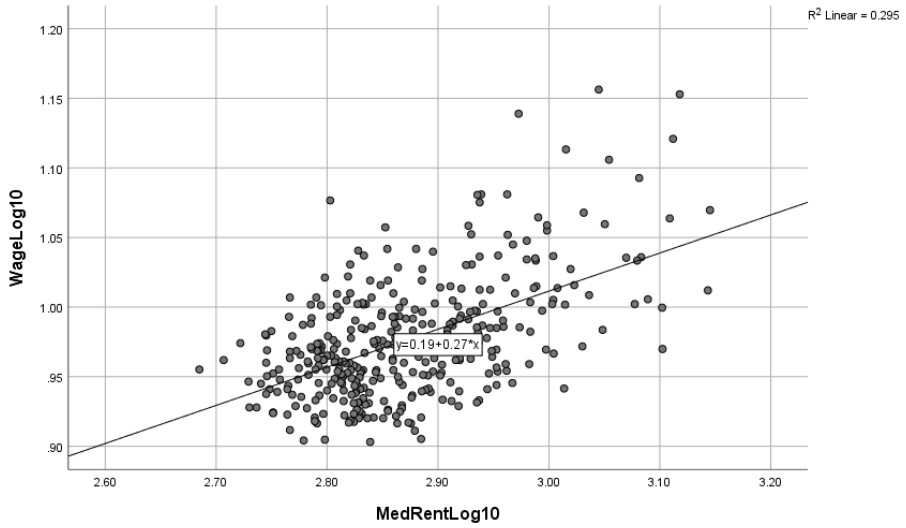
Figure C- 25: Log (Housekeeping Wages) and Race Gap



Outliers: 357: New York-Northern New Jersey-Long Island, NY-NJ-PA Metro Area, 358: Honolulu, HI Metro Area, 359: Kingston, NY Metro Area, 3: San Francisco-Oakland-Fremont, CA Metro Area, 9: Bridgeport-Stamford-Norwalk, CT Metro Area, 13: Boston-Cambridge-Quincy, MA-NH Metro Area,21: Las Vegas-Paradise, NV Metro Area.

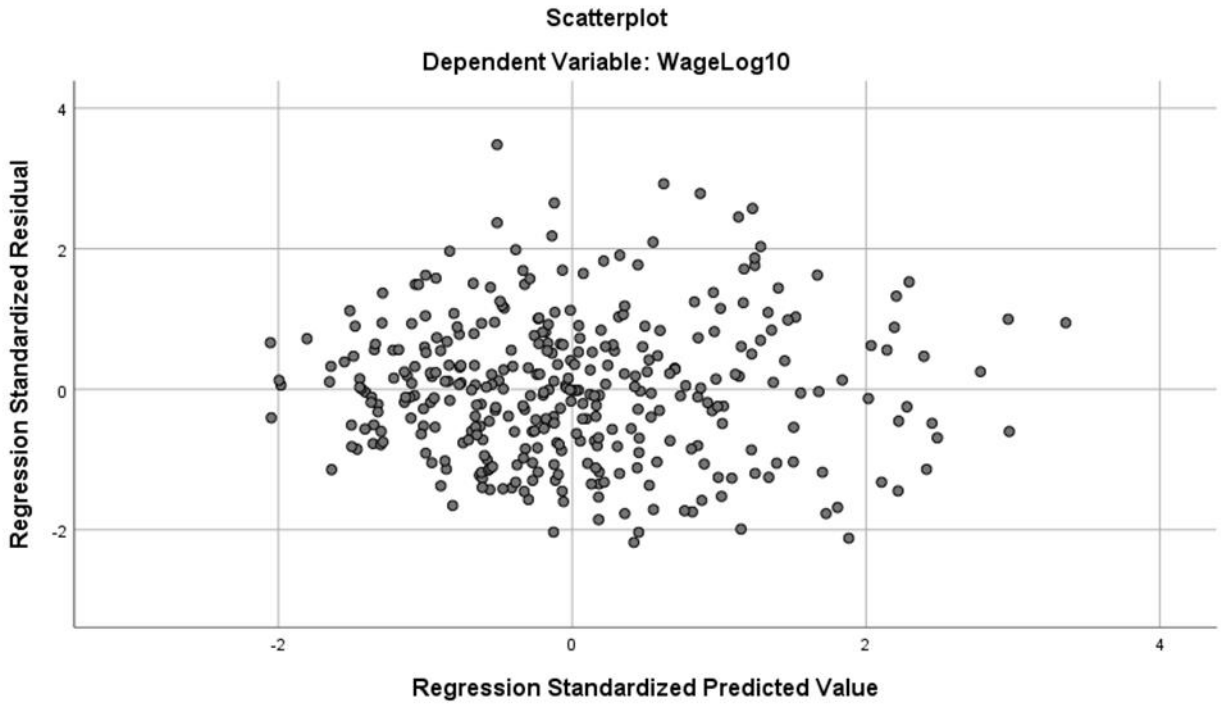
Key: WageLog10: Log (Housekeeping wages), RaceGap: Difference in supervisor-employee racial composition

Figure C- 26: Log (Mean Hourly Housekeeping Wage) and Log (Median Gross Rent)



Key: WageLog10: Log (Mean Hourly Housekeeping Wage); MedRentLog10: Log (Median Gross Rent)

Figure C- 27: Residual Plot for Hypothesis 7



Key: WageLog10: Log (Mean Hourly Housekeeping Wage)

Appendix D: PROCESS Output for Mediation Model

```
Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 3.5 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 4
    Y  : WagCap_1 = Log (Local Government Wages per Capita)
    X  : NASscale = USDA Natural Amenities Scale
    M  : RevCap_1 = Log (Hotel Revenue per Capita)

Covariates:
 RentLog1

Sample
Size:  2712

**************************************************************************
OUTCOME VARIABLE:
 RevCap_1 = Log (Hotel Revenue per Capita)

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3498      .1224      .2751   188.8792     2.0000  2709.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant    -1.1802      .3065    -3.8510      .0001    -1.7811     -.5793
NASscale      .0554  a   .0048    11.4905      .0000      .0459      .0649
RentLog1     1.2203      .1083    11.2637      .0000     1.0078     1.4327

Standardized coefficients
             coeff
NASscale      .2179
RentLog1      .2136

Covariance matrix of regression parameter estimates:
           constant   NASscale   RentLog1
constant      .0939      .0005     -.0332
NASscale      .0005      .0000     -.0002
RentLog1     -.0332     -.0002      .0117

**************************************************************************
OUTCOME VARIABLE:
 WagCap_1 = Log (Local Government Wages per Capita)

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3436      .1181      .0214   120.8556     3.0000  2708.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
```

```
constant     3.0296      .0858    35.3287      .0000     2.8615     3.1978
NASscale     -.0020 c'   .0014    -1.4714      .1413     -.0047      .0007
RevCap_1      .0978 b    .0054    18.2339      .0000      .0872      .1083
RentLog1     -.0034      .0309     -.1104      .9121     -.0641      .0572

Standardized coefficients
             coeff
NASscale     -.0286
RevCap_1      .3513
RentLog1     -.0021

Covariance matrix of regression parameter estimates:
           constant   NASscale   RevCap_1   RentLog1
constant      .0074      .0000      .0000     -.0026
NASscale      .0000      .0000      .0000      .0000
RevCap_1      .0000      .0000      .0000      .0000
RentLog1     -.0026      .0000      .0000      .0010

Test(s) of X by M interaction:
          F        df1        df2          p
    12.4989     1.0000  2707.0000      .0004

************************** TOTAL EFFECT MODEL ****************************
OUTCOME VARIABLE:
 WagCap_1

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .0990      .0098      .0240    13.4049     2.0000  2709.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant     2.9142      .0906    32.1651      .0000     2.7366     3.0919
NASscale      .0034  c    .0014     2.3774      .0175      .0006      .0062
RentLog1      .1159      .0320     3.6181      .0003      .0531      .1787

Standardized coefficients
             coeff
NASscale      .0479
RentLog1      .0729

Covariance matrix of regression parameter estimates:
           constant   NASscale   RentLog1
constant      .0082      .0000     -.0029
NASscale      .0000      .0000      .0000
RentLog1     -.0029      .0000      .0010

****************** CORRELATIONS BETWEEN MODEL RESIDUALS ******************

           RevCap_1   WagCap_1
RevCap_1     1.0000      .0000
WagCap_1      .0000     1.0000

************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************

Total effect of X on Y
     Effect         se          t          p       LLCI       ULCI       c_ps       c_cs
```

```
     .0034 c     .0014     2.3774      .0175      .0006      .0062      .0218      .0479

Direct effect of X on Y
    Effect         se          t          p       LLCI       ULCI      c'_ps      c'_cs
    -.0020  c'   .0014    -1.4714      .1413    -.0047      .0007    -.0130    -.0286

Indirect effect(s) of X on Y:
             Effect     BootSE   BootLLCI   BootULCI
RevCap_1      .0054 ab     .0006      .0043      .0066

Partially standardized indirect effect(s) of X on Y:
             Effect     BootSE   BootLLCI   BootULCI
RevCap_1      .0348      .0036      .0278      .0420

Completely standardized indirect effect(s) of X on Y:
             Effect     BootSE   BootLLCI   BootULCI
RevCap_1      .0765      .0081      .0610      .0928

************************ ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

WARNING: Variables names longer than eight characters can produce incorrect
output
when some variables in the data file have the same first eight characters.
Shorter
variable names are recommended. By using this output, you are accepting all
risk
and consequences of interpreting or reporting results that may be incorrect.

------ END MATRIX -----
```

Appendix E: Transformation of Results

The output of the linear regression models which included log transformed data was transformed for easier interpretation in an Excel worksheet. The calculations are outlined on the University of Virginia library website. For details and examples see:

https://data.library.virginia.edu/interpreting-log-transformations-in-a-linear-model/

In summary:

When only the dependent/response variable is log-transformed:

(Exp (Coefficient)-1) * 100 = Transformed Coefficient

With this value, the results can be stated as, for a one unit increase in the independent variable, the dependent variable increases/decreases by (transformed coefficient)

When only the independent/predictor variable(s) is log-transformed:

Coefficient/100 = Transformed Coefficient

With this value, a 1% increase in the independent variable increases (or decreases) the dependent variable by the transformed coefficient.

Both dependent/response variable and independent/predictor variable(s) are log-transformed:

Interpret the coefficient as the percent increase in the dependent variable for every 1% increase in the independent variable.

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Curriculum Vitae

Bill Farley is a Ph.D. graduand at the Wilder School of Governmental and Public Affairs. His research interests include real estate economics, local economic development, social equity, and economic history. He has authored one book and four peer-reviewed articles. Mr. Farley's career as a practitioner included leadership positions in both the public and private sectors – including seven years in the City Manager's office in Sacramento and nine years with Fortune 1000 companies. He has executed a wide range of innovative community and economic development programs and projects – many of which received regional and statewide recognition for environmental leadership and community collaboration. A substantial portion of his career involved strategic planning, capital budgeting and financing, and presenting research and policy recommendations to elected officials, boards of directors and community organizations. He has served on planning and redevelopment commissions in San Marino and Sacramento, California, and taught graduate courses in public policy and public finance at the University of Southern California.

EDUCATION

Ph.D., Public Policy and Administration, Spring 2021, Virginia Commonwealth University, Wilder School of Government and Public Affairs (Richmond)

Concentration: Urban and Regional Planning
Dissertation: The Just Host: Addressing the wage structure problem in the tourism industry (Chair: Dr. Elsie Harper-Anderson, Associate Professor)
Service: Student member of Promotion & Tenure and Faculty Mentor Award Committees. Guest reviewer: Economic Development Quarterly.
Honors: Nominated to VCU Chapters of Pi Alpha Alpha, the National Honor Society for Public Affairs and Administration, and The Honor Society of Phi Kappa Phi (all disciplines)

M.P.A., University of Southern California, Price School of Public Policy (Los Angeles, Sacramento, Washington, D.C)

B.S., Oregon State University, College of Education (Corvallis)

PUBLICATIONS & PRESENTATIONS

Peer Reviewed Articles

"Blending Powers: Hamilton, FDR, and the backlash that shaped the modern Congress*," Journal of Policy History*, Vol 31, No. 1, 2021, 60-92.

"Self-report accuracy in local economic development programs," *Economic Development Quarterly*, Vol. 34., No.4., 2020, 315-324.

Peer reviewed articles continued

"The Cuyamaca Water Company Partnership: New scenes from San Diego's water history," *Journal of San Diego History.* Vol 62., No. 2, Spring 2016, 181-202.

"Rocky Mountain Radicals: Copper King James A. Murray, Senator James E. Murray, and seventy-eight years of Montana politics, 1883-1961," *Montana: The Magazine of Western History.* Vol. 66, No. 1, Spring 2016, 39-58, 93-95.

Peer Review Article in Progress

Distribution of public economic benefits from tourism (under peer review)

Trade Book and Articles

James A. Murray; Butte's Radical Irish Millionaire**,** Mountain Press Publishing Company, 2018.

Seven Ways to Make a Million in the West, Wild West Magazine. Vol. 28, No. 4, December 2015, 22-23.

The Conversion of Sacramento Army Depot into Packard Bell Industrial Park, Real Estate Review (Spring 1996) 56-57.

Select Conference Papers

2017 The Just Host: Managing tourism to benefit local economies, Northeast Conference on Public Administration, University of Vermont**,** November 4, 2017.

2008 Local Building Taxes in Post-Bubble California: Implications for smart growth, infrastructure financing and housing subsidy policies, American Real Estate and Urban Economics Association Mid-Year Conference, May 2008. Paper #1530.

Blog Posts: Real Estate Economics and Social Equity (BillFarley.Net)

2018 Rethinking Metrics for Local Economic Development: A focus on living wage deficits in Southeast Iowa

2018 Community Wealth Shapes Local Economic Development Programs

2018 A Survey of Local Economic Metrics in Virginia

2018 Tourism for taxes or good jobs?

Select Invited Lectures (all 2018)

Montana Historical Society (Helena, MT): How to make a million dollars in the Wild West

Montana Historical Society (Helena, MT): James A. Murray: Butte's Radical Irish Millionaire

Butte-Silver Bow Archives (Butte, MT): James A. Murray: Butte's Radical Irish Millionaire

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Virginia Commonwealth University, Wilder School of Government and Public Affairs

Graduate Teaching Assistant (2016-2018)

- Urban and Regional Planning: Introduction to the City
- Urban and Regional Planning: Economic Geography
- Urban and Regional Planning: Adaptive Reuse
- Urban and Regional Planning: Senior Capstone
- Urban and Regional Planning: Development Finance Analysis

University of Southern California, Price School of Public Policy

Instructor of Record

- Policy and Program Evaluation (Fall 2013, Spring 2014)
- Public Finance (Summer 1996)

National University (in Partnership with El Dorado County, California)

Instructor of Record

- Introduction to Public Administration (Spring 2008)
- Government and Community Relations (Fall 2007)
- Urban Studies (Directed Study) (Spring 2008)

Cosumnes River College

Instructor of Record

- Techniques of Management (Spring 2008)

COMMUNITY SERVICE

Editorial Advisory Board, Ottumwa Courier (Current)
Past Board Member, Nehemiah Community Development Corporation, Richmond, Virginia
Past Vice Chairman, Planning Commission, City of San Marino, California
Past Board Member, USC Keston Institute of Public Finance and Infrastructure
Past Commissioner, Sacramento Housing and Redevelopment Agency
Past Reviewer, Government Finance Officers Association Distinguished Budget Awards
Past Columnist, Elk Grove Citizen Newspaper
Past Director, Stone Lakes Wildlife Refuge Foundation

COMMUNITY SERVICE RECOGNITION

Women's Civic Improvement Club of Sacramento, Leadership Award, 2011 (10 years of service to oldest Women's African American organization in Sacramento).

United States Fish and Wildlife Service, Commendation, 1995 (for support establishing the Stone Lakes National Wildlife Refuge).

PROFESSIONAL EXPERIENCE

Graduate Research Assistant **2016 to 2018**
Virginia Commonwealth University

Author **2014 to 2015**
Mountain Press Publishing (Book contract)

Principal Manager, Land Acquisition & Strategic Planning **2008 to 2014**
Edison International: Southern California Edison (Fortune Ranking: 197)

- Led the land acquisition, disposition, and rooftop solar leasing programs for Southern California Edison (SCE).
- Established priorities for spending on office and industrial space requirements ($1.0 billion and 6.0 million SF).
- Responsible for the acquisition of land rights (1,000 acquisitions) and environmental mitigation properties (2,000 acres) to support of SCE's Renewable Energy and Smart Grid initiatives.
- Managed 100 roof-top leases on industrial properties to power 6,500 homes (100MW).
- Secured lease for the largest solar rooftop installation in the United States (10 MW).

Consultant, Land Acquisition and Development **2006 to 2008**
Bridge Street Advisors

- Provided consulting to private- and public-sector clients. Services included: directing projects through complex regulatory environments, strategic planning, asset management, and facility development.
- Guided Sacramento Municipal Utility District through site selection, acquisition and reclamation planning of a 50-acre former mining site for development of a new service center.
- Developed a GIS-based site selection model for the J.F. Shea Companies in the Sacramento region.

Vice President of Land Acquisition and Development **2003 to 2005**
Granite Land Company (Subsidiary of Granite Construction, Fortune Rank 738)

- Advised operating divisions on facility construction, leasing, and environmental permitting for aggregate resources.
- Supervised six project teams that included engineers, architects, land planners, and legal counsel.
- Negotiated and executed a joint venture investment for the largest master plan community in the State of Washington. Restructured the infrastructure financing district and developed a state-of-the-art storm water management system with zero-impact on local waterways.
- Acquisition of 132-acre parcel in Monterey County for development of 320-unit project. Negotiated seven-year option, prepared and filed Tentative Map Application.

Founding Partner **1997 to 2003**
Capitol Avenue Development & Investments

- Started company in 1997 as a sole-proprietorship and developed into a corporation with over $40 million in project development activity.
- Clients included Granite Land Company, Blue Diamond, Boeing, NEC, and Hilton Hotels.
- Managed relocation of California Medical Association headquarters from San Francisco to Sacramento: Presented options to Board of Directors, acquired existing building in Downtown Sacramento and coordinated design, permitting and renovation.
- Prepared preliminary financing plan for $40 million minor league ballpark and related infrastructure in West Sacramento: Secured Letter of Intent for $15 million naming rights and marketing agreement.
- Developed and executed public-private financing plan for a $15.0 million freeway interchange.
- Project permitting and development of four business-class hotels totaling over $40 million.

Manager, Office of Economic Development **1992 to 1997**
City of Sacramento, California

- Staffed the Mayor's Advisory Council on Economic Development, and the City's Economic Development Commission.
- Conducted large-scale business retention program in partnership with the Chamber of Commerce.
- Refinanced Arco Arena ($90 million) with municipal bonds to retain the NBA Kings in Sacramento.
- Secured winning bid and negotiated lease for a $175 million high-rise office building with the State of California (Joe Serna Jr. Cal/EPA Headquarters Building).
- Acquired the Sacramento Army Depot (2.0 million square feet) and permitted and renovated for initial occupancy by computer manufacturer Packard Bell-NEC (4,000 employees).

PROFESSIONAL RECOGNITION: PROJECT AWARDS

Raley Field (Triple A Ballpark), Development Partnership Award of Excellence, 2001, California Association of Local Economic Development; Special Recognition, Regional Partnership Awards, 2002, Sacramento Area Council of Governments.

Joe Serna Jr. Cal/EPA Headquarters Building, International Earth Award, 2004, Building Owners & Managers Association; Governor's Environmental and Economic Leadership Award; Design Build Institute 2002 Design Excellence Award; Construction Link Magazine Outstanding Engineering Award; American Public Works Association Award.

Sacramento Army Depot (First Successful Army Base Conversion), Economic Development Achievement Award, 1996 - Business Facilities Magazine.

TEACHER TRAINING & CERTIFICATION

Faculty Diversity Internship Program, Los Rios Community College and California State University of Sacramento, Completed 2008
California Teacher of English Learners Exam, Passed 2007
Introduction to Cross-Cultural and Language Development, University of San Diego, 2007