Concentrated vs. Diversified Economy: The Impact of External Shocks – Las Vegas Case Study

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Abstract[1,2,3]

This paper examines the behavior of a city like Las Vegas, where most of its economy is based on tourism and gambling (concentrated in a few sectors). Using real GDP as an indicator, I compare the Las Vegas economy with Dallas, Texas (a diversified economy), and observe that economies that rely more heavily on a few sectors tend to be more affected by external shocks than those with a more diversified economy. The external shocks examined in this study are the 2008 financial crisis and the COVID-19 pandemic. Drawing on empirical evidence, I explore how external shocks affect the supply and demand in local markets and their impact on unemployment and personal income.

Keywords: Economic concentration; economic diversification; macroeconomic stability; urban development; infrastructure investment

I. Introduction

Las Vegas is one of the world's top tourist destinations. According to the Las Vegas Convention and Visitors Authority (LVCVA 2024a), the city reported 41.7 million visitors in 2024. Las Vegas is highly popular due to its diverse attractions, numerous events, excellent restaurants, luxurious resorts, and renowned casinos. According to the World Travel and Tourism Council (WTTC 2023), by January 2023, Las Vegas ranked in the top 5 of "The Top 10 Most Visited Cities in the World." Additionally, this article notes that the Las Vegas travel and tourism sector was worth nearly $23 billion in 2022 and is projected to grow to over $36 billion by 2032 (WTTC 2023).

Las Vegas is a major tourist city for many reasons. The origin goes back to the 1930s, when Nevada was a pioneer in legalizing gambling, which made it the only state in the U.S. where gambling was legal. Then, we have its strategic location close to California (one of the states with the most visitors in the country). Los Angeles is near Las Vegas (a few hours away), making access between the two cities easy. Another factor that contributed to the town's success is the investment in tourism infrastructure (hotels, restaurants, and resorts) that began in the 1940s, which enabled the city's exponential growth. This strong driver of the economy (tourism and gaming) is also Las Vegas's weakness. Because the city largely relies

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on these sectors, an external shock, such as recessions, unemployment, and a slow economic recovery, can cause massive problems.

This study is significant because it demonstrates that economies that rely more heavily on specific markets tend to be more vulnerable to external shocks. If a city is more diversified in its economy, when an external shock affects it, the economy has more “opportunity” to remain stable. For example, Dallas, Texas, has a diversified economy. Covering a wide range of sectors such as technology, telecommunications, finance, banking, biotechnology, healthcare, energy, transportation, logistics, and corporate sectors. This study analyzes how Las Vegas's dependence on tourism and gaming amplifies downturns and recovery after the 2008 financial crisis and the Covid-19 pandemic, compared to Dallas.

In this paper, I compare data between cities and over time. For the “Las Vegas GDP,” the Las Vegas-Henderson-Paradise, NV Metropolitan Statistical Area is used. Our data span from 2007 to 2023, encompassing both the 2008 global financial crisis and the 2020 COVID-19 pandemic.

II. Literature Review

In this paper, I measured and quantified the effects of a concentrated economy (as in Las Vegas) in response to an external shock. Lim and Won (2020, 2) state that “the macroeconomic shock on tourism demand is much harder in highly specialized tourism destinations like Las Vegas.” Their research suggests that a concentrated economy can achieve stability or recover by innovating and diversifying within its specialization (Lim and Won 2020). Although the two papers do not contradict each other, we may have different perspectives on the topic, but it is worth mentioning that this study compares Las Vegas with a completely different economy (Dallas, Texas), and not with itself; here, Las Vegas is presented as a concentrated economy, even though there is diversity within this concentration. Richard (2018, 188) anticipates that “Las Vegas will continue to develop new entertainment experiences and convention spaces to accommodate a diverse set of guests with an even more immersive sense of luxury.” His proposal is very strong, as Las Vegas's success largely depends on tourism. Preserving its essence while redefining and diversifying it can be an important key to mitigating the damage caused by external shocks. Richard (2018) also proposes that professional sport could be the future of diversification, as well as a greater reliance on residency shows.

Kwon, Lim, and Kim (2020, 250) explain that “Las Vegas visitors tend to expand their interests beyond the casino to other activities.” “The evolving tourism industry in Las Vegas is moving towards the diversified intra-industry structure” (264). Their study presents that there is less income elasticity in gambling and lodging, in contrast with other activities such as “food and drink”, “shopping”, and “sightseeing.”. Their paper is an important analysis of Las Vegas’s recovery from the Great Recession, as this movement within the tourism sector marks a new, more diversified future for the city. Kwon, Lim, and Kim (2020) cited Mikesell (1994), proposing that even with the short-term loss from “gaming and lodging”, the restructuring process toward a more diversified tourism industry will eventually make Las Vegas less vulnerable to external shocks due to high income elasticity. This conclusion is very important because it shows how diversifying demand within the tourism sector will help Las Vegas be better “protected” in the event of an external shock.

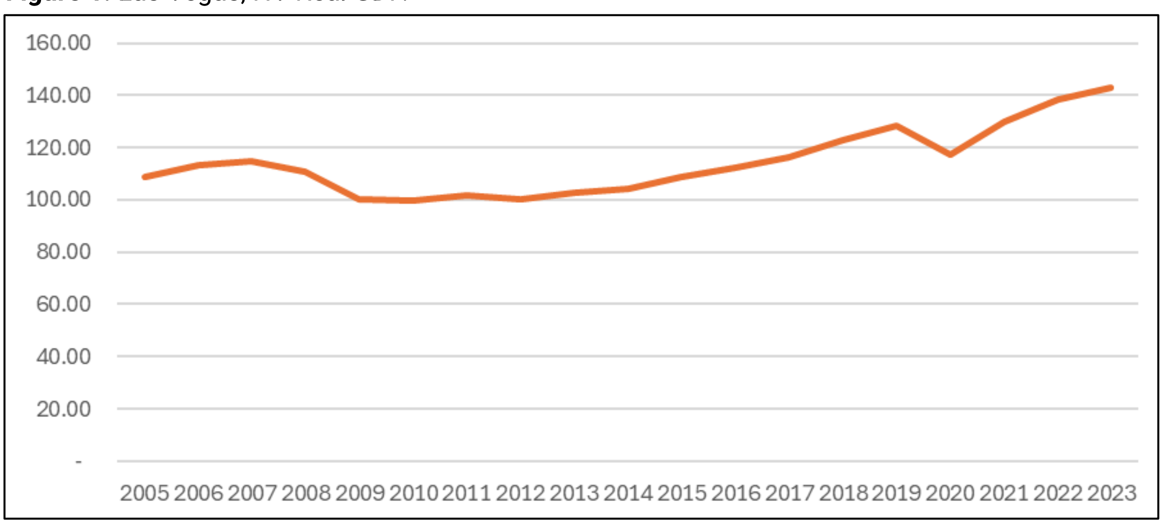
Lim (2020) studied the recovery of Las Vegas during the Great Recession, using the visitor volume as an indicator. The study mentions that recovery was not until 2013-2014, when visitor volume rose to the previous peak of 2007, illustrating that the recovery took 6-7 years (Lim 2020). Lim used a similar method to the one applied in this paper; the difference is that, as an indicator of the “recovery point,” real GDP was used because I compared concentration (or specialization) with diversification across cities. If only visitor volume was used, it wouldn’t be very useful for this study, because although Las Vegas has a more “active” tourism sector than Dallas during the external shock, that doesn't necessarily mean the metropolitan area's economy is more stable. Dallas thrives on its diversity outside of tourism, and that is what this study aims to demonstrate. Lim uses visitor value because it is a good indicator of Las Vegas's evolution over the years. Both Lim's study and this one agree that the tourism sector in general was affected because there was less economic spillover. "People cut their travel budgets significantly and Las Vegas suffered from a massive decrease in demand" (Lim 2020, 14).

Legg, Tang, and Kim (2022) also studied the economic vulnerability of casinos during a recession. They compared the economic downturn of the 2001 and 2007 recessions. The authors imply that the economic sensitivity of gaming revenue can be mitigated if casinos have a diversified portfolio beyond the gaming businesses, such as lodging. In addition to the previously cited studies, the authors propose that the damage in the event of recessions would be less severe with economic diversification, even within the same tourism sector. In this paper, I compared Las Vegas concentration with Dallas diversification (which has performed much better in post-crisis recovery); the Dallas case can be used as an example. Dallas has a very broad portfolio across sectors, not only within one. The essence of Las Vegas is tourism - it's "Sin City" - and exploiting this well-executed sector is key to wealth, but it would be beneficial to have at least one secondary sector with lower income elasticity. In other words, it should have a sector that wouldn't be the first option cut when a family decides to reduce its budget. For example, during a financial crisis, a family typically cuts its travel and shopping budgets before reducing expenses for telecommunications, healthcare, and food.

"People were more likely to reduce discretionary spending, which directly impacted the tourism and hospitality industry" (Watson and Deller 2021, 1208). For this paper, we included hospitality as a component of the tourism sector, because in the case of Las Vegas (as in many other economies), a decrease in one also leads to a decrease in the other. For example, if there are fewer tourists, there are fewer occupied hotel rooms; this could also be seen as fewer occupied hotel rooms being a sign of fewer tourists. We also included gaming revenue as part of the tourism sector, as Las Vegas casinos are highly popular with tourists.

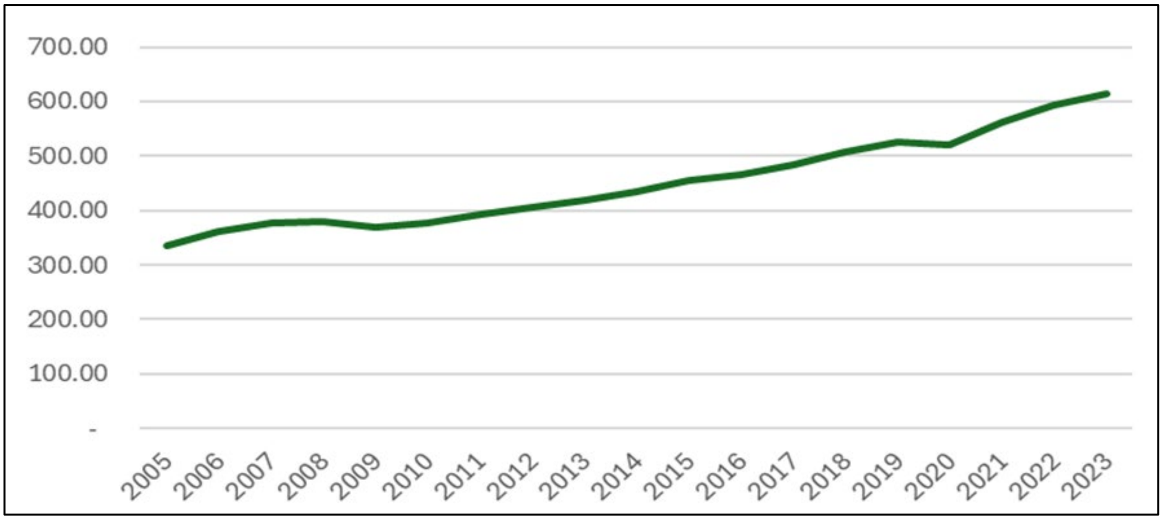
III. Data and Sources

Figure 1. Las Vegas, NV Real GDP.



Source: Data of Bureau of Economic Analysis, billions of dollars.

Figure 2. Dallas, TX Read GDP.



Source: Data of Bureau of Economic Analysis, billions of dollars.

For this study, we compare the two cities based on their real GDP, as reported by the Bureau of Economic Analysis (2024). Table 1 displays the data set, with amounts in billions of dollars. In both cities, for the variable of "real GDP", we use the metropolitan statistical area real GDP (Las Vegas–Paradise, NV Metropolitan Statistical Area and Dallas–Fort Worth–Arlington, TX Metropolitan Statistical Area).

Table 1. Las Vegas and Dallas Real GDP (billions of dollars).

Year	Las Vegas, NV	Dallas, TX	Year	Las Vegas, NV	Dallas, TX
2005	108.67	336.47	2015	108.81	456.22
2006	113.10	361.59	2016	112.33	466.82
2007	114.81	376.13	2017	116.33	483.73
2008	110.72	379.88	2018	122.72	506.21
2009	100.31	368.71	2019	128.19	526.15
2010	99.79	377.05	2020	117.30	520.19
2011	101.50	391.62	2021	130.07	562.14
2012	100.30	404.52	2022	138.45	594.46
2013	102.67	419.59	2023	142.81	613.38
2014	104.18	435.53			

Source: Data from the Bureau of Economic Analysis (2024).

IV. Methodology

With the data provided, we first compare to which degree both cities are affected by the external shocks, and also how much it takes for the cities to "recover" (in this case, we mark the "recovery point" when the real GDP returns to the same level as the year before the crisis). For this study, we will use 2020 as the year when the pandemic started.

First, to know how much a shock affects each city, we obtained the percentage of the real GDP that decreases (or increases) from the "origin point," that is the year before the crisis (2007 and 2019, respectively), with respect to the year of the crisis where the real GDP is at its "lowest point." Then, after determining the percentage of losses, we calculated how much it takes for the cities to recover. For this

process, we identify the “recovery point,” which, for this study, we use to determine the year when the city's real GDP returns to the level of the year before the crisis. Finally, we analyze growth from the “origin point” to the “recovery point”; to do so, we calculate the growth rate between these two points in time.
For this study, we used two formulas to calculate the losses for each city.

ratio= |origin point, real GDP- lowest point, real GDP|

*rate of losses= ratio*100/origin point*

With this formula, we found how much both cities are affected. After that, we estimate how many years it takes for the city to recover. At the end, we apply two more formulas to measure growth from the “origin point” to the “recovery point.”

ratio= |recovery point, real GDP- origin point, real GDP|

*rate of growth= ratio*100/origin point*

V. Results

The following tables and figures summarize the results.

Table 2. Results for the 2008 financial crisis.

	Las Vegas, NV	Dallas, TX
Max. Net Losses (In real GDP)	13.08%	1.97%
The time it takes to recover	10 years	1 year
Growing rate (origin to recovery)	1.32%	0.24%

Table 3. Results for the COVID-19 pandemic.

	Las Vegas, NV	Dallas, TX
Max. Net Losses (In real GDP)	8.49%	1.13%
The time it takes to recover	1 years	1 year
Growing rate (origin to recovery)	1.46%	6.84%

In Table 2, we analyze the results for the 2008 financial crisis. We observe that Las Vegas lost 13.08% of its real GDP from the year before the crisis (2007) to the year with the lowest real GDP. In contrast, Dallas lost just 1.97% (11.11% less than Las Vegas). The Dallas economy was affected approximately 6.6 times less than Las Vegas. Then, in the recovery, we conclude that one city “recovers” much faster than the other. Before looking at the time it takes to recover, there is one detail: Dallas doesn’t “feel” the crisis (its economy doesn't decrease) until 2009 (unlike Las Vegas, where the economic decline started in 2008). But for the “recovery point,” we marked the “origin point” in the same year (2007). We noticed that for Las Vegas to “completely recover,” it takes 10 years, whereas Dallas took only 1 year; its decline was slight, and its recovery was rapid. Las Vegas growth between the origin to the recovery point was of 1.32%, and growth for Dallas was 0.24%, but the city was in “crisis” for just 1 year. To further quantify this observation, we calculate Dallas' growth from 2007 to 2017 (origin to the recovery year for Las Vegas); the result was 28.6%. With this information, we can better appreciate the difference in the growth of both cities.

Then, during the pandemic (Table 3), the numbers are less contrasting, but we can still discern differences between the two cities. Las Vegas' real GDP decreased by 8.49% until its "lowest point," and Dallas just 1.13% (7.36% less). The interesting detail here is that both metropolitan areas "recovered" in just 1 year. Still, Dallas came back stronger, with a 6.84% growth from the "origin point" to the "recovery point." In contrast, Las Vegas' growth was slower at 1.46%.

Economic Base Analysis

Our empirical results indicate that, due to a more diversified and robust economic structure, Dallas has weathered both the 2008 and 2020 economic crises better than Las Vegas, whose economic performance heavily depends on a few service-based sectors, such as tourism and gaming. Furthermore, we report two additional economic indicators to measure the gap in economic performance, namely, gaming revenue per year and hotel room revenue from 2019 to 2023.

These tables were calculated to provide an approximation; although there are some variations, the data collected are a good indicator for the study. For gaming revenue, we collected data from the Nevada Gaming Control Board (2025) and used Clark County's gaming revenue, which primarily covers the metropolitan area. For hotels, we used data from the Las Vegas Convention and Visitors Authority (LVCVA 2025) and calculated the "hotel revenue" by multiplying the "Average Daily Room Rate (ADR)" by the "Total Room Night Occupied" for each year. This is just an approximation, as room prices vary significantly depending on hotel and room type. We also converted the dollars to real dollars (using the base year 2017, as in the real GDP).

Table 4. How Much Does the Las Vegas Economy Rely on Gaming Revenue?

Year	CPI	Billions of Dollars ($)	Real Rely on the GPA (in billions of dollars)
2019	255.65	10.35	9.92
2020	258.81	6.54	6.19
2021	270.97	11.44	10.35
2022	292.65	12.78	10.70
2023	304.70	13.48	10.84

Source: Nevada Gaming Control Board (2025).

Table 5. How Much Does the Las Vegas Economy Rely on Hotel Room Revenue?

Year	CPI	Billions of Dollars ($)	Real Rely on the GPA (in billions of dollars)
2019	255.65	0.53	0.51
2020	258.81	0.18	0.17
2021	270.97	0.39	0.35
2022	292.65	0.61	0.51
2023	304.70	0.73	0.59

Source: LVCVA (2025).

Based on Tables 4 and 5, we approximated how Las Vegas' real GDP is influenced by casino gaming revenue and hotel revenue, accounting for the average room rate and total nights occupied.

Finally, we calculated the rate at which gaming revenue and hotel room revenue contribute to the real GDP of Las Vegas. There are two essential factors to be considered: 1) The hotel room revenue is just an average, but there are some types of rooms that cost much more money than the average one. 2) These are just two components of the tourism sector, which means that the real GDP of Las Vegas relies more on the "economic reliability rate" results presented in Table 6. These results are understated because "hotel room revenue" varies significantly, in addition to the fact the industry encompasses many additional components, including restaurants, museums, concerts, conventions, and theaters.

Consequences of External Shocks

Las Vegas has experienced numerous economic consequences due to the two external shocks: the 2008 financial crisis and the COVID-19 pandemic. In this section, we cover the significant consequences.

During the 2008 financial crisis, the housing market was one of the most severely damaged sectors, and mortgages became unaffordable for many people due to the easy credit that had been offered in recent years. The population was growing at the same time as the metropolitan area, and combined with easy credit and speculative investment, it created a bubble bound to burst sooner or later. In 2007-2008, banks began to raise interest rates, and many loans also had adjustable rates. This led to an economic collapse as people couldn't afford their mortgages, resulting in many losing their homes. Then, the banks attempted to sell these houses, but the economic impact was so severe that no one could afford a house. Supply in housing increased, demand was in the ground, and the result was a massive collapse in prices. This is an example of how the crisis affected the supply-and-demand cycle.

Table 6. Economic reliability rate (gaming revenue and hotel room revenue).

Year	Real GDP (billions of dollars)	GR+ HRR (billions of dollars)	Economic Reliability Rate
2019	128.19	10.43	8.14%
2020	117.30	6.36	5.43%
2021	130.07	10.70	8.23%
2022	138.45	11.22	8.10%
2023	142.81	11.43	8.00%

Another consequence is unemployment. Many people work in the tourism industry, so when this sector is affected, their jobs are also affected. By 2024, 252,610 jobs are expected to be directly affected by tourism (LVCVA 2025). During the 2008 financial crisis, unemployment rates were extremely high. In 2007, the Las Vegas Metropolitan Statistical Area's unemployment rate was 4.8%. (Bureau of Labor Statistics 2025). In 2008, the rate was already 6.8%, but by 2010, it had risen to 13.5%, nearly three times the rate in 2007 (Bureau of Labor Statistics 2025). Even in July 2010, the unemployment rate reached its highest point at 13.9% (Bureau of Labor Statistics 2025). We can conclude that the unemployment rate rose almost 3 times during the crisis.

Another indicator of the crisis's damage is personal income, which fell from $74.09 million in 2007 to $73.15 million in 2008, then reached its lowest point in 2009 at $67.74 million (Bureau of Labor Statistics 2025). This indicates a loss of $6.35 million in personal income over a two-year period in the Las Vegas Metropolitan Statistical Area.

During the COVID-19 pandemic, the impacts were similar; the difference is that the 2008 financial crisis affected the economy's roots, destabilizing its structure. People had less real money in their pockets, while the pandemic was more like a temporary crisis. It is important to recognize that Las Vegas is gradually becoming more diversified in its economic structure; nowadays, the city is host to many sports events and conventions, and the city itself also has teams in different leagues, for example the Las Vegas Raiders, Vegas Golden Knights, and Las Vegas Aces. The city bought the Raiders team in 2020, and they have their own stadium (Allegiant Stadium) that was inaugurated the same year. The city hosts more international events, such as the Formula 1's "Las Vegas Grand Prix." Another international and economic impact the city has is with "The Sphere," inaugurated in 2023, a giant spherical structure composed of many LED lights, where concerts and events are held. That's how Las Vegas has been diversifying over the years, allowing it to maintain a more stable economy that will remain strong in the face of external shocks.

VI. Conclusion

In conclusion, we have demonstrated that economies that rely heavily on a single sector tend to experience prolonged crises and recessions, as well as lower declines in real GDP. The consequences of this include volatility in supply and demand in their local markets, higher unemployment, and lower personal income.

In this paper, two cities with completely different characteristics were compared: Las Vegas, Nevada, and Dallas, Texas. The first one strongly relies on the tourism sector (including hotels, casinos, and restaurants). In contrast, the second economy is a more diversified city (in this case, a metropolitan area) that is concentrated in many sectors. The results of this study are quite contrasting: when an external shock hits Las Vegas, its economy is less prepared than a diversified economy.

Based on the comparative analysis of Las Vegas and Dallas, this paper suggests that long-term planning strategies aimed at economic diversification can improve cities' resilience to external shocks. While concentrated cities may lack the economic spillovers observed in more diversified urban economies, targeted incentives that attract firms from multiple sectors could help replicate some of the stabilizing mechanisms identified in the Dallas case. Over time, this may contribute to higher employment, wage growth, and more stable diversified economies.

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