Las Vegas Sands Corp., Research Report

Macau Exposure Spells Caution While Singapore Provides Hope

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We recommend a HOLD weighting on Las Vegas Sands, Corp. ("LVS") for investors with a 3- to 5-year investment horizon.

China's current review into the Macau gambling industry, to which LVS has significant exposure, will most likely result in one of three projected scenarios with three different outcomes for LVS.

The heavy Macau exposure dampens LVS' return prospects for 2021, but a probabilistic scenario analysis projects a return to positive earnings and cash flows in 2022.

Our preferred valuation yields an equity value of $33.463 billion, which is approximately $3.1billion above the current market capitalization but within range of recent trading.

The company's current plans to expand its presence in Singapore provide a beacon of diversification hope and a projected boost to earnings at the end of the forecast period.

Recommendation: HOLD

Table of Contents

COMPANY OVERVIEW

Introduction

Las Vegas Sands Corp., (NYSE: LVS) was founded in 1988 and is based in Las Vegas, Nevada.

Together with its subsidiaries, it develops, owns, and operates integrated resorts in Asia and the United States. It owns and operates:

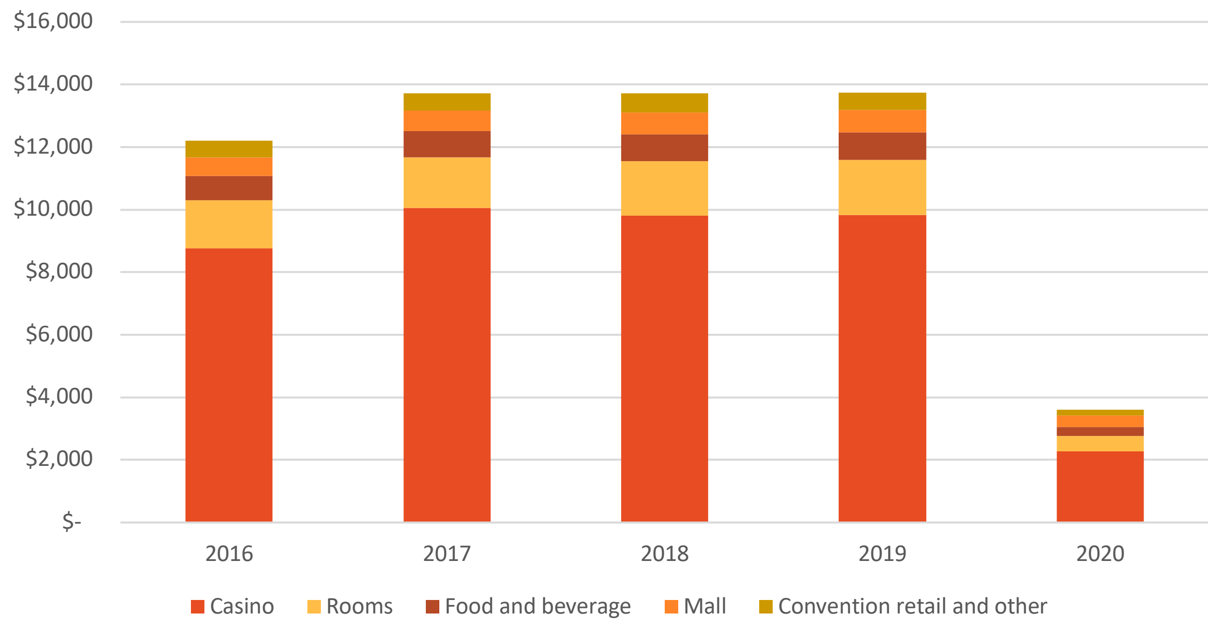
- in **Macau**, The Venetian Macau Resort Hotel, the Londoner Macau, The Parisian Macau, The Plaza Macau, the Four Seasons Hotel Macau, and the Sands Macau.
- in **Singapore**, the Marina Bay Sands;
- in **Las Vegas**, The Venetian Resort Hotel Casino and the Sands Expo and Convention Center in Las Vegas, Nevada.

Services

LVS's integrated resorts feature accommodations, gaming, entertainment and retail malls, convention and exhibition facilities, celebrity chef restaurants, and other amenities.

LVS generates revenue from its malls, casino, hotel, food and beverage and convention, retail & other operations. The trend in changes of revenue breakdown can be seen in Exhibit 1.

Exhibit 1: LVS Revenue Segmentation *(Source: Public Filings)*



Locations

LVS operates in Las Vegas, Macau and Singapore, with most of the revenues stemming from the company's Macau operations, as seen in Exhibit 2.

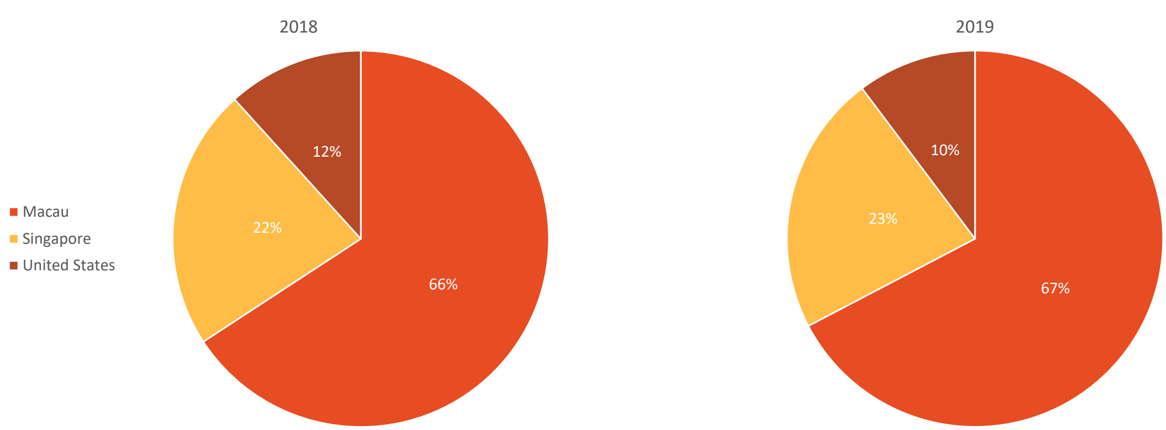
The company operates the gaming areas within its **Macau** properties pursuant to a 20-year gaming sub-concession that expires in June 2022.

As for the **Singapore** operations, the company operates the gaming area within its Singapore property pursuant to a 30-year casino concession provided under a development agreement entered into in August 2006. In April 2019, the company's wholly owned subsidiary, Marina Bay Sands Pte. Ltd. (MBS) entered into an additional development agreement pursuant to which MBS has agreed to construct a development, which would include a hotel tower with approximately 1,000 rooms and suites, a rooftop attraction, convention and meeting facilities and a live entertainment arena with approximately 15,000 seats.

Before the pandemic, LVS's properties in Asia accounted for roughly 90% of its revenue with significant investments planned to expand in Macau and Singapore. Consistently with the strategy and the fact that the bottom line of the **Las Vegas** operations was fueled by conventions (decimated by coronavirus closures and the precipitous drop in business travel and group business), in March 2021 the company entered into an agreement for the sale of its real estate and operations of its Las Vegas property. This is a continuation of management's strategy to exit the US markets completely, which included the sale of the Sands Bethlehem to Wind Creek Hospitality in May 2019. While it is Ironic that **Las Vegas** Sands is exiting this market, it is in line with management's plan for the company, as online gambling in the US is expected to decrease spending in Las Vegas, and the revenue per square foot has been higher in its Asian locations.

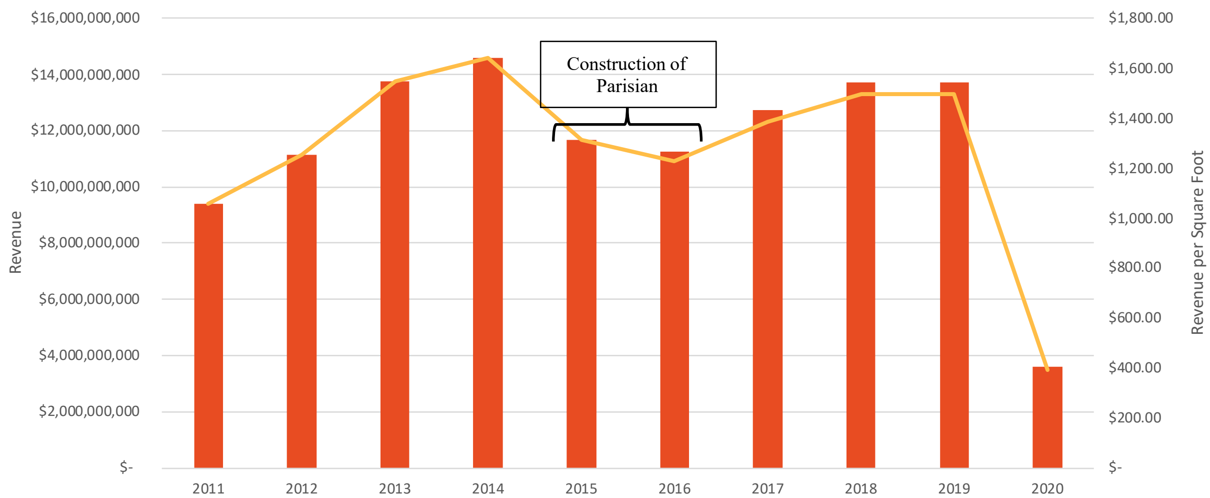
As a result, upon completion of the deal, LVS will be 100% invested in Asia, although it also pointed to development opportunities in Texas and New York City.

Exhibit 2: LVS Revenue Location Segmentation *(Source: Public Filings)*



Despite the company's heavy concentration in Asia, and Macau overall, management has done an excellent job of complementing existing properties with new properties, often interconnecting them in order to offer a variety of services. Additionally, while revenues and revenue per square foot dropped during the period of the Parisian construction this is not due to the added square footage, but rather due to an announced Chinese government investigation into corruption. Lastly, as seen in Exhibit 3, revenues and revenues per square foot begin to increase following the opening of the Parisian, showing management's ability to ensure that new properties will not cannabalize the revenues of exisitng properties.

Exhibit 3: LVS Revenue per Square Foot *(Source: Public Filings)*



COMPANY OUTLOOK

Major Considerations

The largest consideration in projecting LVS's performance and the casino industry's performance as a whole is the speed at which revenues will recover from the pandemic. When determining the rate of recovery from the pandemic, we utilize the close correlations of revenues and travel spend to create accurate projections. We will dive more deeply into this subject in the Revenue section of the Financial Projections portion of this research report. A further consideration for LVS is the speed at which the company can bring the Londoner to fully open, which it is doing in phases throughout 2021. Furthermore, LVS is in the process of building another major property in Singapore, which will have debt implications and will be crucial to future revenue projections. Therefore, we utilize the history of LVS property openings such as the Parisian to estimate the impact a new property will have on all facets of the financial statements. The final major consideration is the impact of the growing online gambling industry. We anticipate that this trend will have significantly larger impacts on casino operators outside of destination cities like Las Vegas and Macau and have a much lower impact on companies that have high exposures to these areas. Furthermore, in July 2021, after the passing of the former owner and CEO of LVS (who always opposed online casinos) and the start of the office of the new CEO, LVS unveiled its digital gaming plans by announcing the creation of an investment arm dedicated to that effort. This plan should help alleviate the pressures of the growing online gambling industry, by allowing the company to gain market share of the emerging industry.

Major Risks

LVS Resorts could be impacted by several risks, the largest of which being its Macau exposure. LVS generated roughly 67% of revenues from operations in Macau in 2019. Thus, this heavy concentration creates a sizable risk for the company's overall financial health. This is specifically pertinent given the Chinese government's recently announced review of the gambling industry. We anticipate that this will, similarly to 2015, cause fewer high rollers to travel to Macau to gamble, thereby drastically impacting the revenue of the Macau casinos – we discuss this in more detail in the Revenue section of the Financial Projections. This risk is amplified by the fact that LVS's gaming license in Macau expires in June 2022, and despite the company's optimism regarding a renewal or extension, this adds an additional layer of risk to the company's heavy Macau exposure. Given the impact of the Macau situation we have chosen to value LVS based off a probability weighted DCF scenario analysis, which will be fully covered in the following Scenario Analysis section. A second risk for the company is the unpredictability of the pandemic. As noted in our industry report and again later in this report, we expect travel spending and the overall casino industry to return to normal by the end of 2022. However, our estimates could be wrong or another strain of the COVID-19 virus could cause additional lockdowns. In this scenario, LVS and the entire casino industry could be drastically affected, likely resulting in the need for higher debt levels and bringing revenue back to 2020 lows. Finally, another major risk to the industry is the emergence of online gambling, which was made possible by the Supreme Court when it struck down a federal ban on state authorization of sports betting. We anticipate that LVS's concentration in the destination gambling cities, such as Las Vegas and Macau, will lessen the negative impact on its revenues. Additionally, LVS recently announced the creation of an investment arm that is dedicated to digital gaming. This division will be led by Davis Catlin who previously covered digital gaming companies for Sands Capital Management, which has no relation to the casino operator. Given our experiences with Catlin, we firmly believe that he will be able to steer LVS in the right direction when it comes to online gambling but are cautious given the late start LVS has in the industry relative to competitors.

Competitors

LVS Resorts has a large list of competitors, ranging from other forms of entertainment to simply other casino hotels that operate in similar geographic locations. The largest trend in the industry, specifically in the US, is the emergence of online gambling, which has been fueled by the Supreme Court decision previously mentioned. In this arena, competitors such as Wynn, Caesar's, and

MGM are all competing with their own online gambling services. Furthermore, LVS' management anticipates that this will decrease spending in Las Vegas, which helped fuel their decision to leave the US market. The management team believes that its focus on Asia will be rewarded, given the relative exclusivity it holds in both Macau and Singapore, with limited gambling licenses being awarded, and even fewer to non-native companies. In addition, this move was aided by the fact that the company was able to sell its Las Vegas property for $6.25 billion (13x valuation to EBITDA multiple) to Apollo Global Management and its subsidiaries. This sale allows LVS greater capital flexibility, and the ability to exit a market, which the management team believes will be negatively impacted by the online gambling trend. Overall, we view LVS' decision to sell its Las Vegas property as a prudent one, and the choice to focus on its most profitable assets in Asia a promising one for shareholders. That being said, it is important to note that LVS is behind its competition in the online gambling arena, which will make the success of its newly created digital gaming investment arm all the more important.

Scenario Analysis

We evaluated a variety of reporting and publicly available information regarding China's potential regulation of the Macau gaming industry, in order to assess and attempt to quantify the risks mentioned above. In particular, we find that there are likely three possible outcomes from the review of the gambling industry which we call an upside scenario, a downside scenario, and a catastrophe scenario:

1. The upside scenario we define as a change-of-course from Macau regulators. This would entail a decision by the government that, ultimately, no further regulation to the gambling industry or its participants is required at this time. In this situation, we would effectively see a total return to normal of pre-pandemic operations for the Macau hotel casino industry.
2. The downside scenario is the broadest, and we think most likely, set of outcomes. By this we define a decision by the Chinese government to institute any number of moderate regulations on the Macau gambling industry. Examples of proposals that are being considered are some more stringent regulations, improvements to employee welfare, required partial ownership of casinos by Chinese nationals, or inserting regulators in properties to supervise daily operations – all of which sit under our downside scenario. All such proposals would certainly have an impact on industry performance, but would allow the properties to keep operating.
3. The catastrophe scenario is one where Chinese regulators seek to reject casino operating licenses by any non-Chinese owners. This would mean that LVS could no longer operate within Macau and would have to sell or close its operations. Naturally, this would have a dramatically negative impact on LVS overall.

We looked to a few different sources in order to estimate the likelihood of each of these three scenarios. First, we looked to PredictIt, an online prediction market, to estimate the probability that China reverses course on Macau and allows the gambling industry to forge ahead without additional regulation. Importantly, there is material academic research (including Dana, Atanasov, Tetlock, and Mellers 2019 in the Journal for the Society of Judgment and Decision Making) that asserts that prediction markets are fairly accurate at predicting various events, including political ones. As a proxy for China reversing course, we found a PredictIt market to estimate whether Chinese General Secretary Xi Jinping will be reelected that is currently priced at 90 cents, implying that Xi Jinping has a 90% likelihood of being reelected. We take a Xi Jinping reelection as a proxy for China maintaining course, whereas a Xi Jinping loss would indicate a change in course (with likelihood of 10%). Thus, we ascribe a 10% probability to our upside scenario.

In order to assess the catastrophe scenario, we looked toward an LVS competitor and its credit ratings. Wynn Resorts is similarly heavily exposed to Macau, but maintains a BB- credit rating compared to LVS' BBB-. Despite similar Macau exposure, Wynn is in a worse financial position than LVS due in part to higher debt levels, partly because of its less consistent performance history, and in part to less solid management. Accordingly, Wynn's likelihood of default will be highly correlated with a catastrophe scenario – a complete closure of Macau will be extremely likely to result in a default scenario for Wynn, whereas Macau's cash flows are high enough to sustain Wynn otherwise. Thus, we take Wynn's implied probability of default within five years (12.3% according to historic data from SCOPE Ratings) as a proxy for the likelihood of a catastrophe scenario in Macau overall. We realize this is not an ideal comparison because there is uncertainty around whether Wynn would default in any scenario; however, we believe this proxy is at least in the proximity of an accurate likelihood. We also reviewed the credit rating of equally exposed MGM China to increase our sample, given the company also has heavy exposure to Macau, and found it to have a credit rating equal to Wynn's. As a result, the probability of our downside scenario occurring is 77.7%, the remaining possibility after the 10% upside and 12.3% downside scenarios.

Short-Term Outlook

In the short-term, we project that the company will recover alongside the rest of the casino industry with revenues increasing significantly in 2021, based on an analysis of year-to-date revenues and projecting that the third quarter of 2021 is representative of the final quarter of the year. We continue to project a solid increase in 2022, derived from an analysis of travel spending and airline revenues, but given the gambling inquiry by the Chinese government we anticipate that revenues will be similarly impact as in 2015, when the Chinese government started an investigation into corruption, leading to a reduction in high rollers gambling in Macau. This coupled with the observed impact of the gambling inquiry on third quarter figures enabled us to create an estimated cap on possible revenue growth. We believe that the recovery of the global economy from the pandemic will continue throughout the rest of 2021, and the casino hotel industry will return to normal by the end of 2022. Regarding costs, we anticipate that these will continue to remain consistent to historical trends, which showed little deviation in costs of goods sold in relation to revenues.

Long-Term Outlook

In the long-term, our outlook for LVS is more negative. Given the company's heavy Macau exposure we anticipate that the Chinese government's review of the gambling industry will have a negative toll on earnings. Due to this government inquiry, we utilized the previously discussed scenario analysis to better estimate the intrinsic value of LVS, utilizing political prediction markets, which have been proven to be accurate, and bankruptcy probability of Wynn, which we believe more accurately predicts the probability of heavy Macau disruption given Wynn's weak financial stance and equally heavy reliance on Macau revenues. Finally, given the maturity of the casino hotel industry and the continued emergence of online gambling, which may only be partially mitigated by LVS' concentration in gambling destinations and the creation of a digital gaming investment arm, we project little growth of revenues. Especially, given the relative infancy of the investment arm, which was announced in July 2021, we anticipate that LVS will be working to catch up to competitors such as Wynn, Caesar's, and MGM in the online gambling industry. LVS' completion of a second location in Singapore though is projected to have a positive influence on earnings in the longer term.

FINANCIAL PROJECTIONS

Overall Projection

Below we show the entire income statement history for Las Vegas Sands since 2011, as well as our annual forecast through 2026. We include one set of full projections for each of our three scenarios, in Exhibits 4-6:

Exhibit 4: LVS Upside Financial Projections *(Source: Public Filings, own projections)*

MILLIONS	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 YTD	Q4 2021	2022	2023	2024	2025	2026
	Historical											Projection					
Period Ended	*12/31/11*	*12/31/12*	*12/31/13*	*12/31/14*	*12/31/15*	*12/31/16*	*12/31/17*	*12/31/18*	*12/31/19*	*12/31/20*		*12/31/21*	*12/31/22*	*12/31/23*	*12/31/24*	*12/31/25*	*12/31/26*
Operating Revenue																	
Casino	$ 7,437	$ 9,008	$ 11,387	$ 12,004	$ 9,083	$ 8,771	$ 10,058	$ 9,819	$ 9,828	$ 2,268	$ 2,241	$ 533	$ 9,695	$ 9,860	$ 10,027	$ 10,198	$ 11,491
Rooms	1,000	1,154	1,381	1,540	1,470	1,527	1,619	1,733	1,752	498	311	100	1,226	1,247	1,268	1,289	1,439
Food and beverage	599	629	730	779	758	774	843	865	897	283	148	42	944	960	976	992	1,009
Mall	325	397	481	554	564	591	651	690	716	381	469	165	753	766	779	792	872
Convention retail and other	501	497	515	549	540	533	550	622	546	182	57	17	574	584	594	604	614
Net Revenue	**$ 9,411**	**$ 11,131**	**$ 13,770**	**$ 14,584**	**$ 11,688**	**$ 11,271**	**$ 12,728**	**$ 13,729**	**$ 13,739**	**$ 3,612**	**$ 3,226**	**$ 857**	**$ 13,192**	**$ 13,416**	**$ 13,644**	**$ 13,876**	**$ 15,426**
Annual Growth		*18.3%*	*23.7%*	*5.9%*	*-19.9%*	*-3.6%*	*12.9%*	*7.9%*	*0.1%*	*-73.7%*		*13.0%*	*223.1%*	*1.7%*	*1.7%*	*1.7%*	*11.2%*
COGS																	
Casino	$ 4,008	$ 5,128	$ 6,484	$ 6,706	$ 5,114	$ 4,838	$ 5,402	$ 5,448	$ 5,304	$ 1,758	$ 1,603	$ 451	$ 5,472	$ 5,565	$ 5,660	$ 5,756	$ 6,399
Rooms	210	237	272	257	262	262	286	438	444	271	124	40	313	318	323	329	366
Food and beverage	307	331	370	393	403	421	448	673	702	371	186	55	474	482	490	498	554
Mall	59	69	73	70	61	64	76	79	78	59	48	17	75	76	77	78	87
Convention retail and other	338	304	318	321	277	252	273	336	304	149	62	21	326	332	337	343	381
Total COGS	**$ 4,923**	**$ 6,070**	**$ 7,517**	**$ 7,746**	**$ 6,117**	**$ 5,686**	**$ 6,329**	**$ 6,974**	**$ 6,832**	**$ 2,608**	**$ 2,023**	**$ 584**	**$ 6,659**	**$ 6,773**	**$ 6,888**	**$ 7,005**	**$ 7,787**
Annual Growth		*23.3%*	*23.8%*	*3.1%*	*-21.0%*	*-7.0%*	*11.3%*	*10.2%*	*-2.0%*	*-61.8%*		*0.0%*	*155.4%*	*1.7%*	*1.7%*	*1.7%*	*11.2%*
Gross Profit	**$ 4,488**	**$ 5,062**	**$ 6,253**	**$ 6,838**	**$ 5,571**	**$ 5,585**	**$ 6,399**	**$ 6,755**	**$ 6,907**	**$ 1,004**	**$ 1,203**	**$ 273**	**$ 6,532**	**$ 6,643**	**$ 6,756**	**$ 6,871**	**$ 7,639**
Annual Growth		*12.8%*	*23.5%*	*9.3%*	*-18.5%*	*0.3%*	*14.6%*	*5.6%*	*2.3%*	*-85.5%*		*47.0%*	*342.6%*	*1.7%*	*1.7%*	*1.7%*	*11.2%*
Selling, General and Administrative	$ 1,023	$ 1,269	$ 1,519	$ 1,433	$ 1,443	$ 1,543	$ 1,590	$ 1,685	$ 1,815	$ 1,261	$ 851	$ 293	$ 1,570	$ 1,597	$ 1,624	$ 1,652	$ 1,836
Research and Development	11	20	16	14	10	9	13	12	24	18	59	13	15	16	16	16	18
Depreciation, Depletion and Amortization	838	932	1,048	1,072	1,038	1,149	1,208	1,146	1,216	1,215	817	276	1,143	1,163	1,183	1,203	1,337
Restructuring and Impairment Charges	-	144	-	-	-	-	-	-	-	-	11	-	20	20	20	21	23
Other Operating Expenses	216	383	251	213	204	303	104	11	64	118	18	4	224	227	231	235	261
Total Operating Expenses	**$ 2,088**	**$ 2,748**	**$ 2,834**	**$ 2,732**	**$ 2,695**	**$ 3,004**	**$ 2,915**	**$ 2,854**	**$ 3,119**	**$ 2,612**	**$ 1,756**	**$ 586**	**$ 2,972**	**$ 3,023**	**$ 3,074**	**$ 3,126**	**$ 3,475**
Operating Income (EBIT)	**$ 2,400**	**$ 2,314**	**$ 3,419**	**$ 4,106**	**$ 2,876**	**$ 2,581**	**$ 3,484**	**$ 3,901**	**$ 3,788**	**$ (1,608)**	**$ (551)**	**$ (316)**	**$ 3,560**	**$ 3,621**	**$ 3,682**	**$ 3,745**	**$ 4,163**
Annual Growth		*-3.6%*	*47.8%*	*20.1%*	*-30.0%*	*-10.3%*	*35.0%*	*12.0%*	*-2.9%*	*-142.4%*		*-46.1%*	*-510.6%*	*1.7%*	*1.7%*	*1.7%*	*11.2%*
Interest Expense	$ (283)	$ (259)	$ (271)	$ (274)	$ (265)	$ (274)	$ (327)	$ (446)	$ (555)	$ (536)	$ (469)	$ (144)	$ (577)	$ (577)	$ (577)	$ (577)	$ (577)
Interest and Investment Income	14	23	16	26	15	10	16	59	74	21	3	1	32	32	33	33	37
Restructuring and Impairment Charges	(23)	(19)	(14)	(20)	-	(5)	(5)	(64)	(24)		-	-	(17)	(17)	(17)	(17)	(19)
Gain (Loss) On Sale	(10)	(2)	(11)	(7)	(35)	(79)	(20)	(150)	466	(80)	-	-	(16)	(16)	(17)	(17)	(19)
Other Income (Expense)	(4)	6	4	2	31	31	(94)	26	23	22	(156)	-	(48)	(49)	(50)	(51)	(56)
Total Other Income (Expense)	**$ (305)**	**$ (251)**	**$ (276)**	**$ (273)**	**$ (254)**	**$ (317)**	**$ (430)**	**$ (575)**	**$ (16)**	**$ (573)**	**$ (622)**	**$ (143)**	**$ (626)**	**$ (627)**	**$ (627)**	**$ (628)**	**$ (634)**
Income Before Income Taxes	**$ 2,095**	**$ 2,063**	**$ 3,144**	**$ 3,833**	**$ 2,622**	**$ 2,264**	**$ 3,054**	**$ 3,326**	**$ 3,772**	**$ (2,181)**	**$ (1,173)**	**$ (459)**	**$ 2,934**	**$ 2,994**	**$ 3,055**	**$ 3,117**	**$ 3,529**
Income Taxes	212	181	189	245	236	239	(209)	375	468	(38)	19	-	323	329	336	343	388
Consolidated Net Income (Loss)	**$ 1,883**	**$ 1,882**	**$ 2,955**	**$ 3,588**	**$ 2,386**	**$ 2,025**	**$ 3,263**	**$ 2,951**	**$ 3,304**	**$ (2,143)**	**$ (1,154)**	**$ (459)**	**$ 2,612**	**$ 2,665**	**$ 2,719**	**$ 2,774**	**$ 3,141**
		-0.1%	*57.0%*	*21.4%*	*-33.5%*	*-15.1%*	*61.1%*	*-9.6%*	*12.0%*	*-164.9%*		*-24.7%*	*-261.9%*	*2.0%*	*2.0%*	*2.0%*	*13.2%*
EBITDA	**$ 3,238**	**$ 3,246**	**$ 4,467**	**$ 5,178**	**$ 3,914**	**$ 3,730**	**$ 4,692**	**$ 5,047**	**$ 5,004**	**$ (393)**	**$ 266**	**$ (40)**	**$ 4,704**	**$ 4,783**	**$ 4,865**	**$ 4,947**	**$ 5,500**
Annual Growth		*0.2%*	*37.6%*	*15.9%*	*-24.4%*	*-4.7%*	*25.8%*	*7.6%*	*-0.9%*	*-107.9%*		*-157.5%*	*1981.2%*	*1.7%*	*1.7%*	*1.7%*	*11.2%*
CapEx	$ (1,502)	$ (1,446)	$ (866)	$ (1,177)	$ (1,527)	$ (1,393)	$ (822)	$ (930)	$ (1,211)	$ (1,312)	$ (640)	$ (309)	$ (1,386)	$ (1,710)	$ (1,434)	$ (1,345)	$ (1,331)
Total Debt	**$ 10,033**	**$ 10,230**	**$ 9,760**	**$ 9,993**	**$ 9,468**	**$ 9,595**	**$ 9,640**	**$ 11,985**	**$ 12,825**	**$ 14,330**	**$ 14,462**	**$ 14,462**	**$ 14,462**	**$ 14,462**	**$ 14,462**	**$ 14,462**	**$ 14,462**

Exhibit 5: LVS Downside Financial Projections *(Source: Public Filings, own projections)*

	Historical											Projection					
MILLIONS	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 YTD	Q4 2021	2022	2023	2024	2025	2026
Period Ended	*12/31/11*	*12/31/12*	*12/31/13*	*12/31/14*	*12/31/15*	*12/31/16*	*12/31/17*	*12/31/18*	*12/31/19*	*12/31/20*		*12/31/21*	*12/31/22*	*12/31/23*	*12/31/24*	*12/31/25*	*12/31/26*
Operating Revenue																	
Casino	$ 7,437	$ 9,008	$ 11,387	$ 12,004	$ 9,083	$ 8,771	$ 10,058	$ 9,819	$ 9,828	$ 2,268	$ 2,241	$ 533	$ 6,537	$ 6,649	$ 6,762	$ 6,876	$ 7,812
Rooms	1,000	1,154	1,381	1,540	1,470	1,527	1,619	1,733	1,752	498	311	100	663	674	686	697	803
Food and beverage	599	629	730	779	758	774	843	865	897	283	148	42	655	666	678	689	701
Mall	325	397	481	554	564	591	651	690	716	381	469	165	523	532	541	550	608
Convention retail and other	501	497	515	549	540	533	550	622	546	182	57	17	399	406	413	420	427
Net Revenue	**$ 9,411**	**$ 11,131**	**$ 13,770**	**$ 14,584**	**$ 11,688**	**$ 11,271**	**$ 12,728**	**$ 13,729**	**$ 13,739**	**$ 3,612**	**$ 3,226**	**$ 857**	**$ 8,778**	**$ 8,927**	**$ 9,079**	**$ 9,233**	**$ 10,350**
Annual Growth		*18.3%*	*23.7%*	*5.9%*	*-19.9%*	*-3.6%*	*12.9%*	*7.9%*	*0.1%*	*-73.7%*		*13.0%*	*115.0%*	*1.7%*	*1.7%*	*1.7%*	*12.1%*
COGS																	
Casino	$ 4,008	$ 5,128	$ 6,484	$ 6,706	$ 5,114	$ 4,838	$ 5,402	$ 5,448	$ 5,304	$ 1,758	$ 1,603	$ 451	$ 3,641	$ 3,703	$ 3,766	$ 3,830	$ 4,293
Rooms	210	237	272	257	262	262	286	438	444	271	124	40	208	212	215	219	245
Food and beverage	307	331	370	393	403	421	448	673	702	371	186	55	315	321	326	332	372
Mall	59	69	73	70	61	64	76	79	78	59	48	17	50	50	51	52	59
Convention retail and other	338	304	318	321	277	252	273	336	304	149	62	21	217	221	224	228	256
Total COGS	**$ 4,923**	**$ 6,070**	**$ 7,517**	**$ 7,746**	**$ 6,117**	**$ 5,686**	**$ 6,329**	**$ 6,974**	**$ 6,832**	**$ 2,608**	**$ 2,023**	**$ 584**	**$ 4,431**	**$ 4,507**	**$ 4,583**	**$ 4,661**	**$ 5,225**
Annual Growth		*23.3%*	*23.8%*	*3.1%*	*-21.0%*	*-7.0%*	*11.3%*	*10.2%*	*-2.0%*	*-61.8%*		*0.0%*	*70.0%*	*1.7%*	*1.7%*	*1.7%*	*12.1%*
Gross Profit	**$ 4,488**	**$ 5,062**	**$ 6,253**	**$ 6,838**	**$ 5,571**	**$ 5,585**	**$ 6,399**	**$ 6,755**	**$ 6,907**	**$ 1,004**	**$ 1,203**	**$ 273**	**$ 4,347**	**$ 4,421**	**$ 4,496**	**$ 4,572**	**$ 5,125**
Annual Growth		*12.8%*	*23.5%*	*9.3%*	*-18.5%*	*0.3%*	*14.6%*	*5.6%*	*2.3%*	*-85.5%*		*47.0%*	*194.5%*	*1.7%*	*1.7%*	*1.7%*	*12.1%*
Selling, General and Administrative	$ 1,023	$ 1,269	$ 1,519	$ 1,433	$ 1,443	$ 1,543	$ 1,590	$ 1,685	$ 1,815	$ 1,261	$ 851	$ 293	$ 1,045	$ 1,063	$ 1,081	$ 1,099	$ 1,232
Research and Development	11	20	16	14	10	9	13	12	24	18	59	13	10	10	10	11	12
Depreciation, Depletion and Amortization	838	932	1,048	1,072	1,038	1,149	1,208	1,146	1,216	1,215	817	276	761	774	787	800	897
Restructuring and Impairment Charges	-	144	-	-	-	-	-	-	-	-	11	-	13	13	13	14	15
Other Operating Expenses	216	383	251	213	204	303	104	11	64	118	18	4	149	151	154	157	175
Total Operating Expenses	**$ 2,088**	**$ 2,748**	**$ 2,834**	**$ 2,732**	**$ 2,695**	**$ 3,004**	**$ 2,915**	**$ 2,854**	**$ 3,119**	**$ 2,612**	**$ 1,756**	**$ 586**	**$ 1,978**	**$ 2,011**	**$ 2,045**	**$ 2,080**	**$ 2,332**
Operating Income (EBIT)	**$ 2,400**	**$ 2,314**	**$ 3,419**	**$ 4,106**	**$ 2,876**	**$ 2,581**	**$ 3,484**	**$ 3,901**	**$ 3,788**	**$ (1,608)**	**$ (551)**	**$ (316)**	**$ 2,369**	**$ 2,409**	**$ 2,450**	**$ 2,492**	**$ 2,793**
Annual Growth		*-3.6%*	*47.8%*	*20.1%*	*-30.0%*	*-10.3%*	*35.0%*	*12.0%*	*-2.9%*	*-142.4%*		*-46.1%*	*-373.2%*	*1.7%*	*1.7%*	*1.7%*	*12.1%*
Interest Expense	$ (283)	$ (259)	$ (271)	$ (274)	$ (265)	$ (274)	$ (327)	$ (446)	$ (555)	$ (536)	$ (469)	$ (144)	$ (577)	$ (577)	$ (577)	$ (577)	$ (577)
Interest and Investment Income	14	23	16	26	15	10	16	59	74	21	3	1	21	21	22	22	25
Restructuring and Impairment Charges	(23)	(19)	(14)	(20)	-	(5)	(5)	(64)	(24)		-	-	(11)	(11)	(11)	(12)	(13)
Gain (Loss) On Sale	(10)	(2)	(11)	(7)	(35)	(79)	(20)	(150)	466	(80)	-	-	(11)	(11)	(11)	(11)	(13)
Other Income (Expense)	(4)	6	4	2	31	31	(94)	26	23	22	(156)	-	(32)	(33)	(33)	(34)	(38)
Total Other Income (Expense)	**$ (305)**	**$ (251)**	**$ (276)**	**$ (273)**	**$ (254)**	**$ (317)**	**$ (430)**	**$ (575)**	**$ (16)**	**$ (573)**	**$ (622)**	**$ (143)**	**$ (609)**	**$ (610)**	**$ (611)**	**$ (611)**	**$ (615)**
Income Before Income Taxes	**$ 2,095**	**$ 2,063**	**$ 3,144**	**$ 3,833**	**$ 2,622**	**$ 2,264**	**$ 3,054**	**$ 3,326**	**$ 3,772**	**$ (2,181)**	**$ (1,173)**	**$ (459)**	**$ 1,760**	**$ 1,799**	**$ 1,840**	**$ 1,881**	**$ 2,178**
Income Taxes	212	181	189	245	236	239	(209)	375	468	(38)	19	-	194	198	202	207	240
Consolidated Net Income (Loss)	**$ 1,883**	**$ 1,882**	**$ 2,955**	**$ 3,588**	**$ 2,386**	**$ 2,025**	**$ 3,263**	**$ 2,951**	**$ 3,304**	**$ (2,143)**	**$ (1,154)**	**$ (459)**	**$ 1,566**	**$ 1,601**	**$ 1,637**	**$ 1,674**	**$ 1,938**
		-0.1%	*57.0%*	*21.4%*	*-33.5%*	*-15.1%*	*61.1%*	*-9.6%*	*12.0%*	*-164.9%*		*-24.7%*	*-197.1%*	*2.3%*	*2.2%*	*2.2%*	*15.8%*
EBITDA	**$ 3,238**	**$ 3,246**	**$ 4,467**	**$ 5,178**	**$ 3,914**	**$ 3,730**	**$ 4,692**	**$ 5,047**	**$ 5,004**	**$ (393)**	**$ 266**	**$ (40)**	**$ 3,130**	**$ 3,183**	**$ 3,237**	**$ 3,292**	**$ 3,690**
Annual Growth		*0.2%*	*37.6%*	*15.9%*	*-24.4%*	*-4.7%*	*25.8%*	*7.6%*	*-0.9%*	*-107.9%*		*-157.5%*	*1284.8%*	*1.7%*	*1.7%*	*1.7%*	*12.1%*
CapEx	$ (1,502)	$ (1,446)	$ (866)	$ (1,177)	$ (1,527)	$ (1,393)	$ (822)	$ (930)	$ (1,211)	$ (1,312)	$ (640)	$ (309)	$ (922)	$ (1,138)	$ (954)	$ (895)	$ (893)
Total Debt	**$ 10,033**	**$ 10,230**	**$ 9,760**	**$ 9,993**	**$ 9,468**	**$ 9,595**	**$ 9,640**	**$ 11,985**	**$ 12,825**	**$ 14,330**	**$ 14,462**	**$ 14,462**	**$ 14,462**	**$ 14,462**	**$ 14,462**	**$ 14,462**	**$ 14,462**

Exhibit 6: LVS Catastrophe Financial Projections *(Source: Public Filings, own projections)*

MILLIONS	Historical											Projection					
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 YTD	Q4 2021	2022	2023	2024	2025	2026
Period Ended	*12/31/11*	*12/31/12*	*12/31/13*	*12/31/14*	*12/31/15*	*12/31/16*	*12/31/17*	*12/31/18*	*12/31/19*	*12/31/20*		*12/31/21*	*12/31/22*	*12/31/23*	*12/31/24*	*12/31/25*	*12/31/26*
Operating Revenue																	
Casino	$ 7,437	$ 9,008	$ 11,387	$ 12,004	$ 9,083	$ 8,771	$ 10,058	$ 9,819	$ 9,828	$ 2,268	$ 2,241	$ 533	$ 2,818	$ 1,993	$ 2,027	$ 2,061	$ 3,217
Rooms	1,000	1,154	1,381	1,540	1,470	1,527	1,619	1,733	1,752	498	311	100	510	350	356	362	497
Food and beverage	599	629	730	779	758	774	843	865	897	283	148	42	247	179	182	186	189
Mall	325	397	481	554	564	591	651	690	716	381	469	165	407	143	145	147	215
Convention retail and other	501	497	515	549	540	533	550	622	546	182	57	17	136	109	111	113	115
Net Revenue	**$ 9,411**	**$ 11,131**	**$ 13,770**	**$ 14,584**	**$ 11,688**	**$ 11,271**	**$ 12,728**	**$ 13,729**	**$ 13,739**	**$ 3,612**	**$ 3,226**	**$ 857**	**$ 4,119**	**$ 2,775**	**$ 2,822**	**$ 2,870**	**$ 4,232**
Annual Growth		*18.3%*	*23.7%*	*5.9%*	*-19.9%*	*-3.6%*	*12.9%*	*7.9%*	*0.1%*	*-73.7%*		*13.0%*	*0.9%*	*-32.6%*	*1.7%*	*1.7%*	*47.5%*
COGS																	
Casino	$ 4,008	$ 5,128	$ 6,484	$ 6,706	$ 5,114	$ 4,838	$ 5,402	$ 5,448	$ 5,304	$ 1,758	$ 1,603	$ 451	$ 1,709	$ 1,151	$ 1,171	$ 1,190	$ 1,755
Rooms	210	237	272	257	262	262	286	438	444	271	124	40	98	66	67	68	100
Food and beverage	307	331	370	393	403	421	448	673	702	371	186	55	148	100	101	103	152
Mall	59	69	73	70	61	64	76	79	78	59	48	17	23	16	16	16	24
Convention retail and other	338	304	318	321	277	252	273	336	304	149	62	21	102	69	70	71	105
Total COGS	**$ 4,923**	**$ 6,070**	**$ 7,517**	**$ 7,746**	**$ 6,117**	**$ 5,686**	**$ 6,329**	**$ 6,974**	**$ 6,832**	**$ 2,608**	**$ 2,023**	**$ 584**	**$ 2,079**	**$ 1,401**	**$ 1,425**	**$ 1,449**	**$ 2,136**
Annual Growth		*23.3%*	*23.8%*	*3.1%*	*-21.0%*	*-7.0%*	*11.3%*	*10.2%*	*-2.0%*	*-61.8%*		*0.0%*	*-20.2%*	*-32.6%*	*1.7%*	*1.7%*	*47.5%*
Gross Profit	**$ 4,488**	**$ 5,062**	**$ 6,253**	**$ 6,838**	**$ 5,571**	**$ 5,585**	**$ 6,399**	**$ 6,755**	**$ 6,907**	**$ 1,004**	**$ 1,203**	**$ 273**	**$ 2,040**	**$ 1,374**	**$ 1,397**	**$ 1,421**	**$ 2,096**
Annual Growth		*12.8%*	*23.5%*	*9.3%*	*-18.5%*	*0.3%*	*14.6%*	*5.6%*	*2.3%*	*-85.5%*		*47.0%*	*38.2%*	*-32.6%*	*1.7%*	*1.7%*	*47.5%*
Selling, General and Administrative	$ 1,023	$ 1,269	$ 1,519	$ 1,433	$ 1,443	$ 1,543	$ 1,590	$ 1,685	$ 1,815	$ 1,261	$ 851	$ 293	$ 1,144	$ 330	$ 336	$ 342	$ 504
Research and Development	11	20	16	14	10	9	13	12	24	18	59	13	72	3	3	3	5
Depreciation, Depletion and Amortization	838	932	1,048	1,072	1,038	1,149	1,208	1,146	1,216	1,215	817	276	1,093	241	245	249	367
Restructuring and Impairment Charges	-	144	-	-	-	-	-	-	-	-	11	-	11	4	4	4	6
Other Operating Expenses	216	383	251	213	204	303	104	11	64	118	18	4	22	47	48	49	72
Total Operating Expenses	**$ 2,088**	**$ 2,748**	**$ 2,834**	**$ 2,732**	**$ 2,695**	**$ 3,004**	**$ 2,915**	**$ 2,854**	**$ 3,119**	**$ 2,612**	**$ 1,756**	**$ 586**	**$ 2,342**	**$ 625**	**$ 636**	**$ 647**	**$ 953**
Operating Income (EBIT)	**$ 2,400**	**$ 2,314**	**$ 3,419**	**$ 4,106**	**$ 2,876**	**$ 2,581**	**$ 3,484**	**$ 3,901**	**$ 3,788**	**$ (1,608)**	**$ (551)**	**$ (316)**	**$ (302)**	**$ 749**	**$ 762**	**$ 774**	**$ 1,142**
Annual Growth		*-3.6%*	*47.8%*	*20.1%*	*-30.0%*	*-10.3%*	*35.0%*	*12.0%*	*-2.9%*	*-142.4%*		*-46.1%*	*-65.1%*	*-347.7%*	*1.7%*	*1.7%*	*47.5%*
Interest Expense	$ (283)	$ (259)	$ (271)	$ (274)	$ (265)	$ (274)	$ (327)	$ (446)	$ (555)	$ (536)	$ (469)	$ (144)	$ (577)	$ (426)	$ (276)	$ (276)	$ (276)
Interest and Investment Income	14	23	16	26	15	10	16	59	74	21	3	1	10	7	7	7	10
Restructuring and Impairment Charges	(23)	(19)	(14)	(20)	-	(5)	(5)	(64)	(24)		-	-	(5)	(3)	(4)	(4)	(5)
Gain (Loss) On Sale	(10)	(2)	(11)	(7)	(35)	(79)	(20)	(150)	466	(80)	-	-	(5)	(3)	(3)	(3)	(5)
Other Income (Expense)	(4)	6	4	2	31	31	(94)	26	23	22	(156)	-	(15)	(10)	(10)	(10)	(15)
Total Other Income (Expense)	**$ (305)**	**$ (251)**	**$ (276)**	**$ (273)**	**$ (254)**	**$ (317)**	**$ (430)**	**$ (575)**	**$ (16)**	**$ (573)**	**$ (622)**	**$ (143)**	**$ (592)**	**$ (437)**	**$ (286)**	**$ (287)**	**$ (292)**
Income Before Income Taxes	**$ 2,095**	**$ 2,063**	**$ 3,144**	**$ 3,833**	**$ 2,622**	**$ 2,264**	**$ 3,054**	**$ 3,326**	**$ 3,772**	**$ (2,181)**	**$ (1,173)**	**$ (459)**	**$ (895)**	**$ 312**	**$ 475**	**$ 488**	**$ 851**
Income Taxes	212	181	189	245	236	239	(209)	375	468	(38)	19	-	(98)	34	52	54	94
Consolidated Net Income (Loss)	**$ 1,883**	**$ 1,882**	**$ 2,955**	**$ 3,588**	**$ 2,386**	**$ 2,025**	**$ 3,263**	**$ 2,951**	**$ 3,304**	**$ (2,143)**	**$ (1,154)**	**$ (459)**	**$ (796)**	**$ 278**	**$ 423**	**$ 434**	**$ 757**
		-0.1%	*57.0%*	*21.4%*	*-33.5%*	*-15.1%*	*61.1%*	*-9.6%*	*12.0%*	*-164.9%*		*-24.7%*	*-50.7%*	*-134.9%*	*52.2%*	*2.7%*	*74.3%*
EBITDA	**$ 3,238**	**$ 3,246**	**$ 4,467**	**$ 5,178**	**$ 3,914**	**$ 3,730**	**$ 4,692**	**$ 5,047**	**$ 5,004**	**$ (393)**	**$ 266**	**$ (40)**	**$ 791**	**$ 990**	**$ 1,006**	**$ 1,023**	**$ 1,509**
Annual Growth		*0.2%*	*37.6%*	*15.9%*	*-24.4%*	*-4.7%*	*25.8%*	*7.6%*	*-0.9%*	*-107.9%*		*-157.5%*	*249.8%*	*25.2%*	*1.7%*	*1.7%*	*47.5%*
CapEx	$ (1,502)	$ (1,446)	$ (866)	$ (1,177)	$ (1,527)	$ (1,393)	$ (822)	$ (930)	$ (1,211)	$ (1,312)	$ (640)	$ (309)	$ (1,325)	$ (354)	$ (297)	$ (278)	$ (365)
Total Debt	**$ 10,033**	**$ 10,230**	**$ 9,760**	**$ 9,993**	**$ 9,468**	**$ 9,595**	**$ 9,640**	**$ 11,985**	**$ 12,825**	**$ 14,330**	**$ 14,462**	**$ 14,462**	**$ 14,462**	**$ 10,690**	**$ 6,917**	**$ 6,917**	**$ 6,917**

Revenue

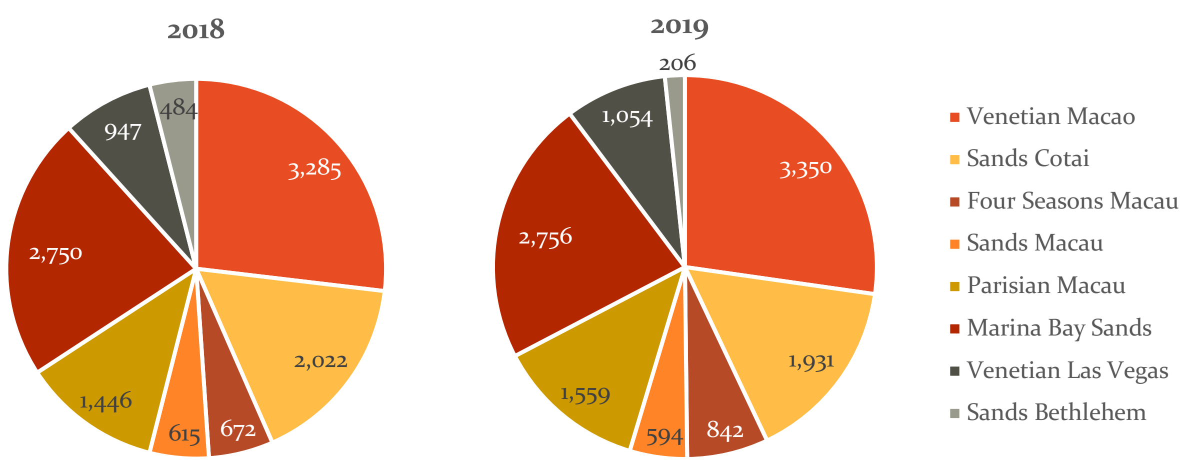
It is extremely important to project the company's recovery and return-to-normal from the COVID-19 pandemic, which means we pay particularly close attention to our projections for the rest of 2021 and 2022.

In all three of our scenarios, we chose a very straightforward projection methodology for Q4 2021. We noted a material decrease in revenue between Q2 and Q3 2021 due to China's regulatory announcement partway through Q3. We foresee no material change in LVS' revenue profile in Q4 compared to Q3, partly because regulators have established that there is a long comment period on the gambling regulatory proposals, and no official decisions will be announced until the very end of Q4 2021. In recent pre-pandemic years, financial statements typically show a slight jump in Q4 revenue compared to Q2-Q3 due to seasonality effects. However, since the Macau regulatory announcement did not happen until partway through Q3, we project that the positive seasonality boost will be offset by a negative impact of a full quarter of regulatory-depressed revenue. Thus, we use Q3 2021 revenue as a direct proxy for Q4 2021 revenue.

We begin to separate revenue projections by regulatory scenario beginning in 2022. We asserted in our industry overview report that we see an industry-wide return-to-normal in 2022, given the fact that casino hotels have been quicker to bounce back than airline travel or other comparables. Notably, LVS management has projected a similar timeline in their earnings calls throughout the year. For the upside case, we assumed that 2019 was our most recent normal year, and projected that 2022 will have the same total revenue but with two material changes:

1. We scaled the 2019 figures by two years of 1.7% inflation.
2. 2019 included two US-based facilities in Las Vegas and Bethlehem, PA. Both of these locations have since been sold, and accordingly their revenue contribution has been removed from 2019 figures when projecting 2022 numbers. Exhibit 7 below shows the contribution of the two US locations in recent years, in gray.

Exhibit 7: Revenue by Property Pre-COVID *(Source: Public Filings)*

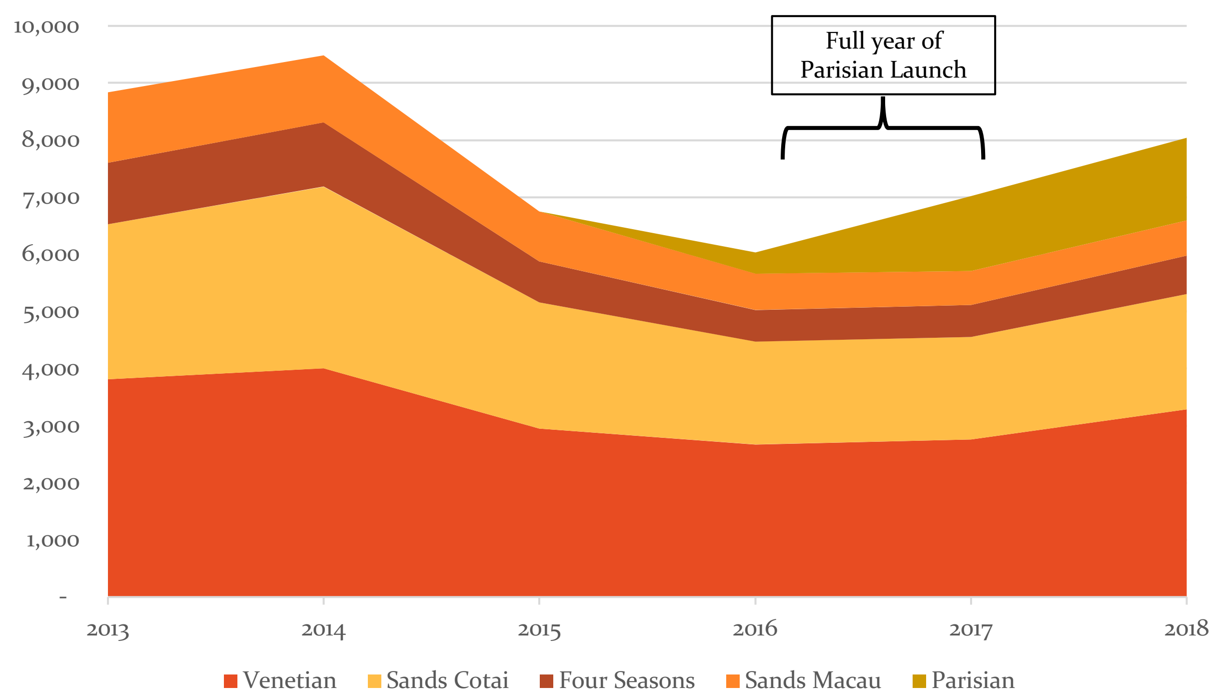


For the downside scenario, we similarly assumed that the industry will return to normal in 2022, and we used LVS' 2019 revenue figures as our starting point. In addition to the two adjustments made in the upside scenario, we had to assign a penalty to the 2019 revenue to scale for the impact of Chinese regulation. We chose to calculate this penalty by utilizing the drop in revenue between Q2 2021 and Q3 2021, which is -26.9%. We chose this because Q2 and Q3 were extremely similar in regard to health status, travel reopening, and other macroeconomic drivers, with the only major difference between the two quarters being the announcement of the regulatory inquiry in Q3. We did also check for seasonality, and there appears to be no consistent seasonality affect between Q2 and Q3 in recent years, so we are comfortable assigning 26.9% as the discount to revenue based on regulatory interference.

For both upside and downside cases, we grew the respective 2022 revenues by the rate of inflation from 2023-2025. We did not assign any higher growth rates in either instance because the historic figures tend to only show higher growth rates in the short-term following the opening of a new casino (from 2012-2014 and from 2016-2017, as seen in Exhibit 8 below).

Finally, LVS is beginning to build a new casino in Singapore. According to management calls, the project was expected to be completed in early 2025, but has been a bit slow to get off the ground in recent months due to pandemic conditions. Accordingly, we anticipate the casino will open in early 2026 (approximately a year delayed, since we anticipate COVID conditions will recover fully enough by 2022 not only to return to normal revenues but also to return to normal construction timelines). To assess the impact of a new casino in Singapore, we evaluated the most recent Parisian casino opening in Macau in September 2016, in Exhibit 8 below.

Exhibit 8: Parisian Casino Launch, Macau *(Source: Public Filings)*

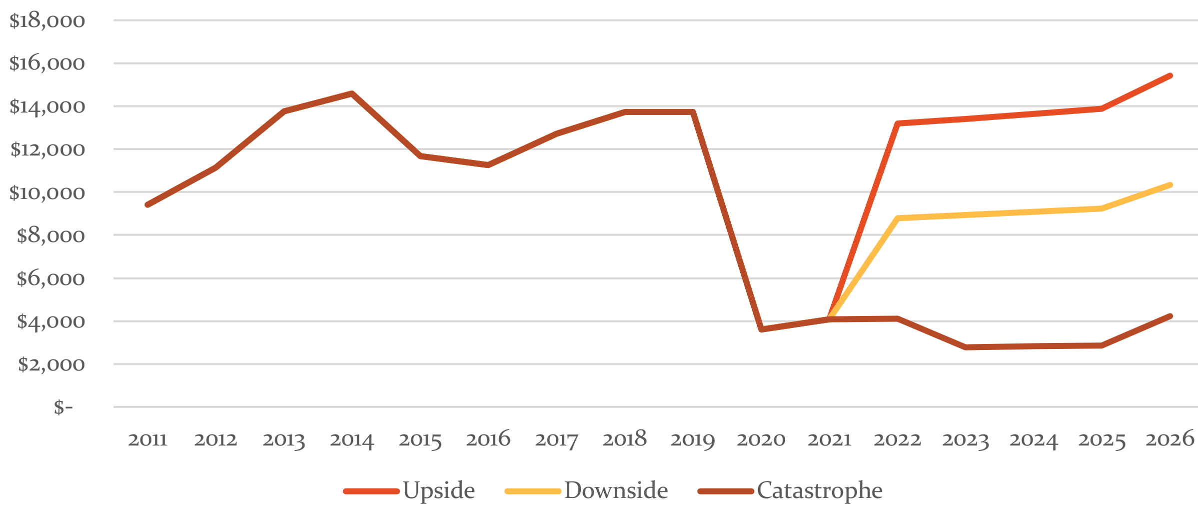


Since the casino launched only in September 2016, 2017 is the first full year of revenues. We see in the exhibit that Parisian revenue jumped to about $1,300 million in 2017, while all other casino revenues in Macau remained extremely flat. Based on this outcome, we believe it is appropriate that we can project the revenue for a new casino in Singapore to match the 2017 revenue of the Parisian without having a negative impact on the revenue of the current Marina Bay Sands location. In both the upside and downside case, we add this $1,300 million revenue to the 2026 projection to account for the new casino launch.

Naturally, the projections for the catastrophe case appear materially different than the upside or downside cases. Since in the catastrophe case we project that LVS must dispose of their Macau casino assets starting in June 2022, we allow for two quarters of severely discounted casino operations before closure. To proxy these quarters, we use Q3 2021 where Macau gambling regulations have already been threatened on top of a worse COVID-19 and travel situation than we will see in 2022. Of course, operations across Macau will shut down in July 2022 in this scenario so no further revenue will come from the Macau properties. The only other operation will be Marina Bay Sands in Singapore, which we project to return strongly to 2019 revenue similar to the upside case (since Singapore gaming will not be impacted by Macau regulations). Similar to the upside case, we project Singapore's growth will continue at the rate of inflation through 2025. While the company may reconsider its expansion plans, we believe that their debt situation (as discussed later) will allow LVS to continue its construction of a second Singapore casino that will launch in 2026 with revenues projected as above. Importantly, without Singapore's continued success in the catastrophe scenario LVS would have no source of revenue past 2022 and would almost certainly face bankruptcy. However, given the strength of the Singapore market, LVS' ability to pay off its outstanding debt that is coming due in the next 5 years, and the revenue earned from selling its distressed assets in Macau in this scenario we project that the company will able to avoid bankruptcy, but have significantly diminished revenues.

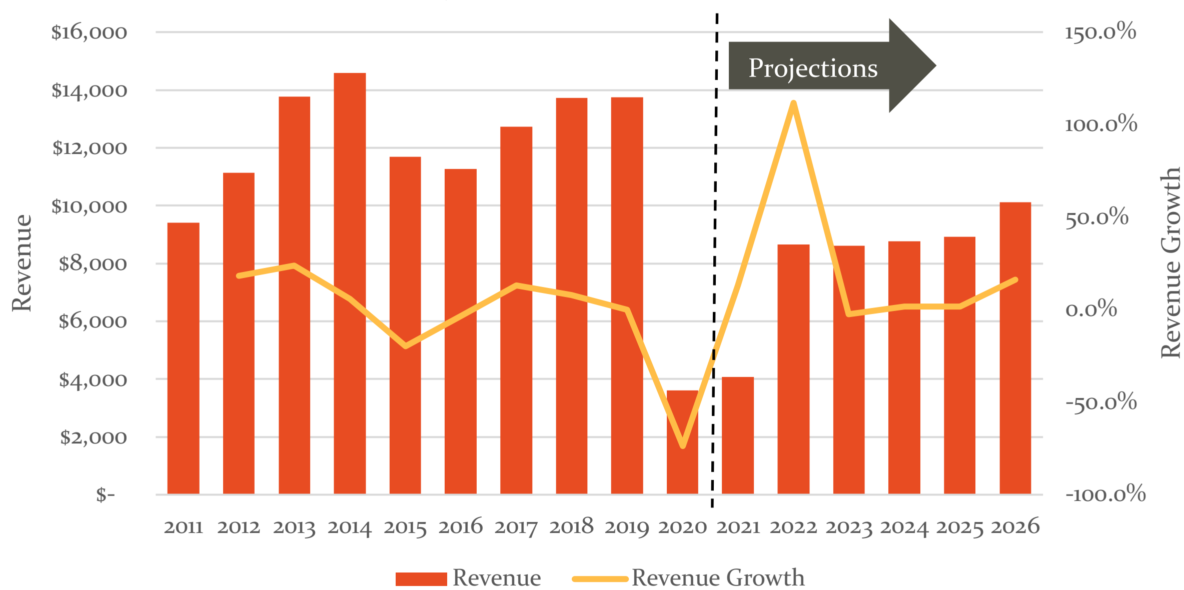
The three scenarios contribute starkly different trajectories for LVS, as shown in Exhibit 9.

Exhibit 9: Revenue Projections by Regulation Scenario *(Source: Public Filings, own work)*



In order to project an aggregated, probability-weighted revenue forecast, we took each of the three cases and weighted the upside revenue stream by 10%, the downside revenue stream by 77.7%, and the catastrophe revenue stream by 12.3%, in accordance with the weightings described in the "Scenario Analysis" section above. The aggregated revenue results and the consolidated revenue growth rates for our LVS forecast can be seen below in Exhibit 10.

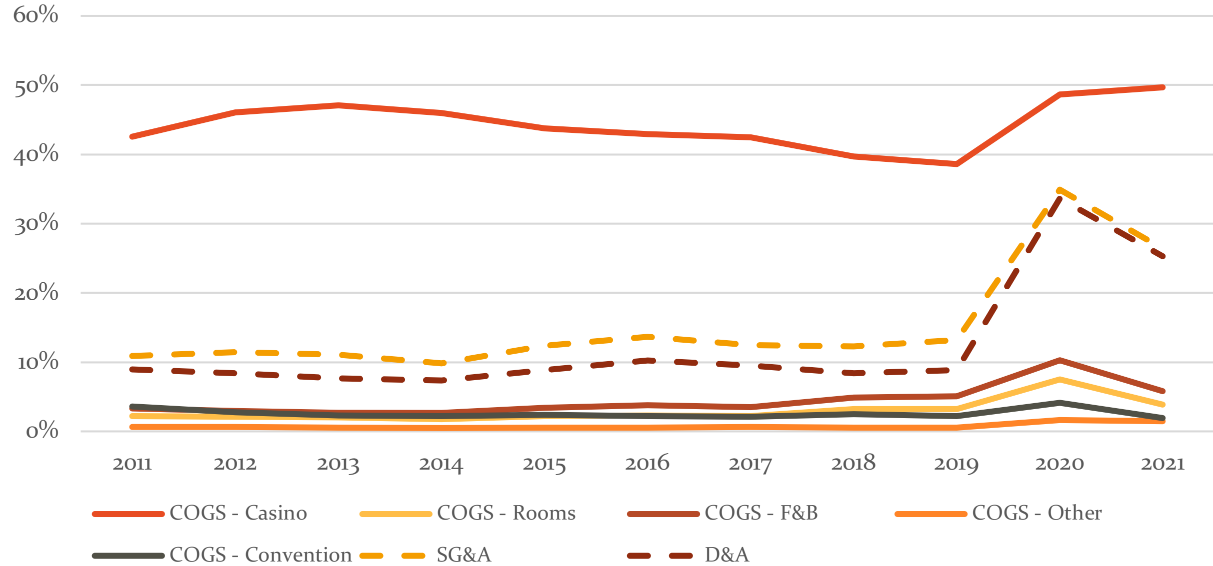
Exhibit 10: Consolidated Revenue Projections *(Source: Public Filings, own work)*



Cost

Because LVS is a mature company, many of its costs are fairly predictable relative to revenue or other sources. Exhibit 11 below shows a variety of LVS's major costs over the last 10-year period.

Exhibit 11: Costs as % of Revenue, Historic *(Source: Public Filings)*



Notably, most of these costs as a percentage of revenue have remained extremely consistent over the historical period. The main exception is to see how the impact of COVID-19 dramatically changed most cost ratios. Of course, SG&A and D&A are typically fixed cost items, which means that they remain relatively constant regardless of revenue changes and their ratio as a percent of revenue dramatically exploded when revenue disappeared in 2020. However, most COGS segments also jumped noticeably in the same period, despite being typically variable costs. Of course, these costs can't be considered wholly variable – many of the costs of casino games (for instance, electricity to power slot machines) must remain high whether the casino is at 50% or 100% capacity. For these reasons, we chose to exclude 2020 and 2021 from our trend analysis of costs, as they are non-representative years going forward.

Aside from these years, Casino COGS remained fairly steady at around 41% of total revenue in most years (aside from a quick dip in 2019), Rooms and Convention COGS was at 2%, Food and Beverage COGS was about 4%, and Entertainment/Retail/Other COGS was about 1%. On the fixed costs side, SG&A remained fairly flat at 12% aside from a quick dip in 2014 and Depreciation and Amortization was fairly flat at 9%. Finally, we calculated the weighted average interest rate on LVS' outstanding debt from its financial statements to be 4%. Thus, we applied this rate to our total debt levels (which will be discussed later) in order to calculate interest expense during the forecast period.

Since all of these cost lines have been steady as a percentage of revenue, we have applied these rates discussed above for the entire projection period for both the upside and downside cases.

However, we did make certain particular adjustments to forecasts costs for the catastrophe case. In particular, while we used the same revenue percentages for COGS lines as in the upside and downside cases, we assumed that fixed costs like SG&A and D&A could not disappear immediately after Q2 2022 because unwinding fixed operations (like moving to a smaller corporate headcount and eliminating depreciable assets) will take some time. Accordingly, we projected that fixed cost lines for 2022 will match the total costs incurred in 2021. Additionally, while we kept the interest expense constant, we do project changes in the total debt levels (to be discussed later) that decrease the total interest expense over time. Beyond these short-term transition costs, we assume all costs lines eventually return to the same revenue-percentage rates in the catastrophe case as in the upside and downside cases by the end of the projection period.

As with the revenue streams, we probability-weighted the cost forecasts of each regulatory case to create a consolidated cost projection.

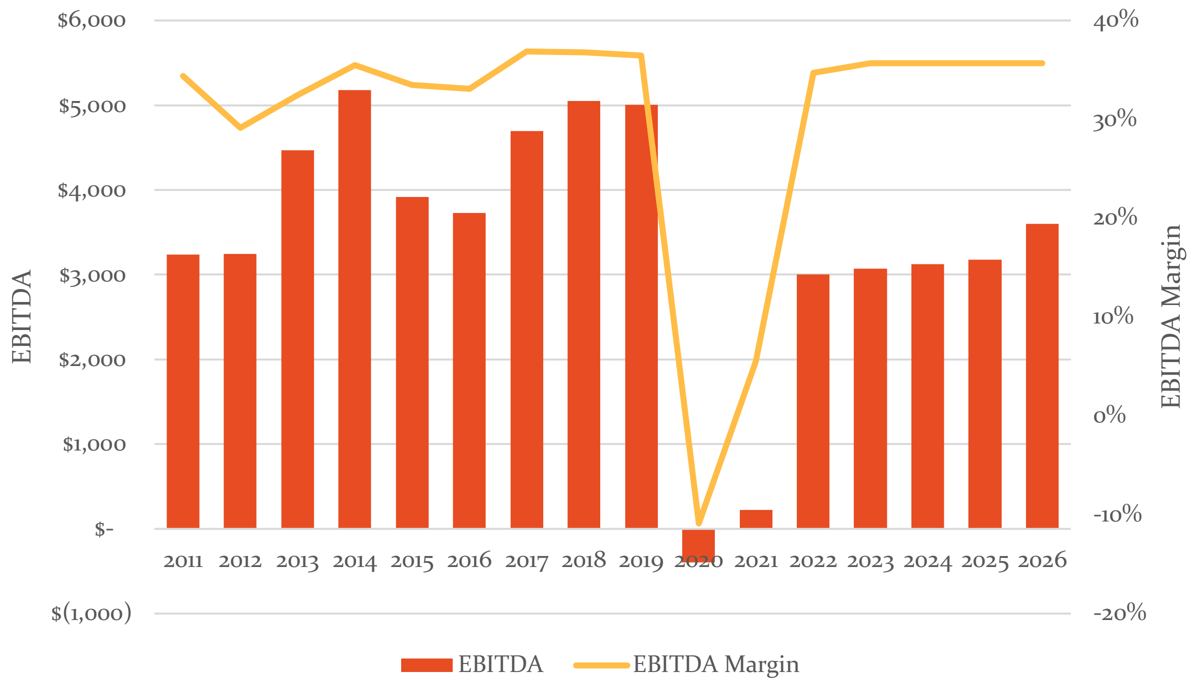
Earnings Analysis

Taken altogether, our consolidated and probability-weighted revenue and cost projections outline an earnings forecast for LVS that is stable starting in 2022 but is not overwhelmingly positive. Our 2021 projections do rebound slightly from 2020 lows, but because China and Singapore have remained so locked down in 2021, we do not forecast a large jump that the industry may see overall. On the contrary, net income remains a loss at -$1,613 million in 2021, while EBITDA does return slightly positive at $226 million.

We see 2022 as the first major rebound year, though the regulatory risk from Macau keeps earnings from returning anywhere near 2019 levels. We project significantly positive Net Income of $1,380 million and positive EBITDA of $2,999 million, but these remain 58% and 40% below 2019 figures of $3,304 million and $5,004 million, respectively.

Ultimately, our forecast remains profitable and growing for LVS, particularly with a 2026 jump in revenue, net income, and EBITDA that results from the new Singapore casino launch that year that sets the company up for longer-term growth. We see Net Income growing by a CAGR of 8.5% from 2022 – 2026 to return to a net profit of $1,913 million, while EBITDA grows at a CAGR of 4.7% from 2022 – 2026 to return to $3,603 million. Importantly, EBITDA margins do return to approximately 2019 figures, which does signal a healthy but smaller company by the end of our projection period.

Exhibit 12: EBITDA and EBITDA Margin *(Source: Public Filings, own work)*



Overall, our forecast projects a slightly slower recovery than industry average, and significant exposure to the risk of Chinese regulation in the Macau gaming market. However, when fairly weighting the possible range of outcomes for LVS, we do still find the company to be steadily profitable and growing into the future.

INVESTMENT RECOMMENDATION

We recommend a **HOLD** rating on LVS for US investors with circa 5-year investment horizon. Our valuation process leads to a total estimated Enterprise Value of $46,281 million and an estimated Equity Value of $33,463 million. This compares to a current market cap of $30,361 million. On a per share basis, we calculate a **target share price of $43.80, which is 10.2% above the current stock price of $39.74.**

We reach this result because of a variety of driving factors:

- Review by the Chinese government of Macau's gambling industry places hefty risk on the revenue and profitability of LVS going forward.
- Based on three potential regulatory states ranging from catastrophic (with 12.3% probability) to excellent (with 10% probability), we projected three different financial projections for LVS' revenue and profitability over the forecast period.
- Probability-weighting these outcomes, we calculate a consolidated forecast for LVS that has the company return to solidly positive earnings and cash flows in 2022. However,

profitability and EBITDA even at the end of the projection period remain 42% and 28%, respectively, below the same 2019 figures.

- Despite dampened profitability, the company projects enough positive cash flows to make the current share price a fair value even in face of the regulatory risks.

VALUATION METHODOLOGY

Free Cash Flow Forecast

In Exhibit 13, we show the historic and projected unlevered free cash flows for LVS. We see that LVS has a history of steady, positive free cash flows with the notable exception of the COVID-19-impacted years of 2020 and 2021. Our forecast returns LVS to strong cash flow positivity in 2022, although a quick glance will note that cash flows over the entire duration of our forecast period remain lower than every year in the historical period, with the exception of the 2015 – 2016 period: the last time that the Chinese government threatened increased regulatory scrutiny in Macau.

Exhibit 13: Free Cash Flow Forecast *(Source: Public Filings, own work)*

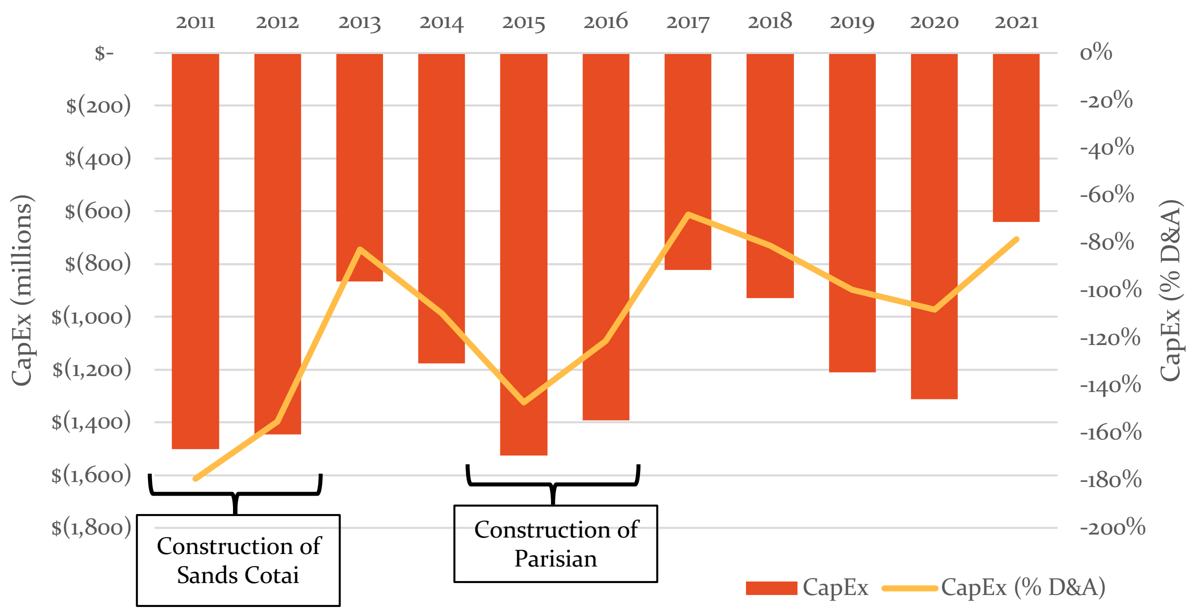
	Historical										Projection					
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
EBIT	$ 2,400	$ 2,314	$ 3,419	$ 4,106	$ 2,876	$ 2,581	$ 3,484	$ 3,901	$ 3,788	$ (1,608)	$ (867)	$ 2,160	$ 2,326	$ 2,366	$ 2,406	$ 2,727
- Taxes	(212)	(181)	(189)	(245)	(236)	(239)	209	(375)	(468)	38	(19)	(171)	(191)	(197)	(202)	(236)
+ D&A	838	932	1,048	1,072	1,038	1,149	1,208	1,146	1,216	1,215	1,093	840	747	760	773	876
- CapEx	(1,502)	(1,446)	(866)	(1,177)	(1,527)	(1,393)	(822)	(930)	(1,211)	(1,312)	(949)	(1,018)	(1,099)	(921)	(864)	(872)
Free Cash Flows	**$ 1,524**	**$ 1,619**	**$ 3,412**	**$ 3,756**	**$ 2,151**	**$ 2,098**	**$ 4,079**	**$ 3,742**	**$ 3,325**	**$ (1,667)**	**$ (742)**	**$ 1,811**	**$ 1,783**	**$ 2,007**	**$ 2,113**	**$ 2,494**

The key line item that required additional estimation beyond that discussed in the report thus far is the firm's capital expenditures program. Any casino hotel's CapEx is heavily dependent on whether the firm is building a new casino or location, when CapEx will naturally increase dramatically. Importantly, LVS is embarking on two such projects. First, they are revamping and rebranding the old Sands Cotai Central to become the Londoner. Second, they have raised funding and are beginning construction for a new property in Singapore.

The Londoner project has been rolled out in phases and is nearly complete. For the CapEx related to this project, we used the CapEx rate as a percentage of D&A from 2020 to apply to Q4 2021, since the bulk of the project was completed in 2021 and is supposed to be completed shortly. Because this is the renovation and rebranding of an existing property, we projected no new revenue to come from this project.

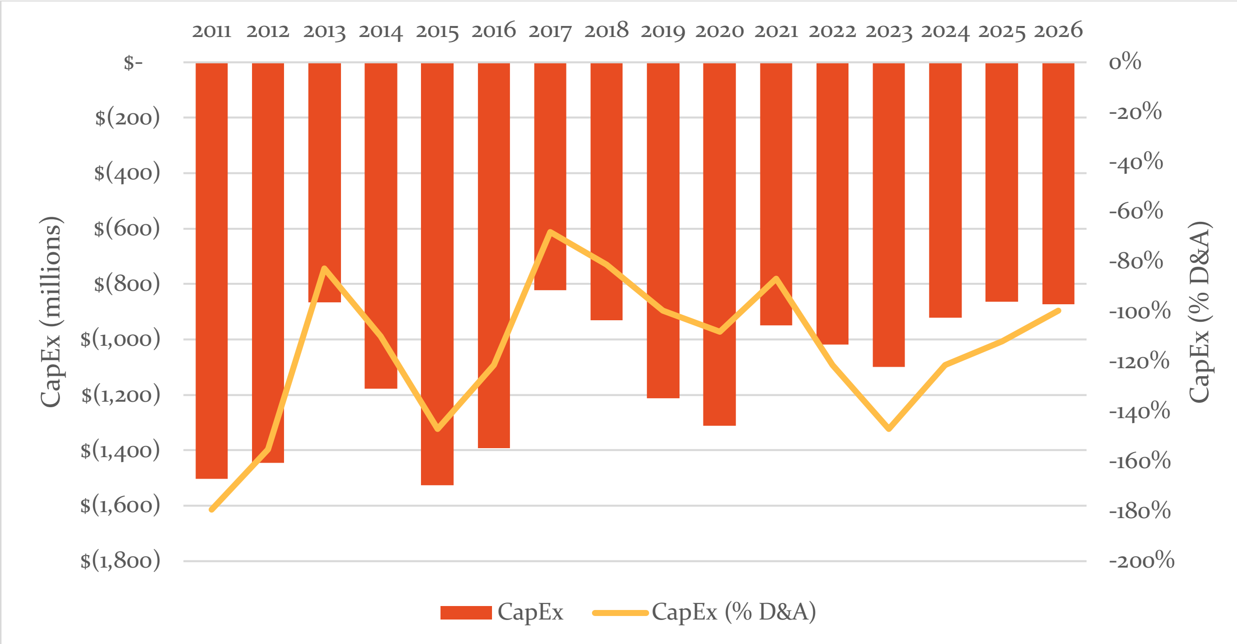
For the Singapore project, we chose to take a historic look at CapEx figures the last two times that LVS developed a casino. The most recent launches were of Sands Cotai Central in 2012 and of the Parisian in 2016. We can see that in both instances, CapEx showed a smooth growth to a peak of ~$1,500 million a couple years before launch, followed by a smooth decline leading up to the launch date.

Exhibit 14: Historic CapEx *(Source: Public Filings, own work)*



We chose to project a similar pattern for the construction of the new Singapore property. In particular, we chose a peak CapEx rate as a percentage of D&A of 147%, which matched the same figure from the peak of the Parisian CapEx curve. Because LVS is planning a longer construction horizon for the Singapore project compared (five years) to the previous two launches (seemingly three years), our peak CapEx is two years out from the completion of the property, rather than the historic one-year advance. Similar to the previous patterns, we grew CapEx linearly from 2021 up through the peak, and shrunk CapEx linearly from the peak until the completion of the new casino. Also notable in the Exhibit is that in years where LVS is not actively pursuing a new project, they clearly seem to target a CapEx:D&A ratio of near 1:1. Accordingly, this 100% rate of D&A is used for our CapEx projection in the final year of our forecast period once the Singapore property has been completed. It is worth noting that our raw CapEx spend in any given year is lower than the previous peaks, due to the lower revenues in our forecast period than historically. The total construction spend is fairly equivalent though, due to the longer time horizon of the construction period for the Singapore project than the previous ones. Please see Exhibit 15.

Exhibit 15: Historic and Projected CapEx *(Source: Public Filings, own work)*



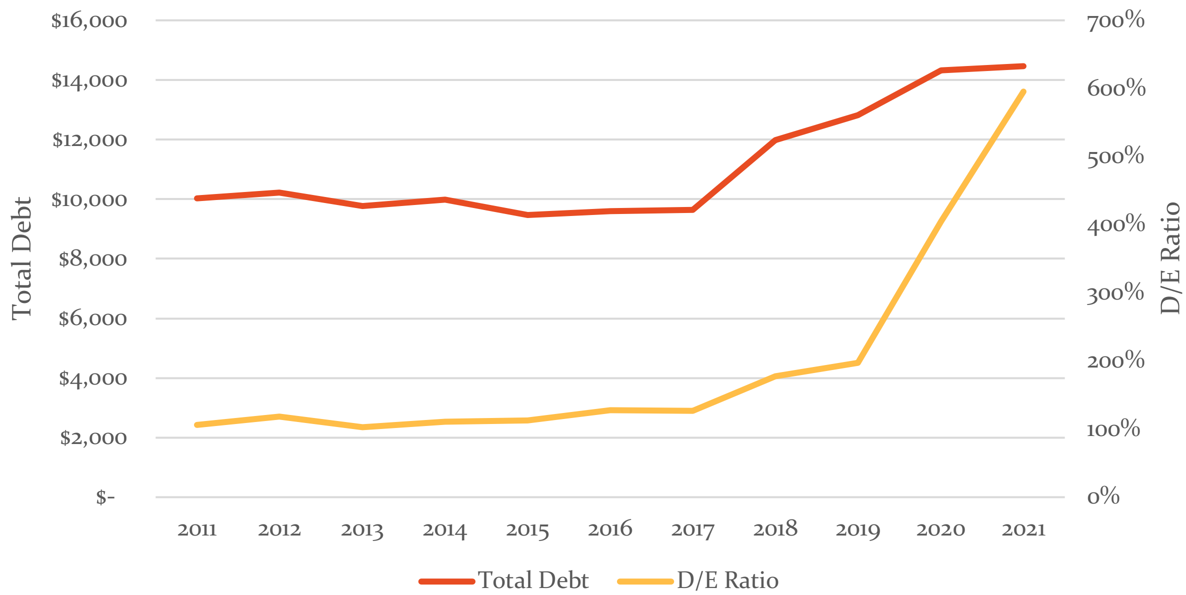
Debt Projections and Discount Methodology

In order to determine the correct discounting methodology, we needed to evaluate how LVS treats its debt balance and its debt-to-equity ratio.

We can see in Exhibit 16 how LVS has historically treated its total debt and its debt-to-equity ratio since 2011. Notably, we see that the company's total debt was extremely constant all the way from 2011 – 2017 at about $10,000 million. This debt level clearly represented LVS' target debt level for their property portfolio at that time. LVS financial statements note that the company began raising debt in 2018 for both the Londoner and the Singapore projects, which we can see in the chart as a steady increase in the debt level from 2018 – 2021. Accordingly, it seems that the new target debt level for LVS sits around $14,500 million with the new portfolio of casinos, which is where the debt level has sat since 2020.

It may have been reasonable to argue that LVS had a target Debt-to-Equity ratio several years ago, as the ratio stayed between 100% - 125% for seven years. However, you can note from the chart that the D/E ratio began to rise in 2018, even before COVID-19's heavy losses wiped out significant portions of LVS equity. Between this movement away from a static D/E ratio and the company's clear goals to raise debt in order to finance property development,

Exhibit 16: LVS Total Debt and D/E Ratio *(Source: Public Filings)*



Since LVS has already raised debt in order to complete its Londoner and Singapore property developments, we do not project any more increase in the company's total debt figures within our forecast period.

However, we do make a projection for the debt level in our catastrophe case. Because in that case the company is forced to sell/liquidate its Macau properties and dramatically shrink its business footprint, it is impossible to imagine that LVS will ideally keep a target debt level of $14,500 million. Instead, we estimated that the company's new target debt level while only operating in Singapore would be to keep only the debt attributable to Singapore and corporate (US) on its balance sheet, which totals $6,917 million. Of course, LVS does not currently have the cash to pay down the remaining $7.5 billion in debt. Accordingly, we project that it will take two years from 2022 for LVS to sell Macau properties and use those proceeds to pay back debt attributable to Macau. After this two-year period, the company's new target debt level will remain about $6,900 million.

It is also important to quickly consider the company's credit rating, which currently sits at BBB- with a negative watch. This does keep LVS in investment grade territory, but only barely. A credit rating of BBB- has a five-year probability of default of only 3.5% according to SCOPE Ratings' historical figures, which remains fairly low. In addition, LVS has no upcoming bond maturities until 2024, has $1,644 million of unrestricted cash on the balance sheet, and is projected to return to positive $1,500 million+ of free cash flows annually starting in 2022. Accordingly, we see no imminent concern that LVS will default on its debt. However, a default would become significantly more possible if our catastrophe scenario were to materialize, which of course is a risk to investors.

Because LVS seems to have a policy of a fixed total debt target rather than a fixed D/E ratio, we believe that Adjusted Present Value is the most prudent valuation method. We calculated a levered beta of 1.49 and an unlevered beta of 1.06 by comparing LVS' monthly stock returns to those of the Wilshire 5000 Index since 2013 (and adjusting for the company's D/E ratio in the case of the unlevered beta, seen in Exhibit 17). For a market risk premium, we utilized Aswath Damodaran's estimate of 4.93%. For the risk-free rate, we utilized the 5-year Treasury rate (as of November 2nd, 2021) in the cost of equity for the duration of the projection period, and used the 10-year Treasury rate to discount the terminal value. Altogether, these figures calculated a short-term cost of equity of 8.51% and a long-term cost of equity of 8.92%. For the cost of debt, we used 7.07% from the ICE BofA US (BB) total return estimate. Altogether, these figures produced a short-term discount rate of 8.06% and a long-term discount rate of 8.34%. All these figures are summarized below in Exhibit 18.

Exhibit 18: 1-Year Rolling Unlevered Beta *(Source: LVS Public Filings)*

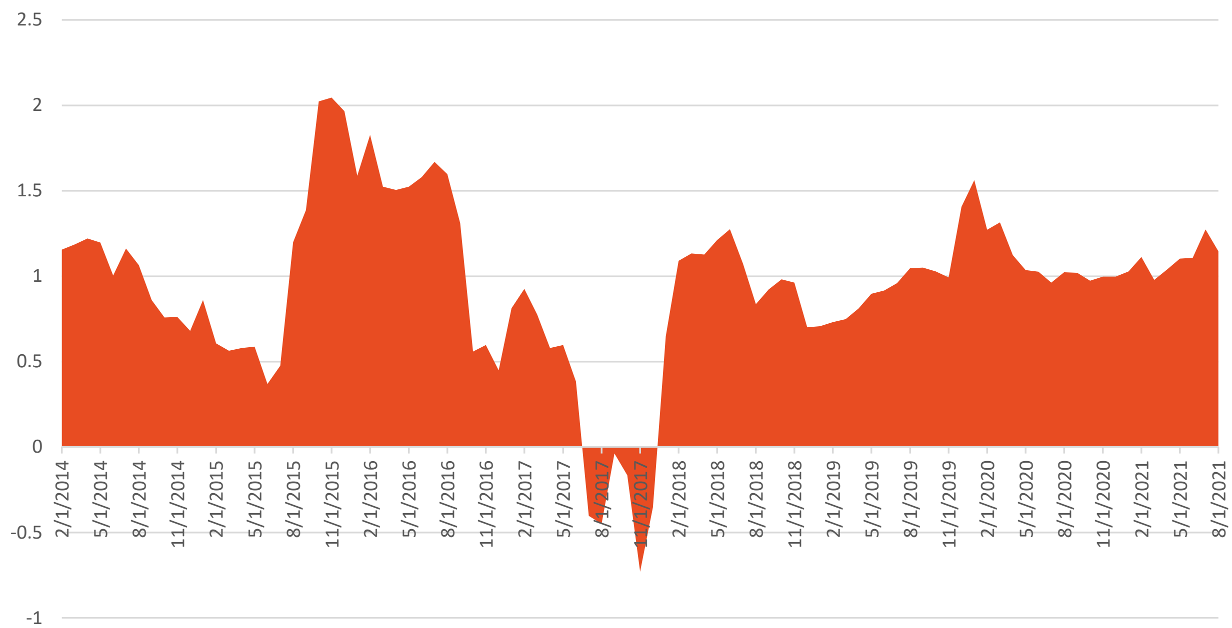


Exhibit 18: Discounting Metrics *(Source: Aswath Damodaran, WRDS Market and Stock Data, US Treasury, LVS Public Filings)*

Levered Beta	1.49
Unlevered Beta	1.06
5yr Treasury Rate	1.15%
10yr Treasury Rate	1.56%
Market Risk Premium	4.93%
Short-Term Cost of Equity	8.51%
Long-Term Cost of Equity	8.92%
Cost of Debt	7.07%

Tax Rate	11%
Terminal Growth Rate	1.70%
Short-Term Discount Rate	**8.06%**
Long-Term Discount Rate	**8.34%**

DCF Results and Analysis

Based on this discounting methodology, we performed one DCF analysis on the consolidated, probability-weighted financial forecast that we projected. The results of this DCF can be seen below in Exhibit 19.

Exhibit 19: DCF Results *(Source: own work)*

Sum of PV of UFCF	$	7,155
Terminal Value		38,228
Total PV of Cash Flows	**$**	**45,383**

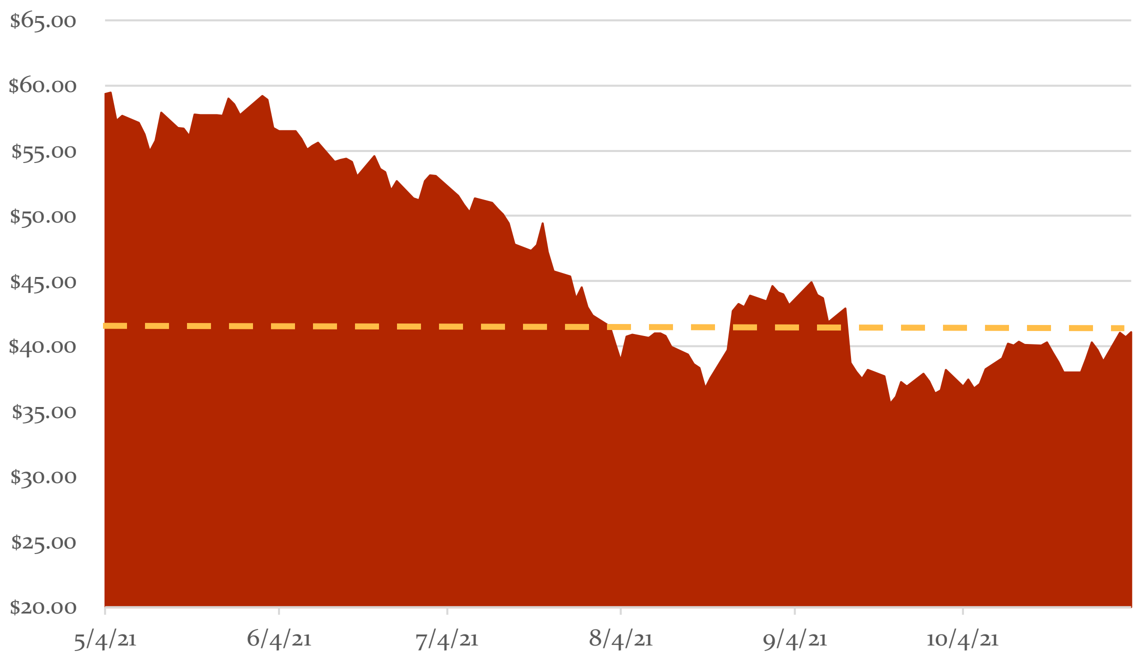
Debt Load	$	14,462
Tax Rate		11%
Interest Rate		4%
Cost of Debt		7.07%
PV of Tax Shield	**$**	**898**

Total Enterprise Value	**$**	**46,281**
(+) Cash		1,644
(-) Total Debt		(14,462)
Total Equity Value	**$**	**33,463**

We calculated an NPV of unlevered cash flows of $7,155 million, a PV of the terminal value (at 1.7% growth rate) of $38,228 million, and a PV of the tax shield of $898 million. Together, this amounted to a total enterprise value of $46,281 million. Including both the outstanding debt of $14,462 million and the cash balance of $1,644 million, we derive a total equity value of $33,463 million. Given the shares outstanding amount of ~764 million, this results in a target price per share of $43.80 based on our valuation.

Meanwhile, the market currently prices LVS at $39.74 per share. This implies that the market is undervaluing LVS by about 10.2%. Despite this slight pricing upside, we note based on Exhibit 19 below that our target price is near the traded level over the past two months, and we recognize that there is significant risk to investors particularly in the catastrophe case. Accordingly, we think that the appropriate rating for the stock at this time is to HOLD. Investors should certainly consider their own risk tolerance in making this decision, however.

Exhibit 20: Historic LVS Stock Price *(Source: NASDAQ)*



CONCLUSION

Las Vegas Sands finds itself with significant exposure to the Macau gambling industry at a time that China is considering material changes to its regulatory regime. This naturally poses significant risk to potential investors, but we distill the potential outcomes to an upside case, a downside case, and a catastrophe case.

We projected LVS' financials in each of the three cases, and it two out of the three the company returned to positive earnings and cash flows from 2022 and beyond, with at least satisfactory performance. Meanwhile, the company was able to tread water in the catastrophe case at least until they complete the construction of another casino by 2026.

Given our estimated probabilities for each of these scenarios, we foresee that LVS will likely have at least moderate earnings potential and growth in the forecast period. All in all, our valuation leads us to believe that LVS is approximately appropriately valued by the market, even considering both a dramatic downside scenario and an extremely positive case. Accordingly, our recommendation is to **HOLD** LVS and monitor the company's situation for the time being.

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