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Adjusting payroll with changes in business volumes: An examination of Nevada gaming properties

Toni A. Repetti

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ADJUSTING PAYROLL WITH CHANGES IN BUSINESS VOLUMES: AN
EXAMINATION OF NEVADA GAMING PROPERTIES

by

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Bachelor of Science
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A dissertation submitted in partial fulfillment
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August 2011
THE GRADUATE COLLEGE

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entitled

Adjusting Payroll with Changes in Business Volumes: An Examination of Nevada Gaming Properties

be accepted in partial fulfillment of the requirements for the degree of

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August 2011
ABSTRACT

Adjusting Payroll with Changes in Business Volumes: An Examination of Nevada Gaming Properties

by

Toni Ann Repetti

Dr. Michael Dalbor, Examination Committee Chair
Professor of Hotel Administration
University of Nevada, Las Vegas

This dissertation analyzes expense preference behavior by managers of Nevada casinos. Annual aggregate data is obtained from the Nevada Gaming Control Board from 1990 to 2010. Using ordinary least squares regression, three models are run to account for various payroll related expenses. The dependent variable in the first model is number of employees. The second model uses salaries and wages as the dependent variable and the third model uses total payroll. All models include predictor variables of total revenue as an indication of size, a dummy variable for market concentration and a dummy variable for recessionary periods.

The finding show that larger casinos spend more in payroll related expenses. Results indicate that for each 1% increase in revenue, number of employees increases 0.84%, salaries and wages increase 0.96% and total payroll increases 0.99%. The significant positive relationship between revenue and payroll related expense may be an indication of expense preference behavior by managers since larger firms typically have more layers of management. The additional layers also cause a separation between owners and managers and the more layers, the more separation. The market share variable is nonsignificant in all three models.
The recession variable was significant and negative in all models. During recessionary periods, Nevada casinos decrease number of employees 35.5%, salaries and wages 7.7% and total payroll 5.2%. The negative significant relationship between the recession variable and payroll related expenses may also be an indication of expense preference behavior by Nevada casino managers during non-recessionary periods. Since managers are able to decrease payroll related expense after controlling for the change in business volumes, they are most likely operating inefficiently during non-recessionary periods.
ACKNOWLEDGEMENTS

First and foremost I would like to thank my family and in particular my father and step-mother who supported me through the last three years even when they thought I may have lost my mind when I left a well paying job in corporate America to go back to school. Secondly, I would like to thank my committee members. Dr. Michael Dalbor, who as my chair, understood what it was like to write a dissertation when coming from a business background. Your insight, guidance and direction from our very first conversation have been invaluable. I would like to thank Dr. Ashok Singh for your amazing statistical guidance and who I knew I could turn to, even when the text books did not provide the answers. I would like to thank Dr. Bo Bernhard for your feedback, great ideas for future research in this area, and support of my idea of trying to understand a little better about how this town we grew up in operates. I would also like to thank Dr. Robert Chatfield for your support and guidance through the process.

These last three years, have brought a lot of great mentors, colleagues and friends. Many I have learned from directly, while with other we learned together. I would especially like to thank Mike Ahlgren and Susan Roe who without their support, encouragement, and laughter I am sure the experience would not have been as enjoyable.
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CHAPTER I
INTRODUCTION

The main goal of many firm managers in the United States is to maximize the wealth of the shareholders. Casino firms are no exception. Some of the largest gaming companies in Nevada have company mission statements or goals in which shareholder wealth maximization is their main concern. MGM Resorts International’s (2011b) mission statement states “Our mission is to deliver our winning combination of quality entertainment, luxurious facilities and exceptional customer service to every corner of the world in order to enhance shareholder value and to sustain employee, customer and community relationships”. Boyd Gaming’s (2011) corporate mission states that “through teamwork, we strive to maximize shareholder value, to be among the leading companies in our industry and to provide opportunities for all while we support and enhance our communities”. Both of these corporations list increasing shareholder value as the first goal.

Most Nevada gaming companies do not have public mission statements, though they still note that shareholder wealth maximization is a goal of the firm. Station Casinos, Inc. (2006) stated in their 2005 annual report that acquiring land and properties was one of their keys to driving shareholder value over the next decade (p. 52). TPG Capital, one of the two private equity groups that owns Caesars Entertainment, formally Harrah’s, states on their website, “Our goal is to help management teams build long-term value that benefits all stakeholders” (TPG Capital, n.d.). American Casino & Entertainment Properties, LLC (2009) does not state that shareholder maximization is a specific goal, but they do state “management’s focus on increasing operating cash flow”. These five
companies alone account for 47 of the 256 casinos reported in the *2010 Nevada Gaming Abstract* (Nevada State Gaming Control Board, 2010) and 47 of the 68 publicly owned casinos in this report. This indicates the importance of shareholder wealth maximization to Nevada casino companies.

Over the last five decades, some researchers have questioned whether managers are actually trying to increase the wealth of shareholders or if they are more concerned with increasing their own utility (Carter & Stover, 1991; Edwards, 1977; Gropper & Oswald, 1996; Hannan, 1979; Hannan & Mavinga, 1980; Verbrugge & Goldstein, 1981; Verbrugge & Jahera, 1981; Williamson, 1963). This concern led to the study of expense preference behavior by managers. Expense preference behavior is when managers attempt to increase their own well being with additional pay or perquisites such as increased staff, luxurious offices, travel or entertainment (Williamson, 1963). In addition to the empirical research on expense preference behavior there are many recent business examples of managers of publicly traded companies acting in ways to better themselves at the expense of the shareholders.

In 1999, Enron’s Board of Directors allowed Andrew Fastow, chief financial officer, to personally set up and run numerous partnerships which were involved in hedging transactions for Enron (Gray, Frieder, & Clark, 2005). Enron executives also booked inflated and non-existent revenues amounting to $1.4 billion between 1997 and 2001. These revenues were really just bank loans (Mills, 2003). By 2001, complaints were mounting that these false revenues and partnerships were doing nothing more than making Enron appear more attractive to investors and credit rating agencies and affording top executives more perks and benefits (Gray et al., 2005). At the onset of these
complaints, the company stock price fell rapidly and market capitalization declined more than $60 billion. While management profited, shareholders lost wealth due to the fraudulent revenue and loan transactions (Novack, 2003). Upon further investigation it was determined that these transactions, which were described as Enron selling assets to itself, amounted to $35 million in management fees going to top executives with Fastow alone receiving $7 million (Gray et al., 2005). Not only did shareholders lose value as the stock price dropped, there was also less cash available to them upon liquidation of the company since this cash was paid to top executives as management fees and bonuses.

Around this same time, Tyco was also being investigated for accounting inaccuracies and excessive top executive perks. Tyco executives were hiding company losses on mergers, one of which amounted to $379 million, and gave $170 million in interest free loans to each other with company funds. Most of these loans were never repaid and instead were converted into unapproved bonuses. Chief executive officer (CEO) Dennis Kozlowski was also found to be spending exorbitant amounts to fund his extravagant lifestyle (Gray et al., 2005). Kozlowski spent $135 million for items such as antiques, art, decorating bills, a corporate apartment which only he lived in, and a $2.1 million birthday party for his wife. Total losses were estimated at over $600 million (Kenny, 2008). Some doubt whether the accounting transactions were actually misrepresented (Mills, 2003), but there is no doubt that spending $600 million on personal expenses was not in the best interest of the shareholders.

One of the largest corporate scandals involving moral hazard by top executives was that of Adelphia Communications, a US cable operator. According to Assistant Attorney General Larry Thompson, due to faulty accounting, personal expenditures, and hundreds
of millions of dollars in theft, the company founders, the Rigas family, caused investors to lose over $60 billion (Gray et al., 2005). Some of the personal activities included $252 million in personal brokerage activities, $66 million in personal loans, $26 million in landscaping to preserve the view at the family home, $13 million for a golf course on the family’s land, a $6,000 private jet expenditure to deliver a Christmas tree every year to the family, and 17 company cars (“Adelphia founder”, 2004; Gray et al., 2005). The actions of the executives wiped out all the investor holdings and forced the company into bankruptcy (Mills, 2003). During his testimony, assistant treasurer Michael Mulcahey stated that he understood that the company was owned by shareholders and that they were indirectly his boss (“Adelphia founder”, 2004). Knowing this he ultimately still did what the Rigas family told him since he directly reported to them (“Adelphia founder”, 2004).

During the 2007-2009 government bailout of banks and mortgage companies, CEOs were also acting in unscrupulous ways. American International Group (AIG) received $85 billion in government bailout money which gave the US government an 80% stake in the company. Less than a week after receiving the bailout, top executives went on a week-long retreat spending over $440,000 on rooms, meals and spa treatments (Ross & Shine, 2008). Moreover, the CEO received a bonus of $15 million which he claims was already substantially reduced due to poor performance (Ross & Shine, 2008). AIG was not the only company under scrutiny. Bank of America was also criticized for paying $15 billion for Merrill Lynch bonuses for 2008, a year in which the company had a fourth quarter loss of $21 billion and an annual loss of $11 billion (Blodget, 2009). These bonuses were paid after Bank of America received $25 billion in government assistance in 2007 and $20 billion in cash and a $100 billion guarantee for loss of assets in January
2009 (Rucker & Stempel, 2009). Bank of America paid back the $45 million in government assistance by the end of 2009 (Ellis, 2009).

All the companies previously discussed were publicly traded companies with common stockholders. The CEO and top executives are hired by the Board of Directors and form agency relationships. When there is an agency relationship, there is the potential for agency problems since both the principal and the agent may have different goals. The goal of the CEOs and other high level executives should have been to increase the wealth of the shareholders and not just themselves. By behaving the way these managers did they were maximizing their own utility at the expense of shareholders. The shareholders were losing value and wealth at the same time the executives were increasing their own wealth. These recent business examples show that executives do not always maximize the value of the firm and instead maximize their own utility which supports expense preference behavior by managers.

Research shows that managers who exhibit expense preference behavior most likely spend more in payroll related expenses (Arnould, 1985; Awh & Primeaux, 1985; Carter & Stover, 1991; Edwards, 1977; Gropper & Oswald, 1996; Hannan, 1979; Hannan & Mavinga, 1980; Lewin, Derzon, & Margulies, 1981; Verbrugge & Goldstein, 1981; Verbrugge & Jahera, 1981; Williamson, 1963). This is a major concern for hospitality firms because payroll expenses are one of the top two expenses in hospitality firms, depending on the subsector. In hotels, payroll is the largest expense (PKF Hospitality Research, 2005). Payroll expense including all taxes and benefits in hospitality firms are approximately between 30% and 35% of revenues (PKF Hospitality Research, 2005;
Quek, 2000). These same payroll expenses are between 40% and 50% of total expenses (PKF Hospitality Research, 2005; Quek, 2000).

This is also true for casinos. In Nevada casinos, payroll and benefits are the largest expenses where they average 29.5% of gross revenue (Nevada State Gaming Control Board, 2010). This average is for all 256 casinos with over $1 million in gross revenue for the fiscal year ending June 30, 2010. In casino jurisdictions outside of Nevada, payroll expenses are the first or second largest operating expense only behind gaming taxes (American Gaming Association, 2007, 2008, 2009, 2010).

Payroll expenses are also a very controllable expense in the hospitality industry. They are typically adjusted with changes in business volumes. From 1980 to 1998, the correlation coefficient between revenue and labor costs per available room for hotels was 0.9924 (Quek, 2000). Hospitality firms have two options when adjusting payroll with business volumes. Companies can decrease wages or decrease the number of employees.

Surveys by Towers Perrin, Watson Wyatt and Hewitt Associates in 2009 find that in the current recession firms across industries are using layoffs rather than wage reductions to adjust payroll expenses (Giancola, 2009). The ratios range from 3.4:1 to 6.4:1 in favor of layoffs over pay cuts. This means that between 34% and 64% of all firms surveyed are laying employees off during the recession, while only 10% are cutting wages. Campbell and Kamlani’s (1997) survey concerning why wages stayed the same in 34 different industries during the recession in 1990-1991 finds that the strongest reason is that cutting wages would cause the most productive employees to leave. They find that if firms lay employees off instead of cutting wages to save expenses, they may be able to terminate the least productive employees.
Nevada gaming companies are also faced with the decision of laying off employees or cutting wages when business volumes decrease. When business volumes decreased immediately after September 11, 2001, casinos laid off more than 10,000 employees in response to the lower amount of visitors (Benston, 2008b). During the 2007-2009 recession, management also laid off workers, but at a slower pace than in 2001 when they immediately terminated employees. During 2007, MGM Resorts International laid off 1,000 employees and Caesars Entertainment laid off 2,000 employees (Benston, 2008b). MGM Resorts International also cut an additional 400 management jobs in early 2008. The company stated that these layoffs were not due to the recession but rather efficiencies from mergers that occurred 3-8 years earlier (Benston, 2008a).

Wynn Resorts took a different approach at the onset of the 2007-2009 recession. They did not have any layoffs in 2007. Instead the company was able to decrease 300 jobs through attrition as employees left and the company did not refill their positions (Benston, 2008a). In 2009, Wynn Resorts also cut salaries for all manager by 10-15%, reduced all full-time employees from 40 hours per week to 32 hours per week and suspended bonuses and 401K company matching funds (Spillman, 2009). Similar to Wynn Resorts cutting hours, many other companies cut hours in addition to layoffs (Knightly, 2008). Nevada gaming companies were trying to save expenses with the layoffs, reduced hours, and benefit decreases.

**Problem Statement and Research Questions**

The purpose of this dissertation is to evaluate Nevada casino managers and to assess if they may be maximizing their own utility or if their goal is wealth maximization for the shareholders. Specifically this study evaluates management’s behavior in regards to
payroll related expenses. For the purpose of this dissertation, payroll related expenses will include number of employees in addition to wages and benefits. The specific research questions are as follows:

1. Are managers of Nevada gaming companies utility maximizers or shareholder wealth maximizers when it comes to payroll related expenses?
2. Do payroll related expenses in Nevada gaming companies vary with the size of the company?
3. Does level of competition affect the number of employees and the amount of payroll related expenses in Nevada gaming companies?
4. Did the recession affect payroll related expenses and number of employees in Nevada casinos?

**Significance of Study**

Shareholder wealth maximization is not always the goal of managers in many industries and casinos are no different. It is essential for casino owners to know if their managers are striving to achieve wealth maximization for the owners or for their own utility. Every dollar that managers spend to maximize their own utility is one dollar less that the owners receive. While this is important when firms are making money, it is even more important when the firm has declining revenues and profit margins.

The most commonly used indicators for profit in casinos are EBITDA (earnings before interest, taxes, depreciation and amortization) and EBITDA margin (EBITDA divided by net revenue). Net revenues are used in casinos to adjust for the complimentaries given to players. During the largest gross revenue period for Nevada casinos, fiscal year ended June 30, 2007, Nevada casinos averaged an EBITDA margin of
25.4% (Nevada State Gaming Control Board, 2007). This margin dropped to -8.8% for fiscal year ended June 30, 2009 (Nevada State Gaming Control Board, 2009). In addition, the net income before taxes margin (net income before income taxes divided by net revenue) decreased from 10.1% to -34.8% during this same time period. Casinos have seen these numbers increase in 2010 with an EBITDA margin of 9.5% and a net income before taxes margin of -18.7% (Nevada State Gaming Control Board, 2010). The number of casino firms in Nevada also decreased between 2007 and 2009 by almost 4% and 2010 saw another decrease of almost 2% from 2009. This decrease is still continuing, including the recent announcement of the closure of the almost 60 year old Sahara in Las Vegas (Stutz, 2011). Firms are unable to operate successfully with these low margins.

Casino shareholders need to be aware if management is spending more than needed to increase their utilization because it affects the profitability of the casino. With decreasing margins and the increasing number of firms exiting the market due to financial performance, shareholders need managers whose goal is maximizing shareholder’s wealth. During times when casinos are running negative EBITDA margins, if the management team was maximizing shareholder wealth during the profitable times, the owners may have a better chance at making it through the down times.

The gaming industry in Nevada is a good industry in which to test expense preference behavior by managers. Williamson (1963) found that industries with high barriers to entry are more likely to have managers that exhibit expense preference behavior. The gaming industry in Nevada has very high barriers to entry due to the regulatory environment and high fixed asset costs at start up even though almost anyone is able to
apply for a gaming license and operate a casino if approved. The average gross fixed asset costs for a Nevada casino are approximately $234 million, while the largest casinos on the Las Vegas Strip have average fixed assets of almost $1.8 billion (Nevada State Gaming Control Board, 2010). The regulatory environment in Nevada is one that is highly regulated and previous research indicates that high levels of regulation may lead to expense preference behavior by managers (Gropper & Hudson, 2003; Gropper & Oswald, 1996; Mixon & Upadhyaya, 1996; Mixon & Upadhyaya, 1999).

Separation of ownership is another factor that is an indicator in previous expense preference behavior research and findings show that a greater separation of ownership leads to greater expense preference behavior by managers (Arnould, 1985; Hannan & Mavinga, 1980; Kim, Dalbor, & Feinstein, 2007; Verbrugge & Goldstein, 1981). These previous studies differ in how they measure separation of ownership. Different measures include the percentage of outstanding shares owned by the Board of Directors, whether the firm is owner or manager controlled, percentage of the firm that the primary owner owns and whether the firm is a stock or mutual organization.

While individual casino information is not available, in fiscal year 2010, 76.2% of gross gaming revenue in Nevada was produced by 68 publicly owned casinos (Nevada State Gaming Control Board, 2010). Being publicly owned, these casinos have a high separation of ownership. Wynn Resorts Limited is an example of the separation of ownership that occurs in Nevada publicly owned casinos. Steve Wynn, CEO, only owns 8% of outstanding shares (Wynn Resorts Ltd., 2011). In addition the two largest shareholders, who own 20% and 15% each, are institutional investors and there are 452 large block owners (Wynn Resorts Ltd., 2011). MGM Resorts International, which
owns 12 of the publicly owned casinos in Nevada, has no employee who holds over 1% of outstanding shares (MGM Resorts International, 2011a). The largest shareholder, Tracinda Corporations, is an institutional investor and owns 27% of outstanding shares (MGM Resorts International, 2011a). Table 1 is a list of the publicly owned casinos that are included in the aggregate data analyzed in this dissertation.

Table 1

**Publicly Owned Casinos in Nevada for 2010**

<table>
<thead>
<tr>
<th>Corporation</th>
<th>Casino</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Casino &amp; Entertainment LLC</td>
<td>Aquarius Casino Resort</td>
</tr>
<tr>
<td></td>
<td>Arizona Charlie’s Boulder</td>
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<td></td>
<td>Arizona Charlie’s Decatur</td>
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<tr>
<td></td>
<td>Stratosphere Tower, Hotel &amp; Casino</td>
</tr>
<tr>
<td>Ameristar Casinos, Inc.</td>
<td>Cactus Petes Hotel Casino/Horseshu Hotel and Casino</td>
</tr>
<tr>
<td>Archon Corporation</td>
<td>Pioneer Hotel and Gambling Hall</td>
</tr>
<tr>
<td>Boyd Gaming Corporation</td>
<td>California Hotel and Casino</td>
</tr>
<tr>
<td></td>
<td>Fremont Hotel and Casino</td>
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<td></td>
<td>Gold Coast Hotel and Casino</td>
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<td></td>
<td>Main Street Station Hotel, Casino and Brewery</td>
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<tr>
<td></td>
<td>Orleans Hotel and Casino</td>
</tr>
<tr>
<td></td>
<td>Sam’s Town Hotel and Gambling Hall</td>
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<tr>
<td></td>
<td>Suncoast Hotel and Casino</td>
</tr>
<tr>
<td>Colony Resorts LVH Acquisitions, LLC</td>
<td>Las Vegas Hilton</td>
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<tr>
<td>Hard Rock Hotel Holdings, LLC</td>
<td>Hard Rock Hotel &amp; Casino</td>
</tr>
<tr>
<td>Harrah’s Entertainment, Inc.</td>
<td>Bally’s Las Vegas</td>
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<td></td>
<td>Bill’s Gamblin’ Hall &amp; Saloon</td>
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<td></td>
<td>Caesars Palace</td>
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<td></td>
<td>Flamingo Las Vegas/O’Sheas</td>
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<td>Harrah’s Casino Hotel Las Vegas</td>
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<td>Harrah’s Casino Hotel Laughlin</td>
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<td>Corporation</td>
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<tr>
<td>Harrah’s Casino Hotel Reno</td>
<td>Harrah’s Casino Hotel Reno</td>
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<td>Harrah’s Resort Hotel/Casino and Harrah’s</td>
<td>Harrah’s Resort Hotel/Casino</td>
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<tr>
<td>Casino Hotel Lake Tahoe</td>
<td>Casino Hotel Lake Tahoe</td>
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<tr>
<td>Imperial Palace Hotel &amp; Casino</td>
<td>Imperial Palace Hotel &amp; Casino</td>
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<tr>
<td>Paris Las Vegas</td>
<td>Paris Las Vegas</td>
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<tr>
<td>Planet Hollywood Resort &amp; Casino</td>
<td>Planet Hollywood Resort &amp; Casino</td>
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<tr>
<td>Rio Suite Hotel &amp; Casino</td>
<td>Rio Suite Hotel &amp; Casino</td>
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<tr>
<td>Herbst Gaming, Inc.</td>
<td>Buffalo Bill’s Resort &amp; Casino</td>
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<td>Primm Valley Resort &amp; Casino</td>
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<td></td>
<td>Sands Regency</td>
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<td>Terrible’s Hotel and Casino</td>
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<td>Terrible’s Rail City Casino</td>
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<td></td>
<td>Whiskey Pete’s Hotel &amp; Casino</td>
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<tr>
<td>Jacobs Entertainment, Inc.</td>
<td>Gold Dust West</td>
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<tr>
<td>Landry’s Restaurants, Inc.</td>
<td>Golden Nugget</td>
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<tr>
<td></td>
<td>Golden Nugget Laughlin Hotel &amp; Casino</td>
</tr>
<tr>
<td>Las Vegas Sands Corp.</td>
<td>Venetian Casino Resort/Palazzo Resort Hotel Casino</td>
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<tr>
<td>MGM Resorts International</td>
<td>Aria Resort &amp; Casino</td>
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<td>Bellagio</td>
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<td>Circus Circus Hotel &amp; Casino</td>
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<td>Circus Circus Hotel/Casino – Reno</td>
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<td>Excalibur Hotel and Casino</td>
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<td>Gold Strike Hotel and Gambling Hall</td>
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<td>Luxor Hotel and Casino</td>
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<td>Mandalay Bay Resort &amp; Casino</td>
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<td>Mirage</td>
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<td>Monte Carlo Resort &amp; Casino</td>
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<td>New York - New York Hotel &amp; Casino</td>
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<td>Silver Legacy Resort Casino</td>
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<tr>
<td>Monarch Casino &amp; Resort, Inc.</td>
<td>Atlantis Casino Resort</td>
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<tr>
<td>Pinnacle Entertainment, Inc.</td>
<td>Boomtown Reno</td>
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<tr>
<td>Riviera Holdings Corporation</td>
<td>Riviera Hotel &amp; Casino</td>
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<tr>
<td>Station Casinos, Inc.</td>
<td>Aliante Station Casino + Hotel</td>
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<td>Boulder Station Hotel &amp; Casino</td>
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</table>
This dissertation will also add to the current research on expense preference behavior. In particular, it will increase the amount of research on expense preference behavior by managers in hospitality organizations. This will be the third known study on expense preference behavior in hospitality and the only one concerned with casino firms. In addition, this will be the only known expense preference study that will evaluate management’s reaction to recessionary periods in regards to payroll related expenses. This study will also provide a quantitative analysis of how Nevada casino managers adjust payroll related expenses under varying organizational and economic differences.

**Organization of Dissertation**

This dissertation is organized into five chapters. The first chapter includes an introduction, a description of the problem statement and research questions, and the significance of this dissertation. Chapter 2 provides the review of the related literature. In Chapter 3, the research methods and design are presented and include the proposed
statistical analysis technique, conceptual models, and hypotheses. The results of the hypothesis testing and answers to the research questions are presented in Chapter 4. The final chapter includes a discussion of results, implications, limitations and recommendations for future research.
CHAPTER II
REVIEW OF RELATED LITERATURE

Introduction

Chapter 2 reviews the theory and literature pertinent to expense preference behavior by managers. The first two sections will discuss shareholder wealth maximization and agency problems which can often be attributed to managers not maximizing shareholder’s wealth. The third and fourth sections will discuss expense preference theory, a conflicting theory to shareholder wealth maximization.

Shareholder Wealth Maximization

There are four main types of business organizations: sole proprietorships, partnerships, limited liability companies and corporations. Within each of these types, there is a wide variety of ways in which to structure a particular firm. For example, there can be anywhere from one owner to thousands, the firm can be public or private, and the firm can be owner managed, use a management company, or have an internal management team. Regardless of a firm’s structure, shareholders exist. Shareholders can include the owners in sole proprietorships and partnerships or stockholders, all of whom have the potential to profit if the firm does well, but they also carry the risk of loss if the firm does poorly.

Graham, Smart, and Megginson (2010) explain what shareholders expect in return for this risk. Shareholders are only paid after all other stakeholders, such as customers, employees, creditors, and suppliers are paid. The shareholders hold a residual claim which means they take the last place in line and assume a risk and with that risk they expect maximum return.
The financial goal of the firm is shareholder wealth maximization. The managers of a firm, regardless of personal ownership stake, should do what is within their control to maximize wealth for the shareholders. This wealth can come in the form of profit distributions, dividends, or an increase in stock price. Jensen and Meckling (1976) discuss this theory of the firm by explaining the behavior of managers in differing contexts. When a firm is wholly owned and managed by one manager, the manager will make decisions to maximize his wealth. Manager wealth may come in the form of salary or non-pecuniary items such as offices, staff, or donations to charity. The owner/manager can exchange the profit the firm would make and have distributed to themselves for their increased salary or non-pecuniary items and be in the same wealth position. As the owner/manager sells off a portion of the firm, the new owners are only willing to pay a price lower than what the old owner wants because they are aware that they will need to incur monitoring costs to make sure the manager still runs the firm with the goal of maximizing the wealth of all the new owners. The larger portion of the firm that is sold, the higher the monitoring costs and the lower the price the new owners are willing to pay. In all cases the manager is maximizing shareholders’ wealth, whether they are maximizing it for themselves or the monitoring is causing them to act this way.

Fatemi, Ang, and Chua (1983) want to further validate what Jensen and Meckling (1976) believe. They study manager goals in large management controlled firms. By looking only at firms that had management control which was separate from the owners, they are able to evaluate if managers are most likely to behavior in non-wealth maximizing goals which conflicts with the goal of shareholder wealth maximization. The
authors find that shareholder wealth maximization was the dominant goal of management.

Shareholder wealth maximization by managers is also the main goal that is taught in finance classes, in and outside of hospitality. Santos, Vega, and Barkoulas (2007) study fourteen of the most frequently used corporate finance textbooks and find that all of them state that the goal of U.S. firms is unconstrained shareholder wealth maximization. In hospitality finance textbooks this is also stated as the goal of financial managers (Chatfield & Dalbor, 2005, p.7).

Firms can be set up in a variety of ways, but no matter what the organizational structure there are shareholders. Since shareholders have a residual claim on a firm, they require a maximum return for their risk (Graham et al., 2010). The goal of managers should be to maximize shareholders wealth to compensate for this risk. This is consistently described as the main financial goal of managers in both empirical research and in textbooks (Chatfield & Dalbor, 2005; Fatemi et al., 1983; Jensen & Meckling, 1976; Santos et al., 2007). Shareholder wealth maximization is not only theory as described above, but the true goal of many organizations in the gaming industry. This goal is stated in many of the gaming companies’ mission statements as discussed in the introduction (Boyd Gaming, 2011; MGM Resorts International, 2011b; Station Casinos Inc., 2006; TPG Capital, n.d.).

**Agency Problems**

While, sole proprietorships are the most common type of business organization, corporations are the preferred structure for large firms due to the limited liability of the owners (Brooks, 2010; Chatfield & Dalbor, 2005). With sole proprietorships, the owner
is typically the manager but is not required to be. On the other hand, a corporation may have a separation between owners and managers with the Board of Directors. When an owner hires a manager or management team to work for them they are establishing an agency relationship (Chatfield & Dalbor, 2005). In an agency relationship the manager (agent) is hired to act on behalf of the owner (principal) and do what is in the best interest of the owner by maximizing shareholder wealth (Brooks, 2010; Titman, Keown, & Martin, 2011). With any agency relationship, there can be potential problems because there are conflicting interests between the owners and managers or various other stakeholders. Conflicts may arise because managers want to maximize their utility with increased pay and benefits, but these increased costs can come at the expense of the owners (Brooks, 2010).

Potential agency problems include information asymmetry, adverse selection and moral hazard (Baye, 2010). Information asymmetry occurs when one party has more information than another and can occur not only between owners and managers, but also between firms and customers and even between some employees and other employees (Baye). Adverse selection is a form of information asymmetry in which an individual tries to conceal information from others. Moral hazard is an action that one party takes and hides from the other (Baye). Moral hazard on the part of managers within a casino is the concern of this dissertation.

Holmstrom (1982) states that moral hazard occurs when an agent’s actions cannot be readily observed by the principal. The most common types of moral hazard are shirking and excessive consumption of perquisites (Chatfield & Dalbor, 2005). Chatfield and Dalbor define shirking as employees doing as little work as necessary without affecting
their pay. This can occur at any level in the organization, including a CEO taking extra time off when paid a fixed salary or line employees taking extra breaks or doing their job at a slower pace than they are capable (Chatfield & Dalbor). Excessive consumption of perquisites (“perks”) occurs when managers give themselves perks or other financial benefits to increase their value (Chatfield & Dalbor). These additional perks may include fancy offices, corporate jets, corporate apartments or vacation homes, and company donations to charities of their choosing (Chatfield & Dalbor).

Shankman (1999) states that since the goals of the agent and principal can be in conflict it may be difficult and expensive to control these problems. The main reason is that both parties have different attitudes toward risk and all else being equal they will have different courses of action because of this varying risk. One example of the varying amount of risk each party is willing to take is discussed by Jensen (1986). Jensen finds that managers have an incentive to grow the firm because growth equates to more resources under the manager’s control. This growth may not be in the best interest of the owners if the net present value of the project is negative or the rate of return is below that which the owner requires (Jensen). The manager may still grow the company because they will have more control and their risk does not change since the owner takes all the risk (Jensen).

Even though it may be difficult or expensive, agency problems can be controlled with well written and enforced contracts and monitoring. Establishing good contracts and monitoring managers incurs additional costs which are called agency costs. Jensen and Meckling (1976) state that agency costs are the sum of the principal’s monitoring costs, bonding expenditures by the agent and the residual loss of the owner. The authors define
residual loss as the dollar equivalent of the reduction in welfare experienced by the
principal due to the divergence by the agent, which equates to the costs of the manager’s
moral hazard (Jensen & Meckling, 1976).

There are numerous reasons for firms to increase agency costs to protect the wealth of
their owners. Jensen and Meckling (1976) believe that the magnitude of the agency costs
depends on three factors: the taste of the manager, the ease in which the manager can
make their own decisions, and the monitoring costs incurred to evaluate the manager.
The more extravagant the taste of the manager, the higher the agency costs to control and
monitor. In addition, the more leeway a manager has in decision making, the higher the
agency costs. Ang, Cole, and Lin (2000) find that agency costs will increase with an
outside manager and these costs are inversely related to the managers’ ownership share in
the firm meaning that as the manager owns less of the company, agency costs will
increase. Agency costs will also increase as the number of non-manager shareholders
increase, but will decrease with external monitoring from banks (Ang et al., 2000).

The size of the firm is also a factor in regard to agency costs. Berle and Means
(1932) note that as companies increase their number of shareholders, no one shareholder
holds enough shares to want to incur the monitoring costs and that management is
released from the requirement of serving the goal of the shareholders. This belief has
been greatly debated and Jensen and Meckling (1976) find that larger organizations incur
more agency costs even though monitoring is more difficult.

While the goal of a firm’s managers should be to increase the value of the firm for all
shareholders, this may not always be achieved. Managers and owners each have different
interests and these interests typically involve maximizing their own wealth and not the
wealth of the other party. When this conflict happens, agency problems arise. These agency problems though can be monitored and controlled with effective contracts and monitoring, but at an increased cost. Agency costs generally increase as a company gets larger and there is more separation between the owners and managers. Minimizing agency problems and agency costs can effectively lead managers to maximize the value of the firm for the owners.

**Expense Preference Theory**

The agency problem of moral hazard can occur in many ways. One way is by expense presence behavior by managers. Expense preference behavior occurs when managers do not maximize the value of the firm but instead maximize their own personal utility (Williamson, 1963).

Williamson is known for his seminal work on expense preference theory. This involves management’s potential desire for increased staff, expenditures for perquisites, and discretionary funds to the detriment of shareholders. Since there are no limits on how a manager spends their pay they typically prefer an increased salary over other expenses, but there are advantages to managers increasing perquisites rather than taking a larger salary. One advantage is that there are no personal income taxes on the perquisites like there are on pay. Also, perquisites are typically less visible to other employees and board members as compared to salary. Williamson notes the existence of discretionary spending by managers, but he also notes the existence of satisfactory profits. Managers still need to meet an acceptable level of profit to get satisfaction from their work. Also, increased discretionary profits, which are profits above the required minimum profits, may allow more spending on other perquisites managers want.
Williamson uses least squares regression to analyze various industries and the relationship between executive compensation and multiple independent variables that he believes are indicators of expense preference behavior by managers. General and administrative expenses are expected to increase as a sign of expense preference behavior. The variable for market concentration is used as an indicator for competition with a higher market concentration equating to less competition. A large market concentration increases the opportunities for management discretion. Barriers to entry are represented by a dummy variable with a value of “0” for low barriers to entry and a value of “1” for high barriers to entry. Williamson believes that a high barrier to entry will increase expense preference behavior by managers. The final variable considered is the composition of the board of directors. An increase in the amount of management representation on the board may lead to an increase in management’s discretionary spending.

For three different time periods (1953, 1957, and 1961), general and administrative expenses and market concentration are significant and positively related to executive compensation. The barrier to entry variable is significant and positively related to executive compensation in two of the three years. Of the eight significant coefficients, six are significant at the .001 level and two are significant at the .025 level which shows the high significance of these variables. The composition of the board is significant in only one of the three years and the significance was only at the .10 level.

Williamson follows the quantitative research with field study observations and finds a number of key reactions by managers in response to adversity. At one firm in particular, following a sharp decrease in profits, management reacted by reducing company-wide
salaried employment 32%, corporate employment 41%, research and development staff 68%, and public relations staff 88%. These reductions were in number of employees and not in salaries. These changes all incurred with production remaining the same. Return on investment, which had fallen following the decrease in profits, doubled after these adjustments. When profits are high, expenses may not be monitored closely. However, as profits drop drastically, expenses also drop and undergo extensive scrutiny. These are signs that managers may have been maximizing their utility instead of the value of the firm when profits were higher and may be an indication of expense preference behavior.

Rees (1974) supports Williamson’s (1963) findings and explains multiple ways in which managers of a firm can depart from shareholder wealth maximizing behavior. Two of these cases violate cost minimization and one of them, while minimizing costs, does not maximize profits. The two cases that violate cost minimization are the “pure staff surplus model” and the “excess staff intensity model”. The “pure staff surplus model” can occur when managers of a firm increase staff with no increase in output or when output decreases but staff remains the same. The “excess staff-intensity model” is when there is a higher ratio of staff to output than what is required. The case in which profits are not maximized is the “staff constrained model” which states that the only way a firm can increase staff is by increasing output.

Numerous studies have been done to build on Williamson (1963) and Rees’ (1974) findings. While there has been mixed results, the majority support the notion of expense preference behavior by managers. The following section is a brief description and summary of the studies that support or reject expense preference behavior by managers.
Expense Preference in Banking

A large number of studies, particularly earlier ones, were conducted in the financial services industry using banking and savings and loan companies. Edwards (1977) attempts to show that in highly regulated industries such as banks, expense preference behavior is more predominate than shareholder wealth maximizing behavior. Edwards analyzes the relationship between a bank’s labor costs and monopoly power in 44 metropolitan areas for 1962, 1964, and 1966. Using aggregate data from each market, regression analysis is conducted for eight models. Four of them include number of employees as the dependent variable and four include total salary and wage expense as the dependent variable. Under all models, monopolistic banks have a larger employee staff and higher labor expenses than competitive banks. The analysis also shows that management favors more staff over higher salaries in monopolistic markets. Edwards’ findings show that banks in monopolistic markets have lower profits even with higher interest rates due to expense preference behavior by managers. As competition increases so does profitability in those same banks because managers reduce costs to respond to the pressure of increased competition.

Hannan (1979) follows Edwards’ (1977) study by analyzing bank specific data and not aggregate data. This study evaluates 367 banks from 49 different markets in Pennsylvania during 1970 and uses models similar to Edwards. Hannan finds that banks that have a three-firm market concentration over 63% tend to exhibit expense preference behavior. This study also finds that managers hire more staff rather than paying higher salaries. Using aggregate and firm specific data, Edwards (1977) and Hannan (1979)
both find that bank managers in monopolistic markets exhibit expense preference behavior over shareholder wealth maximizing behavior.

These previous studies concerning competition and expense preference behavior by firm managers have mainly concentrated on excess staff and salary. Rhoades (1980) believes this is a short-sighted analysis since managers can use other expenses to achieve their overall aspirations, which may not only be about making more money. In addition to income, Rhoades states that managers aspire for power and influence, prestige among peers, and pleasure. Examples of expenses considered power and influence expenditures include number of employees, employee salaries, fringe benefits and publicity. Prestige among peers can be captured in expenses such as charitable donations, furniture, office supplies, and occupancy costs. Expenses categorized as pleasure include travel, entertainment, and memberships.

Unlike previous studies that only look at payroll related expenditures, Rhoades believes that these expenses concerned with power, prestige and pleasure also need evaluation. Rhoades evaluates two samples from 1976. The first consists of 524 commercial banks with detailed expense data and the second consists of 3,120 commercial banks across many counties and markets with aggregate expense data. Rhoades runs a multivariate regression with market concentration as the main independent variable and multiple dependant variables. The dependent variables represent various expenses expressed as a percentage of total assets. Three dependent variables are also included for total assets to employees ratio. Different categories of expenses include salary or furniture and equipment and different group of employees include total employees or administrative officers. The analysis for the first group of
banks whose data was obtained from the Functional Cost Analysis program does not support expense preference behavior by managers. The Functional Cost Analysis program was designed as a cooperative effort by all member banks and the Federal Reserve Banks to help develop a uniform cost accounting system for banking. These results were anticipated since participation in the program could mean that the banks are already cost conscious since the data is publicly available. Results of the second sample also reject expense preference behavior. The market concentration ratio variable is significant but negatively related. This shows that expenses are lower in high concentration markets (monopolies or oligopolies) than in low concentration (competitive) markets. Since this data is in aggregate, Rhoades does not believe this sample is biased like the sample of 524. The analysis of both samples rejects expense preference behavior by managers in the banking industry.

Hannan and Mavinga (1980) further evaluate the Pennsylvania banks analyzed by Hannan (1979) by including an independent variable that they believe may be an indicator of expense preference behavior by managers. They also evaluate additional expenses as possible indicators of management’s behavior. Hannan and Mavinga analyze a model in which the dependent variable is total salary and wage expense. Additionally two other models are analyzed with furniture and equipment expense as the dependent variable in one and net occupancy costs as the dependent variable in the other. Results of all three models show a positive and significant relationship between the dependent variable and the competitive nature variable. This means that bank managers in less competitive markets may exhibit expense preference behavior. Additional regression analysis is done with an independent variable for manager or owner-controlled banks. A
A firm is considered manager-controlled if no individual owns more than 10% of the common stock and is considered owner-controlled if the top shareholder owns over 25%. Banks in which one party owns between 10% and 25% of the shares are excluded from the study. Only firms that operate in one market are included. The results of the models indicate that managers in manager-controlled banks in less competitive markets exhibited expense preference behavior over owner-controlled banks for net occupancy costs and furniture and equipment expenses. The model for total salaries and wages expense is not significant at the .10 level.

Another study that evaluates expense preference behavior by analyzing competition and control of the firm is by Arnould (1985). Arnould’s dependent variable is the chief operating officer’s (COO) salary and bonuses. Moreover, to account for control of the firm, Arnould evaluates common stock owned by the entire board of directors, not just one party. Two dummy variables are included. One is if the board of directors owns less than 21% and one for 30% or less. The number of shares of common stock owned by the COO was included in the original model but was not significant. Banks which are part of a holding company are excluded since management control could not be determined. Findings show that manager-controlled banks in less competitive markets engage in expense preference behavior with regards to COO salary and bonuses. A modified model which deleted the management control variable was also run to include the firms in which management control could not be determined. In this model, managers in less competitive markets exhibit expense preference behavior over those in more competitive markets which is in line with results from the first analysis.
A number of studies evaluate the differences in management’s behavior in mutual savings and loans (S&L) and stockholder S&Ls. These studies use this distinction as an indicator of ownership structure. Depositors in mutual S&Ls are considered members but they have no residual claim, do not have to pay a purchase price, have no responsibilities for management, cannot dissolve the company, and have no chance for profit or loss if they are insured. Due to these characteristics, mutual S&Ls are considered to have a larger diffusion of ownership than stockholder S&Ls (Akella & Greenbaum, 1988). Also with the diffusion of ownership, managers in mutual S&Ls do not face the same level of pressure as those in stock S&Ls so they may exhibit more expense preference behavior (Verbrugge & Jahera, 1981). By not benefiting from the profits earned, managers may be enticed to spend more in perquisites to increase their benefit of running a successful firm (Verbrugge & Jahera).

Verbrugge and Jahera run two OLS regression models. The first examines 116 California S&Ls with deposits over $10 million for 1974-1976 and the second examines 330 S&Ls from California, Ohio and Texas. The dependent variable is total salaries and wages for both models and the independent variables of concern are market concentration and ownership structure. In the sample of California S&Ls, market concentration is not significant and the authors believe this is true due to the highly competitive nature of the entire market in the state. Mutual associations do indulge in higher personnel costs than stock associations in the California sample. This is consistent with operating results which show that return on assets (ROA) is lower for mutual S&Ls than for stock S&Ls. In the second sample, market concentration and ownership structure are only significant in 1 of the 3 years. In all three years though, the interaction between ownership and
market concentration is significant and positively related to personnel costs. This signifies that in less competitive markets, a manager of a mutual S&L may be more inclined to increase personnel costs than the manager of a stock S&L.

To expand on this study, Verbrugge and Goldstein (1981) evaluate three additional dependent variables: total costs excluding interest and advertising, personnel costs, and personnel and occupancy costs. These new variables are run for 126 banks in California and 50 in Los Angeles. In Los Angeles, the ownership indicator is negative and significant in all models which may indicate that stock S&Ls spend less in expenses than mutual S&Ls. For the California sample, two of the models show a significant negative relationship but the total costs excluding interest and advertising model does not. The authors do not provide information on the number of employees or their salaries so they cannot determine if the preference by managers is for more staff or higher pay.

Contradictory to the previous studies, Blair and Placone (1988) set out to show that in the U.S. S&L industry there is no evidence that a firm’s competitiveness or their concentration in a particular market has any effect on the amount of expense preference behavior the managers may exhibit. The authors utilize a sample of approximately 2,000 U.S. S&L institutions for the years 1977-1982 in their regression analysis. These firms are divided into quartiles based on size because there is an assumption that different size firms operate differently from each other. Once again, personnel expenditures are the dependent variable and independent variables include the Herfindahl index as an indicator for market concentration and an indicator variable for ownership structure. The market concentration variable was insignificant in all but the first few years for all size groups. The first few years of the study occurred prior to the deregulation of the S&L
industry, which could be a factor requiring additional research. The insignificance in the later years shows that there is no support for the belief that managers of firms with little competition exhibit expense preference behavior. In terms of ownership structure, the results were insignificant for the largest banks and significant for the smaller three groups but negatively related. The negative relationship shows that managers of stock S&Ls spend more than mutual managers on personnel expenditures. The reason for this could not be isolated with further analysis.

Mester (1989) acknowledges the fact that there are potential agency problems between stock S&Ls and mutual S&Ls, but studies the firms to understand if those problems are significant. She evaluates 149 S&Ls in California in 1982 with total costs as the dependent variable. This differs from most previous studies which were mainly concerned with personnel related expenses. Mester’s results are insignificant and fail to reject the hypothesis that mutual S&Ls are cost minimizers as compared to stock S&Ls.

Carter and Stover (1991) take a different approach to compare the differences between ownership structures. The authors study selected S&Ls that recently converted from mutual ownership to a stock association and look at the percentage of management ownership. The level of management ownership is determined by evaluating all stock purchases during the conversion by managers and directors. The three categories of ownership levels are 0%-15%, 15%-27%, and greater than 27%. Carter and Stover hypothesize that higher and lower levels of ownership will have managers maximizing profits but that managers in the middle level will increase employee compensation. Results for the ownership variables show that the 0%-15% ownership variable is negative and significant, the 15%-27% ownership variable is positive and significant at the .10
level, and the ownership >27% variable is negative and significant at the .12 level. The middle level may have a positive coefficient because managers at this level have enough power and influence to guarantee their jobs and they may be less concerned with their behaviors so they spend as they want. As large shareholders, managers in the highest ownership range make more money as the company makes more money so they may be more profit driven. Although it should be noted that these results are only significant at the .12 level and are not conclusive.

In the case where all potential market participants may exhibit expense preference behavior, competition alone will not suffice to curb expense preference behavior (Akella & Greenbaum, 1988). Akella and Greenbaum evaluate 386 S&Ls in California, Ohio and Texas and are concerned with ownership structure of the firm as the main indicator of expense preference behavior and not competition. They find that the greater diffusion of ownership in mutual S&Ls allows management to exhibit expense preference behavior by expanding the output mix beyond profit maximizing levels. The most likely reason is that there is less control and monitoring by owners in mutual S&Ls.

Smirlock and Marshall (1983) take an opposite approach to the expense preference argument held by many before them. They try to establish that due to market constraints, competition, contract specifications and monitoring managers that shareholder wealth maximization is the ultimate goal of managers and not increased utility like in the expense preference model. The authors defend this by showing, like Akella and Greenbaum (1988), that being a monopoly does not necessarily lead to expense preference behavior. Instead, wasteful spending can only occur in a monopoly if the managers are not owners and there is imperfect information and costly monitoring of
Smirlock and Marshall (1983) present two hypotheses, the Profit Dissipations Hypothesis (PDH) and the Agency-Theoretic Hypothesis (ATH). The PDH states that product market power, i.e. a monopoly, is what drives managers toward expense preference behavior. ATH states that further separation of ownership from management and greater hierarchy is what leads managers away from shareholder wealth maximizing behavior. The authors run a regression analysis on approximately 125 banks and S&Ls with number of employees as the dependent variable and determine that it is ATH that leads to expense preference behavior, not just being a monopoly. The evidence further suggests that firms are indeed shareholder wealth maximizers, not utility maximizers, but they are subject to agency costs which may lead to some expense preference behavior.

Smirlock and Marshall (1983) are also concerned with firm size in their study. They believe that previous studies have inadequately accounted for differences in organizational complexity so they attempt to address this by looking at firm size. Smirlock and Marshall state that the larger the firm, the more layered the organization and the more diffused the ownership will be which may allow managers to exhibit expense preference behavior. They hypothesize that the larger the firm, the greater the amount of expense preference behavior. Smirlock and Marshall show that as total assets increase, so does the level of labor expense. Market concentration also becomes nonsignificant when addressing firm size.

Williamson (1973) states the larger an organization the more likely managers will not operate as efficiently as smaller firms. Williamson believes the larger span of control for managers can only be accomplished by sacrificing attention to detail which will lead to less efficiency. Smirlock and Marshall (1983) support Williamson’s (1973) belief that at
each level of an organization some expense preference behavior by subordinates will occur. As the number of layers increase the amount of expense preference behavior throughout the organization will increase.

Blair and Placone (1988) also acknowledge the fact that size can be a factor but they only use it to split their sample. They do not include firm size as a variable. Akella and Greenbaum (1988) find that diffusion of ownership may cause higher agency costs and expense preference behavior by managers even when the mutual firms are smaller. In their sample, the average asset size for mutual S&Ls is $396 million while stock S&Ls are $533 million. Akella and Greenbaum (1988) support Berle and Means (1932) who state that as the number of shareholders increase and ownership becomes more diffused, management is released of the goal of serving the shareholders.

Expense preference behavior has been shown to exist in the highly regulated financial services industry under the following conditions: separation of ownership and control, costly monitoring of management, and lack of competition. Blair and Placone (1988) find that in the earlier years of their study market concentration is significant, but that in later years it is not. The change in significance occurred at the same time as deregulation in the S&L industry. Blair and Placone mention that deregulation might be the reason for the change, but they do not conduct any further analysis.

Gropper and Oswald (1996) study the deregulation issue which increased competition and decreased regulation in the mid-1980s for the banking industry. They estimate that expense preference behavior by managers will decrease after deregulation. Gropper and Oswald compare the period before and after deregulation, but unlike Hannan and Mavinga (1980) and Verbrugge and Goldstein (1981) they not only looked at personnel
related expenses, such as number of employees and compensation, but they also compare expenses such as occupancy and equipment costs. Using multiple regression, Gropper and Oswald (1996) evaluate 1327 commercial banks from 1979-1980 and 904 from 1985-1986. Results show that all tested expenses, except furniture and equipment, decrease after deregulation. Furniture and equipment expenses increase slightly. After deregulation, total personnel decreases 3.2%. This equates to between 4.3 and 5.3 full time equivalents. These results not only show that deregulation decreases management’s discretionary expenses, but also increases managerial efficiency. Total assets, an indicator for firm size, are also positive and significant in all models.

Gropper and Hudson (2003) also conduct a similar study of S&Ls before and after deregulation. They hypothesize that the removal of the barriers to entry and hence increased competition will decrease the amount of expense preference behavior occurring. Results confirm that after deregulation and the increase in competition, the level of expense preference behavior decreases. Although Gropper and Hudson could not determine the exact cause of the decrease there was a definite decline in the later period. This supports other’s conclusions that managers of regulated firms are more likely to increase shareholder wealth maximizing behavior with increased competition.

While many studies support the belief that managers exhibit expense preference, only Gropper and Oswald (1996) and Gropper and Beard (1995) quantify the effect on firm operations. Gropper and Beard (1995) try to quantify the costs of insolvency that occur due to managements’ expense preference behavior. They find that significantly higher levels of employee compensation and occupancy costs are associated with insolvency for
S&Ls. The total cost of insolvency due to expense preference behavior was estimated to be $260 million in 1988.

Most studies on expense preference behavior by managers have been conducted on commercial banks and savings and loan firms. Table 2 is a summary of the studies from the banking industry that have been discussed. Although results have been mixed, the majority find support for utility maximization by managers over shareholder wealth maximization. Various dependant variables were evaluated with personnel related expenses and number of employees or hours as the most common. The independent variables used in determining expense preference behavior are competition and ownership structure. Competition is tested in some studies by evaluating market concentration and in others by looking at the effect of deregulation. Results show an increase in competition leads to a decrease in expense preference behavior. Moreover, firms that have a larger diffusion of ownership have a tendency to have a higher proportion of expenses which may be an indicator of expense preference behavior by managers.
### Table 2

**Summary of Expense-Preference Literature in Banking**

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Dependent Variable(s)</th>
<th>Indicator of expense-preference behavior</th>
<th>Expense-preference found?</th>
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<td>Edwards (1977)</td>
<td>Total wages and salaries; Total employees</td>
<td>Dummy variable for critical concentration level ≥ 76%</td>
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<td>Hannan (1979)</td>
<td>Total wages and salaries; Total employees</td>
<td>Dummy variable for three firm concentration ratio ≥ 63%</td>
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<td>Hannan &amp; Mavinga (1980)</td>
<td>Total wages and salaries; F&amp;E; Net occupancy expenses</td>
<td>Dummy variable for three firm concentration ratio ≥ 63%</td>
<td>Yes</td>
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<tr>
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<td>Interaction between dummy variable for three firm concentration ratio ≥ 63% and dummy variable for manager control &lt; 10%</td>
<td>Yes</td>
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<td>Rhoades (1980)</td>
<td>Salaries/TA; Fringe Benefits/TA; F&amp;E/TA; Net Occupancy Expenses/TA; Total Operating Expense/TA; TA/Number of Employees*</td>
<td>Three firm deposit concentration ratio</td>
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<tr>
<td>Verbrugge &amp; Goldstein (1981)</td>
<td>Total costs excluding interest and advertising; Personnel costs; Personnel and occupancy costs</td>
<td>Dummy variable for form of organization</td>
<td>Yes</td>
</tr>
<tr>
<td>Verbrugge &amp; Jahera (1981)</td>
<td>Total salaries and wages</td>
<td>Market concentration; stock-mutual dummy variable; interaction</td>
<td>Yes</td>
</tr>
</tbody>
</table>
| Author(s) (Year) | Dependent Variable(s) | Indicator of expense-preference behavior | Expense-preference found?
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Smirlock &amp; Marshall (1983)</td>
<td>Total employees</td>
<td>Size quartiles; dummy variable for three firm concentration ratio ≥ 55%; three firm concentration ratio</td>
<td>No</td>
</tr>
<tr>
<td>Arnould (1985)</td>
<td>Chief operating officer salary and bonus</td>
<td>Interaction between dummy variable for three firm concentration ratio &gt; 63% and dummy variable for manager control ≤ 21% or 30%</td>
<td>Yes</td>
</tr>
<tr>
<td>Akella &amp; Greenbaum (1988)</td>
<td>Outputs</td>
<td>Ownership structure</td>
<td>Yes</td>
</tr>
<tr>
<td>Blair &amp; Placone (1988)</td>
<td>Personnel expenditures</td>
<td>Herfindahl index; dummy variable for form of organization</td>
<td>No</td>
</tr>
<tr>
<td>Mester (1989)</td>
<td>Total costs</td>
<td>Compare stock vs. mutual</td>
<td>No</td>
</tr>
<tr>
<td>Carter &amp; Stover (1991)</td>
<td>Officer and employee compensation</td>
<td>Management ownership level</td>
<td>Yes</td>
</tr>
<tr>
<td>Gropper &amp; Oswald (1996)</td>
<td>Number of employees; Total compensation; Miscellaneous expenses; F&amp;E; Occupancy expenses</td>
<td>Dummy variable for deregulation; total assets</td>
<td>Yes</td>
</tr>
<tr>
<td>Gropper &amp; Hudson (2003)</td>
<td>Outputs</td>
<td>Dummy variable for deregulation</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*Note:* F&E – Furniture and equipment expenses; TA – Total Assets
*Sampling of the models. There were 17 models in total.*
Expense Preference in Other Industries

While most expense preference theory research analyzes commercial banks and S&LS, there have been additional studies in other industries. The industries analyzed include hospitals, utilities, life insurance, and transportation. Similar to the findings in banks and S&Ls, results vary in these other industries on whether or not managers exhibit expense preference behavior.

Outside of banks and S&Ls, hospitals are the most studied industry for expense preference behavior. Lewin, Derzon, and Margulies (1981) evaluate approximately 100 measures for 53 hospitals in California, Florida, and Texas. The categories include inpatient charges, inpatient payments, net patient revenue, inpatient costs, ancillary department costs, general service costs, markup ratios, net income, and uses and cost of resources. To study expense preference behaviors by managers, only general service costs and uses and cost of resources are a concern. The authors try to match each hospital with a closely comparable hospital with the main difference being one is investor-owned (proprietary) and one is a not-for-profit. The analysis involves comparing means between the two groups to see if there is a significant difference. Administrative and general expenses are significantly different between the groups. Managers of investor-owned facilities spend approximately 45% more than not-for-profits. The only significant difference in the uses and cost of resources measure is the full-time-equivalents (FTEs). Not-for-profit hospitals use 14% more FTEs than investor-owned hospitals. The only two significant variables, and the ones used in other expense preference behavior studies, show conflicting results. In this sample, managers of not-for-profit hospitals seem to have a preference toward payroll expenses but managers of
investor-owned hospitals appear to prefer general administrative costs. This study, while trying to match hospitals as closely as possible, does not control for the differences in each.

Another study of ownership structure in hospitals is conducted by Becker and Sloan (1985). The authors analyze 2,231 U.S. community hospitals from 1979 using regression analysis. The hospitals are coded into proprietary and non-for-profit and a third organizational structure, governmental. Each of the three structures is further analyzed into independent hospitals, hospitals recently affiliated with a chain, and hospitals with a long-standing affiliation with a chain. However, unlike Lewin et al. (1981), Becker and Sloan (1985) control for other firm differences besides ownership structure. The regression models include control variables for differences such as size, teaching hospitals, casemix, Medicare and Medicaid proportions. Once controlling for factors other than ownership, the authors find that ownership structure does not affect expenses.

Oswald, Gardiner, and Jahera (1994) also study expense preference behavior by managers in hospitals with different ownership structures but are only concerned with proprietary and not-for-profits. Oswald et al. hypothesize that expense-preference will be prevalent in not-for-profit hospitals when compared to proprietary hospitals. The sample includes 210 not-for-profit hospitals and 160 proprietary hospitals from 1985-1988. Six regression models are tested with the following dependent variables: salaries per discharge, full-time-equivalents (FTEs) per occupied bed, total assets per discharge, total costs per discharge, return on assets (ROA), and profit per discharge. The independent variable of interest is the dummy variable for ownership which distinguishes between not-for-profit and proprietary hospitals. In addition the models have six control variables
to adjust for changes in items such as Medicare, Medicaid, deductible mix, facility bed size, market share and Medicare case mix. Results show that expenditures and assets are greater in not-for-profit hospitals than in proprietary hospitals, which supports expense preference theory. FTEs per occupied bed are also significant and higher in not-for-profit hospitals but only in 1985. As another validation of expense preference behavior, return on assets and profit per discharge are significantly lower in not-for-profit hospitals. A further analysis shows the effect over time as the Prospective Payment System (PPS) is fully implemented. The PPS established predetermined reimbursements levels for services for Medicare patients. This may have caused hospitals to be more cost conscious and operate more efficiently. By 1988, only two of the six dependent variables are significantly different based on ownership. The reason for this may be that private insurance companies and the government hold hospitals accountable for costs and quality. They are acting like shareholders.

Carter, Massa, and Power (1997) analyze 185 hospitals in Texas with over 50 beds during 1989. Models are employed using linear regression with dependent variables of administrative expenses, administrative salaries, and operating expenses. Similar to Oswald et al. (1994), Carter et al. (1997) include other independent variable to control for size, competition, casemix, and medical services. Pearson’s correlation coefficients indicate that for profit hospitals have lower expenses than not-for-profit. Results of the regression analysis show that total administrative expenses of proprietary hospitals are higher than those of non-proprietary hospitals. On the other hand, administrative salaries and operating expenses are significantly less for proprietary. Another significant finding is that administrative expenses decline with more competition regardless of ownership
structure. Salaries and operating expenses are not significantly different if a hospital has competition or not. Hospital size was also significant in all models showing that expenses increase as size increases. Using the same independent variable, the authors also test the dependent variable of number of employees. They find that for profit (proprietary) hospitals have fewer employees. The data set is separated into three subsets based on size to see if economies of scale come into effect with larger hospitals. The results show that size was not a factor and that economies of scale do not occur in the sample.

The majority of hospitals between 1984 and 1990 were not-for-profit, rarely owned and operated by the same group of individuals, and had some amount of market power. Based on previous research, these factors are believed to lead to expense preference behavior by the managers. Dor, Duffy, and Wong (1997) believe that while these factors are important, the management form is the main factor that will lead to expense preference behavior. Management form is concerned with whether the hospital is operated with contract managers or salaried managers. The authors believe that contract managers would spend less due to the fact that the board of trustees could terminate the contract if financial performance does not improve. Three models with total costs, labor as a percentage of total costs, and capital as percentage of total costs as dependent variables are evaluated using nonlinear iteratively seemingly unrelated regression. Results show that as a hospital moves from salaried managers to contract managers, they are more inclined to use less amounts of labor and capital. The authors then test whether contract managers actually use cost minimizing amounts of labor and capital. Further
analysis fails to show that hospitals using contract management were cost minimizers at all times with all expenses. Contract managers do minimize labor, but not capital.

Similar to Dor et al., Carey and Dor (2008) evaluate hospital operating expenses before and after adopting management contracts. Data is evaluated for hospitals that converted to the use of contract managers between 1991 and 1998. The year considered pre-adoption is two years prior to the start of contract management and the year for post-adoption is two years after implementing a contract. This allows for a period of adjustment after adoption. The sample includes 278 hospitals pre-adoption and 215 post-adoption with 158 hospitals appearing in both samples. The authors use nonlinear iteratively seemingly unrelated regression for two models. The models include dependent variables of total operating costs and labor as a percentage of total costs. Results show that expense preference behavior declines significantly after the adoption of management contracts.

Another industry that has been studied for expense preference behavior is utilities. Awh and Primeaux (1985) believe electric utility companies, like banks, are good candidates to test expense preference theory because they are highly regulated, of public interest, normally have a separation of ownership and management and are homogeneous in supply and demand conditions. Their main concern is whether market structure affects the level of expense preference behavior. This is tested with a dummy variable to indicate whether a firm is a monopoly or duopoly. The dependent variable in the regression equation is total sales and administrative expenses. While expense preference theory states that managers of firms in less competitive markets are more inclined to behave in ways that increase their utility rather than maximizing the wealth of the
owners, the authors find this to be untrue in the electric utility industry. Results of the analysis show that sales and administrative expenses are lower in monopoly electric utility firms than they are in a duopoly firm, which face a direct competitor. These results reject the notion of expense preference behavior on the part of managers. The results are only significant at the .10 level.

Mixon and Upadhyaya (1999) evaluate 295 chief executive officer (CEO) salaries from 1996 for various non-financial corporations to see if there is a significant difference in regulated industries. The authors use linear regression with a dependent variable of salary as percentage of total compensation. Total compensation is the sum of salary, bonus, and stock options. The main independent variable of concern is the dummy variable for regulation, which is set to 1 for regulated electrical firms and 0 otherwise. Results show that CEOs of regulated electric companies do not have their compensation structured in a way to curb expense preference behavior. Most regulated electric utility firms’ CEO compensation is in the form of salary and this is an increase of between 25-29 percentage points over other industries. Results also show that expense preference behavior is less of a concern in regulated industries because the regulations put constraints on costs and operations. More regulation leads to less incentive to structure CEO compensation to curb expense preference behavior.

The remainder of expense preference research that has been conducted on other industries is limited to only one or two studies in each industry. Researchers have found evidence of expense preference behavior by managers in trucking and bus transit systems. On the other hand, research concerned with airlines and life insurance firms has not supported expense preference behavior. Although the following studies accept or
reject expense preference behavior by managers, there is only one in each industry so the results may not be generalizable to the entire industry.

Mixon and Upadhyaya (1996) suggest that managers of heavily regulated firms are more utility driven than managers of less regulated firms. To evaluate this, the authors study the trucking industry and compare common carriers to contract carriers. Common carriers provide freight services to a wide variety of commercial and residential customers and are typically more regulated than contract carriers who only serve a regular set of clients. Regulators of common carriers only allow an increase in rates if there is a one-to-one change in operating ratio, which is defined as operating expenses divided by total revenue. Common carriers may have an incentive to raise expenses so that the operating ratios increase and they can raise rates. The authors analyze 80 trucking companies that are for profit corporations with I.C.C. authority to engage in interstate transportation. Data is evaluated using regression analysis from 1983 to 1986, providing a 320 data point sample. The dependent variable is the percentage of costs accounted for by officers’ wages plus fringe benefits. Independent variables for firm size and non-recurring costs are included in addition to a dummy variable for regulation. Results show that common carriers engage in more expense preference behavior than contract carriers. Also, results of the firm size variables show that larger firms exhibit more expense preference behavior in executive compensation than smaller firms. The results support the hypothesis that common carriers, who are highly regulated, engage in higher levels of expense preference behavior than do contact carriers who operate with fewer regulations.
Obeng (2000) evaluates the U.S. public transit for expense preference behavior. The author believes that due to the presence of subsidies, both operating and capital, that managers in this industry would be more inclined to exhibit expense preference behavior over shareholder wealth maximization. Obeng believes that the subsidies may alleviate the pressure on managers to operate efficiently. The sample consists of 493 U.S. bus transit systems from 1983 to 1992 and only includes firms in which they are the sole provider of services in a particular area. When managers maximize utility, they show expense preference behavior for capital but not for labor. Results show an increase in costs of 14.73% which equates to an after subsidy cost increase of 29.12%. The author believes that capital projects give a better public image and a sense of identity to the firm which is why managers favor capital over labor.

One of the industries in which there is no known empirical support for expense preference behavior is airlines. Hayashi and Trapani (1983) evaluate airlines because of the stringent regulations and the research findings in the banking industry that high regulations may lead to expense preference behavior by managers. Also regulations in the airline industry include a maximum rate of return constraint which may entice managers to spend more to fall below this maximum. Hayashi and Trapani use regression analysis to evaluate 17 domestic airlines under the regulation of the Civil Aeronautics Board (CAB) for 1962 to 1972. Results of the analysis show that airlines are primarily profit driven. In the absence of the regulatory rate of return constraint variable though, managers have a tendency to exhibit expense preference behavior.

Another industry in which expense preference behavior by managers has not been supported is life insurance firms. Fields (1988), like many of the researchers in banking
and S&Ls, examines the effect of alternative ownership structures on expense preference behavior by managers in life insurance companies. Based on previous findings in banking and utility companies, Fields chooses to study life insurance firms because they are competitive, have problems monitoring managers, and have different ownership structures. Using regression analysis, 304 life insurance companies from 1984 are evaluated. Of the 304, 204 are stock firms and 100 are mutual firms. The dependent variable is costs and the primary independent variable is a dummy variable for organizational form. Independent variables are also included to account for size differences. Results show that higher levels of output, in terms of number of policies, relate to higher costs. The results for organizational form are not significant. In firms where the owners have limited control over managers, there is no support of expense preference theory.

Outside of the banking industry expense preference behavior has only minimally been tested. Table 3 is a summary of the expense preference studies from industries outside of commercial banking and savings and loans. The results of these tests have been mixed, but not enough testing has been done to generalize if there is support of expense preference behavior by managers. More research needs to be conducted in these other industries to fully support or reject expense preference behavior by managers.
### Table 3

#### Summary of Expense-Preference Literature in Non-Banking

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Industry</th>
<th>Dependent Variable(s)</th>
<th>Indicator of expense-preference behavior</th>
<th>Expense-preference found?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Williamson (1963)</td>
<td>Various</td>
<td>Compensation of top executive</td>
<td>Four firm concentration ratio; Dummy variable for barrier to entry; General and administrative expenses</td>
<td>Yes</td>
</tr>
<tr>
<td>Lewin, Derzon, &amp; Margulies (1981)</td>
<td>Hospitals</td>
<td>Administrative and general expenses; FTE</td>
<td>Compare proprietary and not-for-profit</td>
<td>Yes</td>
</tr>
<tr>
<td>Becker &amp; Sloan (1985)</td>
<td>Hospitals</td>
<td>Total expenses; Total revenue/total cost</td>
<td>Ownership structure</td>
<td>No</td>
</tr>
<tr>
<td>Oswald, Gardiner, &amp; Jahera (1994)</td>
<td>Hospitals</td>
<td>Salaries per discharge; FTE per occupied bed; Total assets per discharge; Total cost per discharge; Return on assets; Profit per discharge</td>
<td>Ownership structure</td>
<td>Yes</td>
</tr>
<tr>
<td>Carter, Massa, &amp; Power (1997)</td>
<td>Hospitals</td>
<td>Administrative expenses; Administrative salaries; Operating expenses; Number of employees</td>
<td>Dummy variable for ownership structure; Dummy variable for competition</td>
<td>Yes</td>
</tr>
<tr>
<td>Dor, Duffy, &amp; Wong (1997)</td>
<td>Hospitals</td>
<td>Total costs; Labor/total costs; Capital/total costs</td>
<td>Dummy variable for management form</td>
<td>Yes</td>
</tr>
<tr>
<td>Author(s) (Year)</td>
<td>Industry</td>
<td>Dependent Variable(s)</td>
<td>Indicator of expense-preference behavior</td>
<td>Expense-preference found?</td>
</tr>
<tr>
<td>------------------</td>
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<td>------------------------</td>
<td>------------------------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Carey &amp; Dor (2008)</td>
<td>Hospitals</td>
<td>Total operating costs; Labor/total costs</td>
<td>Comparison of pre and post outsourcing arrangements</td>
<td>Yes</td>
</tr>
<tr>
<td>Hayashi &amp; Trapani (1983)</td>
<td>Airlines</td>
<td>Rate of return</td>
<td>Regulatory constraint</td>
<td>No</td>
</tr>
<tr>
<td>Awh &amp; Primeaux (1985)</td>
<td>Utilities</td>
<td>Total sales and administrative expenses</td>
<td>Dummy variable for market structure</td>
<td>No</td>
</tr>
<tr>
<td>Fields (1988)</td>
<td>Life insurance</td>
<td>Total costs</td>
<td>Dummy variable for ownership structure</td>
<td>No</td>
</tr>
<tr>
<td>Mixon &amp; Upadhyaya (1996)</td>
<td>Trucking</td>
<td>Officer wages and benefits/total costs</td>
<td>Dummy variable for regulation; firm size</td>
<td>Yes</td>
</tr>
<tr>
<td>Obeng (2000)</td>
<td>Public transit</td>
<td>Elasticity of operating subsidies and capital subsidies</td>
<td>Change in subsidies</td>
<td>Yes</td>
</tr>
<tr>
<td>Kim, Dalbor &amp; Feinstein (2007)</td>
<td>Restaurants</td>
<td>Number of employees; Cost of business</td>
<td>Dummy variable for management type; Dummy variable for ownership percentage</td>
<td>Yes</td>
</tr>
<tr>
<td>Upneja, Hua, Dalbor, &amp; Repetti (2010)</td>
<td>Restaurants</td>
<td>Total other expenses</td>
<td>Interest expense</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*Note: FTE – Full-time equivalents*
Expense Preference in Hospitality

The hospitality industry has recently been included in expense preference behavior research, but only a few have been completed. There are only two known studies and both are concerned with restaurants. Unlike the other industries which show mixed results, the two studies on hospitality show some support for the notion of expense preference behavior by managers.

Kim, Dalbor, and Feinstein (2007) evaluate eating and drinking firms with a primary SIC code 58 from The 1998 Survey of Small Business Finances. This data set only includes firms with fewer than 500 employees. While there were 171 original firms, the authors exclude sole proprietorships, partnerships, limited liability partnerships (LLPs) and limited liability corporations (LLCs) due to tax differences. This left a data set of 87 firms. The data is analyzed using three-way analysis of variance (ANOVA) and multiple regression. Two dependent variables are considered, number of employees and the cost of business. Both of these are common expense preference indicators based on previous research. The number of employees FTEs is standardized by the value of the firm’s total assets. The cost of business is calculated as the total cost to total sales ratio. Independent variables include one for management type (owner-managed or outsider-managed) and one for ownership percentage. Ownership percentage categories are where the primary owner owns 100%, over 50%, 50%, or under 50%.

Results of the ANOVA show that type of management along with ownership percentage of the primary owner has a significant impact on the cost of doing business. Management type by itself is not significant, although ownership percentage is. The cost of business is lowest for owner-managed firms with the manager owning 100%. Also,
the cost of doing business is higher for firms with outside-managers where the primary manager owns 100% than when the primary owner owns less than 100%. There is an inverse relationship between staff size and ownership percentage for owner-managed firms. As the percentage of primary ownership decreases, the mean size of staff increases. When the primary owner owns 100% of the firm, the size of staff is significantly higher for outside-manager firms than for owner-manager firms. Results of the multiple regression analysis also show that costs and staff size are lower for owner-managed firms when the ownership percentage of the primary owner increases.

The second hospitality study is not concerned with ownership structure as a potential indicator of expense preference behavior, but instead evaluates management’s reaction to a cost increase out of their control. Upneja, Hua, Dalbor, & Repetti (2010) try to determine if management adjusts other expenses downward to compensate for a rise in interest expense, the uncontrollable expense. If management does not control other expenses downward, they may be exhibiting expense preference behavior. Again, restaurants are evaluated but this study examines publicly traded firms from 1963 to 2007. This study has the largest known time span on expense preference behavior. Due to information availability limitations for publicly traded companies, total other expenses is used as the dependent variable and includes all expenses besides interest expense. Results of the multiple regression analysis show that as interest expense increases, so does other expenses. Managers do not appear to be trying to control other expenses to offset the increase in interest expense. This may be an indication of expense preference behavior by managers.
Expense preference behavior research in hospitality is relatively new and consists of only a few studies. Results of the studies though are consistent and show that managers in hospitality organizations may be exhibiting expense preference behavior. The results of these hospitality studies are summarized in Table 3 along with the other non-banking industries. No known study has been done that examines hospitality personnel costs specifically.

**Expense Preference Theory Summary**

Table 4 summarizes the studies, dependent variables and significant independent variables that support expense preference behavior by managers. The main indicators of expense preference behavior include separation between managers and owners, regulatory environment, and competition.

Results of the studies that support expense preference behavior by managers typically have a high amount of separation between owners and managers. This is tested by examining a variety of variables. Some studies evaluate organizational structure while others look at firm size. Organizational structure is analyzed in three different ways. Some researchers look at whether the firm is owner-controlled or manager-controlled, some analyze the difference between mutuals and stock associations and other evaluate differences between proprietary and not-for-profit firms.
Table 4

Summary of Supporting Expense-Preference Literature

<table>
<thead>
<tr>
<th>Author(s) (Year)</th>
<th>Findings that lead to expense-preference behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Williamson (1963)</td>
<td>Less competition; General and administrative expenses; high barriers to entry</td>
</tr>
<tr>
<td>Edwards (1977)</td>
<td>Less competition</td>
</tr>
<tr>
<td>Hannan (1979)</td>
<td>Less competition</td>
</tr>
<tr>
<td>Hannan &amp; Mavinga (1980)</td>
<td>Less competition</td>
</tr>
<tr>
<td></td>
<td>Less competition and manager-controlled interaction</td>
</tr>
<tr>
<td>Verbrugge &amp; Goldstein (1981)</td>
<td>Stock ownership</td>
</tr>
<tr>
<td>Verbrugge &amp; Jahera (1981)</td>
<td>Mutual ownership; Less competition and mutual ownership interaction</td>
</tr>
<tr>
<td>Lewin, Derzon, &amp; Margulies (1981)</td>
<td>Not-for-profit for payroll; Investor-owned for general administrative expenses</td>
</tr>
<tr>
<td>Arnould (1985)</td>
<td>Less competition and manager-controlled interaction</td>
</tr>
<tr>
<td></td>
<td>Less competition</td>
</tr>
<tr>
<td>Akella &amp; Greenbaum (1988)</td>
<td>Mutual ownership</td>
</tr>
<tr>
<td>Carter &amp; Stover (1991)</td>
<td>Manager owns 15% - 27% of stock</td>
</tr>
<tr>
<td>Oswald, Gardiner, &amp; Jahera (1994)</td>
<td>Not-for-profit (ownership structure)</td>
</tr>
<tr>
<td>Gropper &amp; Oswald (1996)</td>
<td>Higher regulation; Larger firms</td>
</tr>
<tr>
<td>Mixon &amp; Upadhyaya (1996)</td>
<td>Higher regulation; Larger firms</td>
</tr>
<tr>
<td>Carter, Massa, &amp; Power (1997)</td>
<td>Proprietary for administrative expenses; Not-for-profit for administrative salaries and operating expenses; Larger firms</td>
</tr>
<tr>
<td>Author(s) (Year)</td>
<td>Findings that lead to expense-preference behavior</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>Dor, Duffy, &amp; Wong (1997)</td>
<td>Salaried managers</td>
</tr>
<tr>
<td>Obeng (2000)</td>
<td>Subsidies</td>
</tr>
<tr>
<td>Gropper &amp; Hudson (2003)</td>
<td>Higher regulation and less competition</td>
</tr>
<tr>
<td>Kim, Dalbor, &amp; Feinstein (2007)</td>
<td>Owner-manager coupled with a decrease in ownership percentage; Outside-managers with primary ownership percentage under 100%</td>
</tr>
<tr>
<td>Carey &amp; Dor (2008)</td>
<td>Salaried managers</td>
</tr>
<tr>
<td>Upneja, Hua, Dalbor, &amp; Repetti (2010)</td>
<td>Increase in an uncontrollable expense</td>
</tr>
</tbody>
</table>

Studies that evaluate firm control show that managers in firms that are manager-controlled tend to exhibit more expense preference behavior than those in owner-controlled organizations (Hannan & Mavinga, 1980; Kim et al., 2007). The studies that evaluate separation of ownership based on whether the firm is a mutual or stock association find that mutuals have higher expense preference behavior by managers (Akella & Greenbaum, 1988; Verbrugge & Goldstein, 1981; Verbrugge & Jahera, 1981). Researchers that analyze proprietary versus not-for-profit organizations find that managers in not-for-profits exhibit higher expenses (Carter et al. 1997; Oswald et al. 1994). The final variable that is tested for separation of ownership is firm size and there is the belief that the larger a firm, the more separation of ownership and the more expense preference by managers. Results show that as firm size increases so does expense preference behavior (Blair & Placone, 1988; Carter et al. 1997; Gropper & Oswald 1996; Mixon & Upadhyaya, 1996; Smirlock & Marshall, 1983; Williamson, 1973).
The level of regulation is also a factor in whether managers exhibit expense preference behavior. A high amount of regulation generally leads to higher barriers to entry which may enable managers to spend more. Williamson (1963) and Mixon and Upadhyaya (1996) find that more heavily regulated industries have higher expense preference behavior by managers. Numerous studies also evaluate the effect of deregulation and find that deregulation decreases expenses (Blair & Placone, 1988; Gropper & Hudson, 2003; Gropper & Oswald, 1996). With deregulation there are lower barriers to entry and typically more competition.

Many researchers believe that the level of competition may be the variable that is actually effecting manager’s behavior and not necessarily the amount of regulation. Research shows that a low level of competition or a high market concentration ratio may lead to more expense preference behavior by managers (Arnould, 1985; Carter et al., 1997; Edwards, 1977; Hannan, 1979; Hannan & Mavinga, 1980; Williamson 1963). Competition is evaluated as a dichotomous dummy variable in some studies and as a continuous variable in others.

The dependent variables studied that support expense preference behavior by managers are primarily concerned with personnel related expenses and general and administrative expenses within the control of the manager. The most commonly studied dependent variable though is employee compensation. Some researchers are concerned with only executive compensation (Arnould, 1985; Mixon & Upadhyaya, 1999; Williamson, 1963), while others evaluate total employee compensation (Carter & Stover, 1991; Carter et al., 1997; Edwards, 1977; Gropper & Oswald, 1996; Hannan, 1979; Hannan & Mavinga, 1980; Oswald et al., 1994; Verbrugge & Goldstein, 1981; Verbrugge
& Jahera, 1981). Many of these studies also analyze number of employees or employee hours in addition to payroll costs (Edwards, 1977; Gropper & Oswald, 1996; Hannan, 1979; Kim et al., 2007; Oswald et al., 1994; Smirlock & Marshall, 1983).
CHAPTER III
METHODOLOGY

Introduction

This chapter reintroduces the research questions and the accompanying hypotheses. In the second part of this chapter the data will be discussed. This will be followed by a discussion of the statistical tests used, the model and the dependent and predictor variables.

Hypotheses

There are three models being evaluated in this dissertation. These models will be discussed in detail in the “Linear Regression Model” section of this chapter. Model 1 uses the number of employees as the dependent variable, Model 2 uses salaries and wages as the dependent variable, and Model 3 uses total payroll expenses as the dependent variable.

It is hypothesized that managers of Nevada gaming companies do not exhibit expense preference behavior for payroll related expenses. This hypothesis corresponds to the first research question as stated in the introduction. Payroll related expenses include number of employees, salaries and wages, and total payroll. The null hypothesis states that payroll related expenses in Nevada casinos for 1990 to 2010 are not affected by casino size, level of competition, or periods of economic recession. The alternative hypothesis states that payroll related expenses in Nevada casinos for 1990 to 2010 are affected by at least one of the predictor variables of casino size, competition, and period of economic recession. The null and alternative hypotheses are the same for all models. The null and alternative hypotheses are stated as:
H10: $\beta_1 = \beta_2 = \beta_3 = 0$

H1A: $\beta_i \neq 0$ for at least one $i$

The remainder of the research questions are concerned with the predictor variables and not the overall model. The first predictor variable of concern is total revenue and is used as a proxy for firm size and business volumes. This variable corresponds to the second research question. Previous studies show that payroll related expenses increase as firm size increases (Mixon & Upadhyaya, 1996; Smirlock & Marshall, 1983; Williamson, 1973). There is no reason to believe casino firms should be any different. The null hypothesis is that number of employees, salaries and wages, and total payroll remain unchanged or decrease as casino size increases. The alternative hypothesis is that number of employees, salaries and wages, and total payroll increase as casino size increases. The null and alternative hypotheses are stated as:

H20: $\beta_1 \leq 0$

H2A: $\beta_1 > 0$

The third hypothesis is concerned with competition and corresponds to research question three. Expense preference behavior research shows that while controlling for all other variables, less competition leads to managers maximizing their own utility (Arnoold, 1985; Edwards, 1977; Gropper & Hudson, 2003; Hannan, 1979; Hannan & Mavinga, 1980; Williamson, 1963). Less competition equates to a higher market share. This dissertation examines the level of competition with a dummy variable of “1” if the market share is 63% of higher and “0” otherwise. A dummy variable of “1” indicates lower competition. While previous research using a dummy variable for competition have used 55%, 63% or 76% as the level in which to distinguish between low and high
levels of competition, 63% is the most commonly used percentage (Arnould, 1985; Hannan, 1979; Hannan & Mavinga, 1980). The null hypothesis is that number of employees, salaries and wages, and total payroll will not change or will decrease as market share increases, holding all other variables constant. The alternative hypothesis is that there is a positive relationship between number of employees and payroll expenses and competition. The null and alternative hypotheses are stated as:

\[ H_3_0: \beta_2 \leq 0 \]
\[ H_3_A: \beta_2 > 0 \]

Hypothesis four is concerned with the predictor variable for the period of economic recession. A particular time period is defined as an economic recession when the majority of the fiscal year (more than 6 months) falls in the same time period as the National Bureau of Economic Research’s recession dates (National Bureau of Economic Research, 2010). Fiscal years ended June 30, 2008 and 2009 are considered economic recessions. During an economic recession and after controlling for the effect of the change in business volumes, managers should not need to adjust the number of employees or payroll related expenses. Efficient managers should have already accomplished this due to the change in business volumes. If managers are exhibiting expense preference behavior, they may decrease the number of employees or payroll expenses though since they may have been overstuffed during the non-recessionary period. The null hypothesis is that during a period of economic recession, after controlling for changes in business volumes and competition, there should be no change or an increase in the number of employees, salaries and wages, and total payroll. The alternative hypothesis is that during a period of economic recession the number of
employees, salaries and wages and total payroll will decrease. The null and alternative hypotheses are stated as:

\[ H_{40}: \beta_3 \geq 0 \]

\[ H_{4A}: \beta_3 < 0 \]

Table 5 is a summary of the null hypotheses.

### Table 5

**Null Hypotheses**

<table>
<thead>
<tr>
<th>Hypothesis Number</th>
<th>Hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Number of employees, salaries and wages, and total payroll are not affected by casino size, competition, or periods of economic recession.</td>
</tr>
<tr>
<td>2</td>
<td>Number of employees, salaries and wages, and total payroll will remain unchanged or decrease as casino size increases.</td>
</tr>
<tr>
<td>3</td>
<td>Number of employees, salaries and wages, and total payroll will remain unchanged or decrease as market share increases.</td>
</tr>
<tr>
<td>4</td>
<td>Number of employees, salaries and wages, and total payroll will remain unchanged or increase during periods of economic recession.</td>
</tr>
</tbody>
</table>

**Data Collection**

Secondary data obtained from the Nevada State Gaming Control Board’s *Nevada Gaming Abstract* is used for this dissertation. The data is annual data for 21 fiscal years ending June 30 of each year for 1990 to 2010 (Nevada Gaming Control Board, 1990-2010). This data is publicly available from the Nevada State Gaming Control Board’s website [http://gaming.nv.gov/abstract_rpts.htm](http://gaming.nv.gov/abstract_rpts.htm). Each Nevada casino with a nonrestricted gaming license and annual gaming revenue of $1 million or more is
included in this report. A nonrestricted casino has more than 15 slot machines or includes any other game, a race book or a sports book. This information is unaudited data provided to the state regulatory body by the casinos. The data is aggregated into groupings using geographical region and size since by Nevada state law individual casino information is unavailable (Nevada Revised Statues ch. 41, 2009). Each aggregate group of data is modified to be the average for each casino in that grouping.

**Linear Regression Model**

The data will be analyzed using multiple ordinary least squares (OLS) regression. Multiple OLS regression is utilized when there is one dependent variable and two or more predictor variables. This dissertation will include three multiple regression models that will be evaluated using SPSS. The models have three separate dependent variables (Y): natural log of number of employees (Model 1), natural log of total salaries and wages (Model 2), and natural log of total payroll (Model 3). Number of employees reported to the Nevada Gaming Control Board is the sum of the highest number of employees each month divided by the number of months in operation that year. It is not full-time equivalents like some previous studies. Total payroll includes total salaries and wages, payroll taxes and employee benefits. Payroll taxes and benefits include expenses such as company portions of social security taxes, federal and state unemployment taxes, health insurance, vacation pay, union dues, 401K company matching, employee dining, and bonuses. While previous research has commonly used similar dependent variables, no known study included a model for salaries and wages and a separate model for salaries and wages plus taxes and benefits. This dissertation will allow a comparison of the two to see if there is a difference.
The full model analyzed is:

\[ Y_i = \beta_0 + \beta_1 \text{Rev} + \beta_2 \text{Comp} + \beta_3 \text{Rec} + \varepsilon_i \]

Where

\( Y \) = Natural log of dependent variable

\( \beta \) = Coefficients for each predictor variable

\( \text{Rev} \) = Natural log of total revenue

\( \text{Comp} \) = Dummy variable coded as “1” for a market share of 63% or higher and “0” otherwise

\( \text{Rec} \) = Dummy variable coded as “1” for an economic recession period and “0” otherwise

\( \varepsilon \) = Error term

Total revenue is included as an indicator of size. Size is included in this analysis for two reasons. First, previous studies find that firm size measured by total revenue or total assets is significant in relation to payroll (Blair & Placone, 1988; Carter et al., 1997; Gropper & Oswald, 1996; Mixon & Upadhyaya, 1996; Smirlock & Marshall, 1983).

Second, total revenue will be used to measure business volumes and as a control variable when evaluating the other predictor variables.

Competition was also found to be significant in past studies and in this dissertation competition is based off the market share for each geographic region. Level of competition is a dummy variable. The dummy variable is “1” if the market share is 63% or higher and “0” otherwise. Market share is calculated as the percent of revenue each aggregate group of casinos is accountable for in each market. A dummy variable of “1” indicates lower competition.
The dummy variable for an economic recession will be “1” if the majority of the fiscal year (more than 6 months) falls in the same time period as the National Bureau of Economic Research’s recession dates (National Bureau of Economic Research, 2010). Fiscal years ended June 30, 2008 and 2009 are coded as recessionary periods. An alpha level of .05 will be used for statistical significance for all variables.

**Conclusion**

The research questions concerning whether managers of Nevada casinos exhibit expense preference behavior will be tested using multiple regression analysis. Three models, each with a separate dependent variable representing number of employees, salaries and wages, and total payroll will be analyzed. The predictor variables will include indicators of firm size, level of competition, and period of economic recession. If each of the dependent variables is affected by the predictor variables, Nevada casino managers may be exhibiting expense preference behavior. The next chapter presents the results and analysis of the models.
CHAPTER IV
FINDINGS OF THE STUDY

Introduction

The purpose of this chapter is to provide a description of the data analysis based on the methodology provided in the previous chapter. This chapter will first address the assumptions for ordinary least squares (OLS) regression. Next, the regression models will be tested and refined for each of the three models. Lastly, the results of the final models will be interpreted.

Assumptions

For OLS there are four assumptions that must be met. The assumption of normality of residuals is tested and the data is also verified for homoscedasticity. Potential multicollinearity among predictors is also evaluated. In addition, linearity between the continuous variables is also verified.

The assumption of normality of residuals is tested by evaluating the Q-Q plots of the standardized residuals for each model. Figures 1, 2, and 3 are the Q-Q plots for each model. There does not appear to be any serious departures from normality for any of the models.
Figure 1. Q-Q plot of the standardized residuals for Model 1.

Figure 2. Q-Q plot of the standardized residuals for Model 2.
After testing the normality assumption, the data is checked for homoscedasticity. This assumption tests whether the variance of errors is constant. The standardized residuals are graphed against the standardized predicted values for each model and are shown in Figures 4, 5, and 6. There are no serious violations to this assumption.

\textit{Figure 3.} Q-Q Plot of the standardized residuals for Model 3.
Figure 4. Scatterplot of the standardized residuals and standardized predicted value for Model 1.

Figure 5. Scatterplot of the standardized residuals and standardized predicted value for Model 2.
Figure 6. Scatterplot of the standardized residuals and standardized predicted value for Model 3.

Multicollinearity is checked next by analyzing variance inflation factors (VIF) for each of the three models. As shown in Table 6, no VIFs are over 1.2. Since a VIF above 10 is typically considered an indicator of multicollinearity, none of the three models have multicollinearity issues (Kutner, Nachtsheim, Neter, & Li, 2005). The VIFs are the same for all three models.

Table 6

*Variance Inflation Factors*

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>1.100</td>
</tr>
<tr>
<td>Market Share Dummy</td>
<td>1.099</td>
</tr>
<tr>
<td>Recession Dummy</td>
<td>1.002</td>
</tr>
</tbody>
</table>
The assumption of linearity is also verified by running scatterplots for each dependent variable against the predictor variable of revenue. For each scatterplot a best fit line is added for recessionary and non-recessionary periods. These scatterplots are shown in Figures 7, 8, and 9. As can be seen in the scatterplot of Model 1, there are a few outliers. The scatterplot and results are rerun without the outliers and they are not significantly different.

*Figure 7. Scatterplot of number of employees and revenue (Model 1).*
Figure 8. Scatterplot of total salaries and wages and revenue (Model 2).
Figure 9. Scatterplot of total payroll and revenue (Model 3).

Regression Analysis Results

Descriptive statistics of all variables are shown in Table 7. Revenue per property has a mean of $64.4 million and a standard deviation of $98.0 million. The number of employees has a mean value of 802 with a standard deviation of 893. Salaries and wages has a mean value of $16.06 million and a standard deviation of $22.41 million. Total payroll, which includes salaries, wages, taxes, and benefits, has a mean value of $22 million and a standard deviation of $31.88 million. Additional descriptive statistics by year are shown in Table 8. These descriptive statistics are in total for all nonrestricted
Nevada casino properties earning over $1 million a year in gaming revenue. Figure 10 is a graph of the descriptive data from Table 8.

Table 7

Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees</td>
<td>352</td>
<td>73.00</td>
<td>4,308.00</td>
<td>802.08</td>
<td>892.67</td>
</tr>
<tr>
<td>Revenue *</td>
<td>352</td>
<td>4.03</td>
<td>636.53</td>
<td>64.39</td>
<td>97.97</td>
</tr>
<tr>
<td>Salaries and Wages*</td>
<td>352</td>
<td>1.23</td>
<td>135.24</td>
<td>16.06</td>
<td>22.41</td>
</tr>
<tr>
<td>Total Payroll*</td>
<td>352</td>
<td>1.48</td>
<td>191.93</td>
<td>22.00</td>
<td>31.88</td>
</tr>
</tbody>
</table>

* in millions of dollars

The Pearson correlation between number of employees and revenue is .96. The Pearson correlation between ‘salaries and wages’ and revenue is .99. The Pearson correlation between total payroll and revenue is also .99. All correlations are significant at the .001 level. Since Pearson correlation between a continuous variable and a nominal variable are typically not meaningful, these correlations are not discussed.
Table 8

Descriptive Statistics by Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Revenue</th>
<th>Total Employees</th>
<th>Total Salaries and Wages</th>
<th>Total Payroll</th>
<th>Number of Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>$8,215.1</td>
<td>151,779</td>
<td>$2,180.9</td>
<td>$2,896.7</td>
<td>182</td>
</tr>
<tr>
<td>1991</td>
<td>$9,017.2</td>
<td>152,119</td>
<td>$2,794.1</td>
<td>$3,598.6</td>
<td>198</td>
</tr>
<tr>
<td>1992</td>
<td>$9,153.6</td>
<td>155,962</td>
<td>$2,406.5</td>
<td>$3,254.9</td>
<td>192</td>
</tr>
<tr>
<td>1993</td>
<td>$9,621.2</td>
<td>145,942</td>
<td>$2,460.0</td>
<td>$3,324.9</td>
<td>189</td>
</tr>
<tr>
<td>1994</td>
<td>$10,896.8</td>
<td>165,149</td>
<td>$2,785.4</td>
<td>$3,798.7</td>
<td>207</td>
</tr>
<tr>
<td>1995</td>
<td>$11,995.4</td>
<td>170,239</td>
<td>$3,051.5</td>
<td>$4,137.2</td>
<td>213</td>
</tr>
<tr>
<td>1996</td>
<td>$12,803.9</td>
<td>186,103</td>
<td>$3,263.9</td>
<td>$4,420.2</td>
<td>229</td>
</tr>
<tr>
<td>1997</td>
<td>$13,285.4</td>
<td>188,405</td>
<td>$3,407.2</td>
<td>$4,619.8</td>
<td>235</td>
</tr>
<tr>
<td>1998</td>
<td>$13,870.0</td>
<td>182,429</td>
<td>$3,557.4</td>
<td>$4,827.8</td>
<td>234</td>
</tr>
<tr>
<td>1999</td>
<td>$15,392.4</td>
<td>198,992</td>
<td>$3,908.1</td>
<td>$5,309.9</td>
<td>238</td>
</tr>
<tr>
<td>2000</td>
<td>$17,557.3</td>
<td>204,874</td>
<td>$4,346.2</td>
<td>$5,957.4</td>
<td>243</td>
</tr>
<tr>
<td>2001</td>
<td>$18,103.4</td>
<td>205,151</td>
<td>$4,393.4</td>
<td>$6,112.8</td>
<td>247</td>
</tr>
<tr>
<td>2002</td>
<td>$17,301.8</td>
<td>191,759</td>
<td>$4,300.5</td>
<td>$6,020.5</td>
<td>249</td>
</tr>
<tr>
<td>2003</td>
<td>$17,978.2</td>
<td>192,812</td>
<td>$4,389.2</td>
<td>$6,188.3</td>
<td>256</td>
</tr>
<tr>
<td>2004</td>
<td>$19,586.1</td>
<td>191,620</td>
<td>$4,559.8</td>
<td>$6,503.1</td>
<td>258</td>
</tr>
<tr>
<td>2005</td>
<td>$21,356.2</td>
<td>202,209</td>
<td>$4,949.4</td>
<td>$7,016.9</td>
<td>268</td>
</tr>
<tr>
<td>2006</td>
<td>$24,081.1</td>
<td>215,041</td>
<td>$5,305.0</td>
<td>$7,482.2</td>
<td>274</td>
</tr>
<tr>
<td>2007</td>
<td>$25,257.0</td>
<td>201,953</td>
<td>$5,477.3</td>
<td>$7,707.9</td>
<td>270</td>
</tr>
<tr>
<td>2008</td>
<td>$25,004.8</td>
<td>202,216</td>
<td>$5,563.4</td>
<td>$7,755.6</td>
<td>266</td>
</tr>
<tr>
<td>2009</td>
<td>$22,011.4</td>
<td>177,397</td>
<td>$5,108.5</td>
<td>$7,133.1</td>
<td>260</td>
</tr>
<tr>
<td>2010</td>
<td>$20,853.6</td>
<td>175,024</td>
<td>$5,028.6</td>
<td>$6,978.9</td>
<td>256</td>
</tr>
</tbody>
</table>

Note. Total revenue, total salaries and wages and total payroll are in millions.
As can be seen in Table 9, 93.8% of the variance in the natural log of employees is accounted for by the natural log of revenue, the dummy variable for market share and the dummy variable for a recessionary period. $R^2$ and adjusted $R^2$ are the same for the first model. Table 10 is the Analysis of Variance (ANOVA) table and shows this model is significant in explaining the variance, $F(3,348) = 1,761.43, p < .0005$. The null of hypothesis 1 is rejected, which indicates that managers of Nevada casino companies may
be exhibiting expense preference behavior in terms of number of employees. Table 11 presents the regression results of Model 1 in which the dependent variable is the natural log of number of employees.

Table 9

*Model 1 Summary*

<table>
<thead>
<tr>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>.969</td>
<td>.938</td>
<td>.938</td>
<td>.248</td>
</tr>
</tbody>
</table>

Table 10

*ANOVA Table for Model 1*

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>324.574</td>
<td>3</td>
<td>108.191</td>
<td>1761.425</td>
</tr>
<tr>
<td>Residual</td>
<td>21.375</td>
<td>348</td>
<td>0.061</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>345.949</td>
<td>351</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. Dependent variable is Ln(Employees)*

*p < .0005
Table 11

Regression Coefficients for Model 1

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Std.</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>-8.442</td>
<td>-.205</td>
</tr>
<tr>
<td>Ln(Revenue)</td>
<td>0.853</td>
<td>0.983</td>
</tr>
<tr>
<td>Market Share Dummy</td>
<td>-0.120</td>
<td>-0.055</td>
</tr>
<tr>
<td>Recession Dummy</td>
<td>-0.352</td>
<td>-0.102</td>
</tr>
</tbody>
</table>

\[ \text{Note. Dependent variable is Ln(Employees)} \]
\[ * p < .0005 \]

The market share dummy variable is not significant for a one tailed test since the null hypothesis is that there is a non-positive relationship between market share and number of employees. Since the t-value is negative and the corresponding significance is larger than 0.500, the null of hypothesis 3 is not rejected. This indicates that casino firms in Nevada do not have a significantly larger number of employees based on whether their market share is 63% or higher. The results show that as market concentration increases, number of employees decreases. This is the opposite of what many previous expense preference studies find (Arnould, 1985; Carter et al., 1997; Edwards, 1977; Hannan, 1979; Hannan & Mavinga, 1980; Williamson 1963). This finding does support what Smirlock and Marshall (1983) find that when including firm size as a potential factor,
market concentration becomes nonsignificant. The model is also modified and run with competition as a continuous variable as the number of competitors in the geographic market and results are the same with total competitors being nonsignificant.

The model is rerun without this variable. Tables 12 and 13 show the model summary and ANOVA table for the final Model 1 with the dependent variable of natural log of employees. The full model is still significant, \( F(2,349) = 2,527.76, p < .0005 \), with 93.5% of the variance in the natural log of employees being accounted for by the natural log of revenue and the recession dummy variable. Table 14 is the regression results of the final model.

Table 12

**Final Model 1 Summary**

<table>
<thead>
<tr>
<th></th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.967</td>
<td>.935</td>
<td>.935</td>
<td>.253</td>
</tr>
</tbody>
</table>

Table 13

**ANOVA Table for Final Model 1**

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>323.609</td>
<td>2</td>
<td>161.805</td>
<td>2527.785</td>
<td>.000*</td>
</tr>
<tr>
<td>Residual</td>
<td>22.340</td>
<td>349</td>
<td>0.064</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>345.949</td>
<td>351</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. Dependent variable is Ln(Employees)*

* \( p < .0005 \)
### Table 14

*Regression Coefficients for Final Model 1*

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized</th>
<th>Standardized</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficients</td>
<td>Coefficients</td>
</tr>
<tr>
<td></td>
<td>Std. Error</td>
<td>Beta</td>
</tr>
<tr>
<td>(Constant)</td>
<td>-8.278</td>
<td>-40.461</td>
</tr>
<tr>
<td></td>
<td>.205</td>
<td>.000*</td>
</tr>
<tr>
<td>Ln(Revenue)</td>
<td>0.839</td>
<td>70.971</td>
</tr>
<tr>
<td></td>
<td>.012</td>
<td>.000*</td>
</tr>
<tr>
<td>Recession Dummy</td>
<td>-0.355</td>
<td>-7.561</td>
</tr>
<tr>
<td></td>
<td>0.47</td>
<td>.000*</td>
</tr>
</tbody>
</table>

*Note.* Dependent variable is Ln(Employees)

* p < .0005

Based on the significance of the predictor variable for the natural log of revenue, the null of hypothesis 2 is rejected and signifies that as revenue increases the number of employees also increases. As a casino firm gets larger they have a tendency to have more employees which may be an indicator of expense preference behavior by managers based on prior research (Blair & Placone, 1988; Carter et al., 1997; Gropper & Oswald, 1996; Mixon & Upadhyaya, 1996; Smirlock & Marshall, 1983). The thought that higher revenue may lead to more expense preference behavior by managers is because the larger the firm the more separation and layers between owners and managers (Smirlock & Marshall, 1983). Another reason, and probably a more valid reason in hospitality firms, could be that as firms increase in size and generate more revenue, they require more employees to produce that revenue. Managers may not be exhibiting expense preference
behavior in that case. This predictor variable is still significant though to control for revenue changes when evaluating the other variables.

The coefficient of the natural log of revenue from Table 14 is 0.839 which indicates that for each 1% increase in revenue, the number of employees increases 0.84%. Based on the mean revenue for Nevada casino firms and the mean number of employees from the descriptives in Table 7, a 1% increase in revenue equates to $643,000 and a 0.84% increase in employees is 6.7 employees. Over the entire sample period, each employee generates approximately $80,000 in revenue but for each 1% increase in revenue each additional employee generates approximately $96,000 in revenue. The additional employees produced more revenue than the average employee over the 21 year period analyzed. Smaller properties may have a higher percentage of fixed employees so the increase in revenue generates more income per employee, but more research should be done to determine the reason for the difference.

The coefficient of the recession dummy variable is also significant so the null of hypothesis 4 is rejected and signifies that during a recessionary period, casino firms decrease the number of employees they employ after controlling for firm size. Table 14 shows the coefficient of the recession dummy variable as -0.355, which indicates that during a recessionary period casino firms decrease the number of employees 35.5%. This decrease is after taking into account the decrease in employees that occurred due to the change in revenue from lower business volumes. Since Nevada casino firms over the last 21 years had an average of 802 employees, the 35.5% decrease equates to 285 employees. This may be an indication of expense preference behavior by manager during non-recessionary periods.
If casino firms are able to decrease the number of employees nearly 36% during a recession, above and beyond what already occurred due to the decrease in business volumes, they may have been overstaffed originally because they were able to decrease staff more than the decrease in revenue warranted. If managers are operating efficiently during non-recessionary periods they can accomplish the decrease in employees by just accounting for the decrease in revenue. During the recession, managers may be decreasing employees more than necessary, but the recession studied was 2 years long so this is likely not the cause of the significant difference. More research should be done years after the recession to see if management maintains the efficiencies they did during the recession.

**Salaries and Wages (Model 2)**

As shown in Table 15, 98.1% of the variance (R² and adjusted R²) in the natural log of salaries and wages is accounted for by the natural log of revenue, the dummy variable for market share and the dummy variable for a recessionary period. Results of the ANOVA in Table 16, show this model is significant in explaining the variance, $F(3,348) = 5.901.54, p < .0005$. Similar to Model 1, the null of hypothesis 1 is rejected, which may indicate that managers of Nevada casino companies may be exhibiting expense preference behavior in terms of total salaries and wages. Table 17 presents the regression results of Model 2 in which the dependent variable is the natural log of salaries and wages.
Table 15

_Model 2 Summary_

<table>
<thead>
<tr>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>.990</td>
<td>.981</td>
<td>.981</td>
<td>.155</td>
</tr>
</tbody>
</table>

Table 16

_ANOVA Table for Model 2_

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>425.393</td>
<td>3</td>
<td>141.798</td>
<td>5901.542</td>
</tr>
<tr>
<td>Residual</td>
<td>8.361</td>
<td>348</td>
<td>0.024</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>433.755</td>
<td>351</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. Dependent variable is Ln(Salaries and Wages)*

* * p < .0005

Similar to the results from Model 1, the market share dummy variable is not significant so the null of hypothesis 3 is not rejected. The model was rerun without this variable. Tables 18 and 19 show the model summary and ANOVA table for the final Model 2 with the dependent variable of natural log of salaries and wages. The full model is still significant, $F(2,349) = 7,589.44$, $p < .0005$, with 97.8% of the variance ($R^2$) in the natural log of salaries and wages accounted for by the natural log of revenue and the recession dummy variable. Table 20 shows the coefficients for the final Model 2.
### Table 17

*Regression Coefficients for Model 2*

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Std. B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>(Constant)</td>
<td>-.866</td>
<td>.128</td>
</tr>
<tr>
<td>Ln(Revenue)</td>
<td>0.979</td>
<td>.008</td>
</tr>
<tr>
<td>Market Share Dummy</td>
<td>-.144</td>
<td>.019</td>
</tr>
<tr>
<td>Recession Dummy</td>
<td>-.073</td>
<td>.029</td>
</tr>
</tbody>
</table>

*Note.* Dependent variable is Ln(Salaries and Wages)

* * p < .05; ** p < .0005

### Table 18

*Final Model 2 Summary*

<table>
<thead>
<tr>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>.989</td>
<td>.978</td>
<td>.977</td>
<td>.167</td>
</tr>
</tbody>
</table>
Table 19

**ANOVA Table for Final Model 2**

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>424.006</td>
<td>2</td>
<td>212.003</td>
<td>7589.441</td>
</tr>
<tr>
<td>Residual</td>
<td>9.749</td>
<td>349</td>
<td>0.028</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>433.755</td>
<td>351</td>
<td>0.028</td>
<td></td>
</tr>
</tbody>
</table>

*Note. Dependent variable is Ln(Salaries and Wages)*  
* p < .0005

Table 20

**Regression Coefficients for Final Model 2**

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Std.</td>
<td></td>
</tr>
<tr>
<td><strong>B</strong></td>
<td><strong>Error</strong></td>
<td><strong>Beta</strong></td>
</tr>
<tr>
<td>(Constant)</td>
<td>-0.669</td>
<td>.135</td>
</tr>
<tr>
<td>Ln(Revenue)</td>
<td>0.961</td>
<td>.008</td>
</tr>
<tr>
<td>Recession Dummy</td>
<td>-0.077</td>
<td>.031</td>
</tr>
</tbody>
</table>

*Note. Dependent variable is Ln(Salaries and Wages)*  
* p < .05; ** p < .0005

The null of hypothesis 2 is rejected and signifies that as revenue increases total salaries and wages also increases. Similar to Model 1, as a casino firm gets larger they
have a tendency to have more salaries and wages expenses. This is expected since as explained in Model 1, more revenue requires more employees and increased salaries and wages to produce the additional revenue. Based on Table 20, the coefficient of the natural log of revenue is 0.961 which indicates that for each 1% increase in revenue, total salaries and wages increase 0.96%. The 1% increase in revenue, which is $634,000 based on the mean of revenue, corresponds to a $154,000 increase in salaries and wages, based on the mean salaries and wages from Table 7. According to Model 1, casino firms hire 6.7 more employees, but only incur $154,000 in additional salaries and wages for each 1% increase in revenue.

The null of hypothesis 4 is also rejected and signifies that during a recessionary period, casino firms decrease total salaries and wages expense after controlling for firm size. Table 20 shows the coefficient of the recession dummy variable as -0.077, which indicates that during recessionary a period casino firms decrease salaries and wages expense 7.7%. Based on the mean salaries and wages from Table 7, a 7.7% decrease equates to $1.2 million. Based on results of Model 1, casino firms decrease 285 employees but only decrease salaries and wages $1.2 million during recessionary periods. This equates to only $4,000 per employee. It is not known if the decrease in salaries and wages came from the loss of 285 employees, less hours, or pay cuts. While further research needs to be conducted to better understand this change, results of Model 2 show that casino firms are able to decrease salaries and wages expense beyond the level necessary for just decreased business volumes during the recession, which may be a sign of expense preference behavior by managers during non-recessionary periods.
Total Payroll (Model 3)

Tables 21 and 22 provide the model summary and ANOVA table for Model 3 in which the dependent variable is the natural log of total payroll. As shown in Table 21, 98.8% of the variance (R$^2$ and adjusted R$^2$) in the natural log of total payroll is accounted for by the natural log of revenue, the dummy variable for market share and the dummy variable for the recession period. This model is significant in explaining the variance, $F(3,348) = 9,333.32, p < .0005$. Similar to results of Model 1 and 2, the null of hypothesis 1 is rejected, which indicates that managers of Nevada casino companies may be exhibiting expense preference behavior in terms of total payroll. The regression results of Model 3 in which the dependent variable is the natural log of total payroll are shown in Table 23.

Table 21

Model 3 Summary

<table>
<thead>
<tr>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>.994</td>
<td>.988</td>
<td>.988</td>
<td>.127</td>
</tr>
</tbody>
</table>
Table 22

ANOVA Table for Model 3

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>454.123</td>
<td>3</td>
<td>151.374</td>
<td>9333.316</td>
<td>.000*</td>
</tr>
<tr>
<td>Residual</td>
<td>5.644</td>
<td>348</td>
<td>0.016</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>459.767</td>
<td>351</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Dependent variable is Ln(Total Payroll)
* *p < .0005

Table 23

Regression Coefficients for Model 3

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized</th>
<th>Standardized</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficients</td>
<td>Coefficients</td>
</tr>
<tr>
<td></td>
<td>Std.</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>-1.124</td>
<td>-.105</td>
</tr>
<tr>
<td>Ln(Revenue)</td>
<td>1.009</td>
<td>1.009</td>
</tr>
<tr>
<td>Market Share Dummy</td>
<td>-0.129</td>
<td>-.052</td>
</tr>
<tr>
<td>Recession Dummy</td>
<td>-0.048</td>
<td>-.012</td>
</tr>
</tbody>
</table>

*Note.* Dependent variable is Ln(Total Payroll)
* *p < .05; ** p < .0005
Similar to results from Models 1 and 2, the market share dummy variable is not significant so the null of hypothesis 3 is not rejected. The model is rerun without this variable and Tables 24 and 25 show the model summary and ANOVA table for the final Model 3 with the dependent variable of natural log of total payroll. The final model is still significant, $F(2,349) = 11,698.69, p < .0005$, with 98.5% of the variance ($R^2$) in the natural log of total payroll being accounted for by the natural log of revenue and the recession dummy variable. Table 26 shows the coefficients for the final model after removing the nonsignificant variable.

Table 24

*Final Model 3 Summary*

<table>
<thead>
<tr>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>.993</td>
<td>.985</td>
<td>.985</td>
<td>.139</td>
</tr>
</tbody>
</table>

Table 25

*ANOVA Table for Final Model 3*

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>453.010</td>
<td>2</td>
<td>226.505</td>
<td>11698.694</td>
</tr>
<tr>
<td>Residual</td>
<td>6.757</td>
<td>349</td>
<td>0.019</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>459.767</td>
<td>351</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Dependent variable is Ln(Total Payroll)

* $p < .0005$
Table 26

Regression Coefficients for Final Model 3

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized</th>
<th>Standardized</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficients</td>
<td>Coefficients</td>
</tr>
<tr>
<td></td>
<td>Std.</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>-0.948</td>
<td>-8.428</td>
</tr>
<tr>
<td>Ln(Revenue)</td>
<td>0.993</td>
<td>0.993</td>
</tr>
<tr>
<td>Recession Dummy</td>
<td>-0.052</td>
<td>-0.013</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>Error</th>
<th>Beta</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-0.948</td>
<td>.113</td>
<td></td>
<td>-8.428</td>
<td>.000**</td>
</tr>
<tr>
<td>Ln(Revenue)</td>
<td>0.993</td>
<td>.006</td>
<td>0.993</td>
<td>152.880</td>
<td>.000**</td>
</tr>
<tr>
<td>Recession Dummy</td>
<td>-0.052</td>
<td>.026</td>
<td>-0.013</td>
<td>-1.998</td>
<td>.046*</td>
</tr>
</tbody>
</table>

Note. Dependent variable is Ln(Total Payroll)
* p < .05; ** p < .0005

The null of hypothesis 2 is rejected and signifies that as revenue increases total payroll also increases. As shown in the results of Model 2, salaries and wages increase as firm size increases so it is expected that total payroll will also increase since salaries and wages are the largest portion of total payroll. Table 26 shows the coefficient of the natural log of revenue as 0.993, so for each 1% increase in revenue, total payroll increases 0.99%. Based on the means of revenue and total payroll from Table 7, an increase of 1% in revenue equates to $643,000 and an increase of 0.99% in total payroll equals $218,000. The $64,000 difference between the increase in salaries and wages and the increase in total payroll is due to taxes and benefits.

For the period under study, taxes and benefits are 37% of salaries and wages. In larger firms, for each 1% increase in revenue, taxes and benefits are 41.6% of salaries and
wages for the additional expense. It is not known whether just payroll taxes increased due to higher corporate tax rates or if benefits also increased. It may also be a combination of both, but more research needs to be conducted to understand the difference in the percentages. The results support previous research though that shows larger firms spend more in payroll related expenses.

The null of hypothesis 4 is also rejected and signifies that during a recessionary period, casino firms decrease total payroll expenses. During recessionary periods, casino firms decrease total payroll expenses 5.2%, which is the coefficient of the natural log of revenue from Table 26. Based on the mean of total payroll from Table 7, the decrease of 5.2% equates to $1.1 million. This expense savings is less than the $1.2 million in salaries and wages alone. There could be a variety of reasons that total payroll decreases less than salaries and wages. One reason could be that during recessionary periods, corporate tax rates increase or more benefits are given which could have caused benefits to increase and offset some of the decrease in salaries and wages. Benefits may be increasing due to union contracts which for Nevada casinos are 5 to 10 year contracts (Stutz, 2007). These contracts may have benefit increases built into them when they are signed (Stutz, 2007). Management may not have the ability to alter these benefits without union approval. Another explanation may be that benefits are taken away during the recession and are not given back to employees after the recessionary periods end. More research would need to be done to understand how salaries and wages can decrease more than total payroll. Results of Model 3 show that casino firms are able to decrease total payroll expenses during recessionary periods beyond the level necessary for just
decreased business volumes. Model 3 further supports potential expense preference behavior by Nevada casino managers during non-recessionary periods.

**Hypotheses Summary**

For Nevada casinos, all three models evaluated produce similar results for all four hypotheses. The amount of payroll related expenses and number of employees is affected by casino size, level of competition, and recessionary periods. Previous research finds that these variables may be indicators of expense preference behavior by managers. The conclusion rejects the null of hypothesis 1. By rejecting the null hypothesis that there is no difference, the results of this dissertation may provide evidence of expense preference behavior in the Nevada gaming industry.

Hypothesis 2 was concerned with whether firm size affects the number of employees or payroll related expenses. Results show that firm size in Nevada casinos is a factor in payroll expenses. This dissertation rejects the null hypothesis that payroll related expenses or number of employees remains the same or decreases as a casino increases in size. All dependent variables, number of employees, salaries and wages, and total payroll, increase as total revenue increases. Previous research shows that larger firms may spend more in payroll because the owners are more separated from management the larger the operation. For casino firms, the variable is used as a control variable since it is expected that payroll related expense will increase as revenue increases since more business volumes require more employees.

The third hypothesis involved the level of competition. Expense preference research has shown that less competition and higher market share percentage may lead to more utility maximization behavior by managers than shareholder wealth maximization
behavior. Results of all three models fail to reject the null hypotheses that payroll will decrease or remain unchanged as market share increases. Number of employees and payroll related expenses decrease for Nevada casinos that have a market share of 63% or higher. After determining that this variable was nonsignificant, it was removed and all models are rerun. Results are not significantly different under the final models for the other predictor variables after removal of this variable.

The final hypothesis tested is concerned with the affect of recessionary periods on payroll related expenses. All three models reject the null hypothesis that a recessionary period does not change or may even increase payroll related expenses. As shown in Table 27, all dependent variables decrease during a recessionary period after taking into account changes due to business volumes. This may be an indication that managers of Nevada casinos are exhibiting expense preference behavior during non-recessionary periods.

Table 27

*Effects of Recessionary Periods on Dependent Variables*

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Mean</th>
<th>% Change</th>
<th>$ Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Employees</td>
<td>802.1</td>
<td>-35.5%</td>
<td>-284.7</td>
</tr>
<tr>
<td>Salaries and Wages*</td>
<td>$16.1</td>
<td>-7.7%</td>
<td>-$1.2</td>
</tr>
<tr>
<td>Total Payroll*</td>
<td>$22.0</td>
<td>-5.2%</td>
<td>-$1.1</td>
</tr>
</tbody>
</table>

*Note.* * in millions
If casino firms are able to decrease all payroll related expenses during a recession, above and beyond what already occurred due to the decreased business volumes, they may be overstaffed or spending too much during non-recessionary periods. If managers are operating efficiently during non-recessionary periods they would be able to accomplish the decrease in employees and payroll expenses by just adjusting for the decrease in business volumes.

**Conclusion**

The three models discussed in the previous chapter are analyzed using OLS multiple regression in SPSS. Results for each hypothesis are consistent across all three models. All models show that number of employees, salaries and wages, and total payroll in Nevada casinos are affected by casino size and recessionary periods. All models also show a significant positive relationship with firm size. As casinos increase in size or business volumes, payroll related expenses also increase. The final variable that is significant was recessionary period. During recessionary periods, number of employees and payroll expenses decrease after controlling for changes in business volumes. These results show that Nevada casino managers may be exhibiting expense preference behavior in larger casinos and during non-recessionary periods. The next section will discuss limitations, managerial and academic implications, and potential future research.
CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

This chapter will focus on the conclusions that can be drawn from the results of the study and the implications of those results. The limitations of the study and recommendations for future research will also be discussed. The main purpose of this research is to evaluate whether managers of Nevada casinos exhibit expense preference behavior over shareholder wealth maximization behavior. The research questions are concerned with whether a casino’s size, market share or an economic recession affected the number of employees and payroll related expenses.

The study evaluates aggregate annual data from the Nevada Gaming Control for fiscal years 1990 to 2010. Based on a thorough literature review of expense preference behavior, OLS multiple regression analysis was chosen to evaluate Nevada casinos. Three models are run with dependent variables for number of employees, salaries and wages, and total payroll. Predictor variables include total revenue, a dummy variable for market share and a dummy variable for recessionary periods.

Findings

Findings from the three models are consistent for all predictor variables. In each model, the market share dummy variable is not significant based on a one-tailed test. The coefficient was negative, which indicates that managers of Nevada casinos decrease number of employees, salaries and wages, and total payroll as market share increases and competition decreases. This fails to reject null hypothesis 3. All models are rerun without this predictor variable to obtain final models.
All final models explain at least 93.5\% of the variance in the dependent variables. Model 1 explains 93.5\% of the variance in the natural log of employees with the natural log of revenue and the recession dummy variable. Model 2 uses the natural log of salaries and wages as the dependent variable and Model 3 uses the natural log of total payroll. The two predictor variables, the natural log of revenue and the recession dummy variable, explain 95\% of the variance in each model.

As casino firms increase in size and produce more revenue, they have more payroll related expenses. For each 1\% increase in revenue, casinos hire 0.84\% more employees, spend 0.96\% more in salaries and wages and incur 0.99\% more in total payroll expense. As Nevada casinos generate $643,000 in additional revenue they hire 6.7 more employees. These additional employees each generate $96,000 in revenue. Casino managers also spend an additional $154,000 in salaries and wages and $218,000 in total payroll. Prior research shows that as firms increase in size, it is more likely for managers to exhibit expense preference behavior (Blair & Placone, 1988; Carter et al., 1997; Gropper & Oswald, 1996; Mixon & Upadhyaya, 1996; Smirlock & Marshall, 1983). Moreover, as casinos increase in size they require more employees and more payroll expenses to provide the service necessary to produce the additional revenue.

During recessionary periods Nevada casinos decrease the number of employees and payroll related expenses. These decreases occur even after controlling for the decreases due to lower business volumes. Casinos decrease the number of employees 35.5\% during recessionary periods on average. They also decrease salaries and wages 7.7\% and total payroll 5.2\%. These decreases equate to 285 employees, $1.2 million in salaries and wages and $1.1 million in total payroll. If casinos managers are able to decrease payroll
related expenses during recessionary periods beyond the level necessary for the lower business volumes, they may be operating inefficiently during non-recessionary periods. This may be an indication that managers are exhibiting expense preference behavior during non-recessionary periods.

**Implications of Findings**

The findings of this dissertation have both academic and managerial implications. An academic implication is that this study adds to the previous literature on expense preference behavior. This dissertation is also the first known study that evaluates recessionary periods and management’s response to economic downturns in relation to expense preference behavior. This is also the only known study on expense preference behavior in the gaming industry and only the third study in hospitality.

The managerial implications show casino managers and owners that they are overstaffed during non-recessionary periods. This is important for many reasons. One reason is that more money is being spent on payroll related expenses that could be paid to owners in the form of dividends or used for growth of the properties, both of which would increase shareholders wealth. The additional cash savings could also be used to borrow less if the company was borrowing to grow. It could also be saved and used in times when the company had low or negative EBITDA as was the case for fiscal years ending June 30, 2009 and 2010.

Another managerial implication about being overstaffed during non-recessionary periods concerns union contracts. Nevada casinos typically sign 5 or 10 year union contracts (Stutz, 2007). By signing these contracts when the casinos are already overstaffed they are committing to using a higher level of staffing than is required as was
the case in 2007 when many Nevada casinos signed new union contracts. When revenue and business volumes are increasing every year this is not a concern because the casinos need the employees and maybe more as business volumes continue to rise. When business volumes suddenly decrease and casinos have committed to giving employees a certain level of hours and benefits, management does not have as much flexibility to adjust. If they were staffed at the right level to begin with, they would not have to cut as drastically.

This dissertation can be used as a basis for theory and a beginning model for individual casinos to evaluate their own payroll related expenses. Individual casinos could implement a time series model based of this dissertation with monthly data and more detailed payroll expenses. Fixed and variable positions or management and hourly employees could be evaluated separately to see if one category of employees is treated differently. Casino management could evaluate their property as compared to the results of this dissertation to see if they adjusted differently or not at all.

Limitations

As with any research, this study is not without limitations. The main limitations are with the data itself. First the data is in aggregate by geographic location and size. Individual property information is not available. If properties are staffing differently, the differences may be hidden in the aggregate data. The second limitation with the data is an extension of the first. Since the data is in aggregate, ownership information is not available for particular properties. While previous studies have shown mixed results on whether the percentage of ownership is a factor in expense preference behavior, the lack of this information in Nevada casinos does not allow this variable to be tested in this
study. Another limitation of the data itself is that the data is annual. Monthly data may show the effects of the predictor variables better and could be matched with the exact national recession dates.

An additional limitation is how recessionary periods are coded. This study coded recessionary periods based on the National Bureau of Economic Research’s recession dates and 6 months or more must have occurred during the fiscal year to code the entire year as a recession. The national recession may not correspond to the periods that effected Nevada casinos. As shown in Table 8, Nevada casinos had a decrease in revenue in fiscal years ending June 30, 2002 and 2010 as compared to the prior years. These may be considered recessionary periods in Nevada even though they were not on a national level. Results were run with these new recessionary periods and the results are not significantly different, but if another indicator of recessionary periods is used they might differ.

**Future Research**

This study leads itself into a few more studies based off the results and also the limitations. The first area of future research could be duplication of this study with individual casino properties in Nevada. With individual properties, an ownership variable may be able to be added to the models. Not all individual properties financial information needs to be obtained. Collecting a variety of properties from differing geographic locations and sizes and comparing the results to the results of this study will allow future researchers to see if there is a difference in the aggregate or individual results.
Additional research could be done to determine why the revenue generated per employee is higher on additional revenue. The level of fixed versus variable staffing may be a factor and further research into this breakdown may provide important information about an optimal level of staffing.

Additional research can be done to determine why Nevada casino firms were able to decrease the number of employees nearly 36% per Model 1 during a recession but only decreased salaries and wages 8% according to Model 2. A better indication of employees may be full-time equivalents (FTEs) or hours worked. This information was not available for this study, but in future research if individual property information is obtained, FTEs may be able to be studied. Further evaluation of the decrease in employees could be conducted to understand if employees are working reduced or no hours during non-recessionary periods. This is important because if management has too many employees that are not working, while there is no payroll related to these employees there are other expenses related to these employees. These employees have to be recruited, hired, trained, and scheduled. All these activities are operating expenses that have not been included in payroll related expenses.

An additional study could be done to understand the increase in total payroll as revenue increased. The results of Model 3 showed that total payroll increased $64,000 more than salaries and wages when revenue increased 1%. This study did not evaluate taxes and benefits separately, but future research could be conducted see if the increase in total payroll was due to one or the other. Payroll taxes are typically out of management’s control but benefits may not be. The future research could show if management controls payroll expenses by adjusting benefits as revenue changes. In addition, the study can
evaluate why taxes and benefits are 41.6% of salaries and wages on each additional 1% of revenue but only 37% of salaries and wages for the mean.

Another suggested area for future research is based on the results of Model 3. One could investigate how total payroll decreased less than salaries and wages during recessionary periods. Taxes and benefits would need to be evaluated separately to see which one increased while salaries and wages decreased.

Another area of future research would be a reexamination of this study 5 years after the 2007-2009 recessionary period. A comparison could be made to see if casino managers maintained the efficient staffing levels and expenses they experienced during the recession or if they reverted back to the older staffing levels. This research may also show that the managers staffed in between the two levels and learned they were overstaffed before the recession and maybe understaffed during the recession.

Qualitative research could also be conducted to evaluate casino management’s staffing decisions. By doing field observations, researchers may gain a better understanding of why casino managers staff the way they do. Researchers could try and determine if managers are staffing are needed for business volumes or if they empire building by staffing more than needed so they can do less or have more power. A mixed methods research project could also be conducted with field observations and managerial psychology theory.

Summary

By examining the relationship between casino revenue, market share and recessionary periods, the results of this dissertation show that Nevada casino managers may be exhibiting expense preference behavior in regards to payroll related expenses. OLS
regression is used for Nevada casinos from 1990 to 2010 and results provide evidence that casino managers may be exhibiting expense preference behavior over shareholder wealth maximizing behavior in regards to payroll related expenses.

The results of this study confirm previous research that a firm’s size has a positive effect on the number of employees and payroll related expenses. The results do not confirm previous research in other industries that an increase in market share and a decrease in competition increases payroll related expenses and number of employees. This dissertation further evaluates the effects of a long-term recession on payroll related expenses and finds that casino managers are able to decrease the number of employees and payroll expenses beyond those necessary from just revenue decreases which may be an indication that casino managers are exhibiting expense preference behavior during non-recessionary periods.
APPENDIX

IRB APPROVAL

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Social/Behavioral IRB – Review
Notice of Excluded Activity

DATE: April 27, 2011
TO: Dr. Michael Dalbor, Tourism and Convention Administration
FROM: Office of Research Integrity – Human Subjects
RE: Notification of review by José dos Santos, CRP
Protocol Title: Adjusting Payroll with Changes in Business Volumes: An Examination of Nevada Gaming Properties
Protocol # 1104-3798M

This memorandum is notification that the project referenced above has been reviewed as indicated in Federal regulatory statutes 45 CFR 46.

The protocol has been reviewed and deemed excluded from IRB review. It is not in need of further review or approval by the IRB.

Any changes to the excluded activity may cause this project to require a different level of IRB review. Should any changes need to be made, please submit a Modification Form.

If you have questions or require any assistance, please contact the Office of Research Integrity – Human Subjects at IRB@unlv.edu or call 895-2794.
REFERENCES


Nevada Revised Statues ch. 41, §463.120. Retrieved from [http://www.leg.state.nv.us/nrs/NRS-463.html#NRS463Sec120](http://www.leg.state.nv.us/nrs/NRS-463.html#NRS463Sec120)


http://data.cnbc.com/quotes/WYNN/tab/8
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Dissertation Title: Adjusting Payroll With Business Volumes: An Examination of Nevada Gaming Properties

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