MGM Resorts Intl. Research Report

Limited Macau Exposure and strong BetMGM Performance Create Opportunity

We recommend a BUY weighting on MGM Resorts Intl. ("MGM") for investors with a 3- to 5-year investment horizon.

One of the industry's largest headwinds for in person gambling is the emergence of online gambling, where MGM has carved out significant market share.

Limited Macau exposure gives MGM an advantage relative to competitors like Wynn and LVS, as China's inquiry into gambling could have dire consequences on the casino industry in the city.

Our preferred valuation yields an equity value of $25.807 billion, which is approximately 23.6% above the current market capitalization.

The company's current plans to expand its presence internationally has been successful, as the company was selected to build a property in Osaka and further investment in Macau is expected depending on legislative changes.

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Ticker: MGM

Price: $44.54

Projected Price: $55.03

Projected Upside: 23.6%

52-Week Range: $27.59 – $51.17

Recommendation: BUY

Please see the disclaimer at the back of this report for important information

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COMPANY OVERVIEW

Introduction

MGM Resorts International (NYSE: MGM) was founded in 1986 and has its principal executive offices in Las Vegas, Nevada.

MGM Resorts International (hereinafter, "MGM" or the "Company"), acts largely as a holding company and, through its subsidiaries, owns and operates integrated casino, hotel, and entertainment resorts across the United States and in Macau.

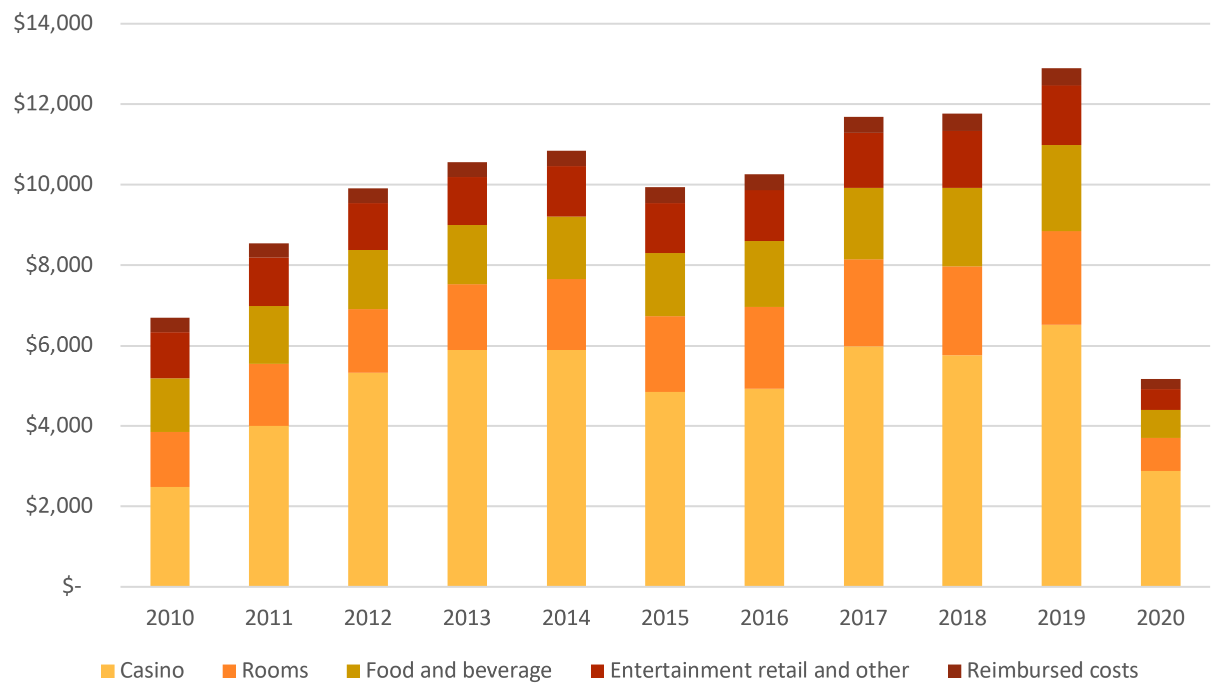
Services

MGM's casino resorts offer gaming, hotel, convention, dining, entertainment, retail, and other resort amenities. The Company's casino operations include slots and table games, as well as online sports betting and iGaming through **BetMGM.**

The Company also owns and operates Las Vegas Strip Resorts and Fallen Oak golf course. Its customers include premium gaming customers; leisure and wholesale travel customers; business travelers; and group customers, including conventions, trade associations, and small meetings.

The trend in changes of revenue breakdown can be seen in Exhibit 1.

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



Substantially all of MGM's assets are owned by (and all of its businesses are conducted through) MGM Growth Properties LLC ("**MGP**"), a consolidated subsidiary of the Company, which leases the real estate assets by virtue of a master lease agreement. On August 4, 2021, MGM announced a definitive agreement with VICI Properties Inc. ("VICI") and MGP whereby VICI would redeem a majority of MGP operating partnership units held by MGM for approximately $4.4 billion in cash. As part of the agreement, MGM will own an approximate 1% stake in the VICI operating partnership. As part of the transaction, the existing master lease will be amended and restated and will provide for an initial term of 25 years, with three ten-year renewals. This lease will provide the Company with significant flexibility to manage its operations across the portfolio of properties covered by the lease. Upon closing, MGM will no longer consolidate MGP in its financial statements. The transaction is expected to close in the first half of 2022.

On July 1, 2021, MGM Resorts announced it had entered into a definitive agreement to purchase Infinity World's 50% interest in CityCenter for $2.125 billion, making MGM Resorts the 100% owner of Aria Resort & Casino and Vdara Hotel and Spa. Upon taking full ownership of CityCenter, MGM will then sell the complex to funds managed by The Blackstone Group for US$3.89 billion in cash, with Aria and Vdara to then be leased back to MGM for annual rent of US$215 million. Notably, because MGM already owned 50% of these properties, the full revenue was already consolidated to MGM's financial statements and no adjustments need to be made in our projections for them. MGM also announced in September 2021 that it has agreed to acquire the operations of the Cosmopolitan Las Vegas from Blackstone for $1.625 billion, for which adjustments will need to be made in our financial projections.

Locations

MGM operates through three main segments:

- **Las Vegas Strip Resorts**, which consists of the following casino resorts: Bellagio, MGM Grand Las Vegas (including The Signature), Mandalay Bay (including Delano and Four Seasons), The Mirage (although the commencement of its sale process has been recently announced), Luxor, New York-New York (including The Park), Excalibur and Park MGM (including NoMad Las Vegas). As previously mentioned, MGM will add to its suite full control of the Aria, Vdara, and Cosmopolitan resorts.

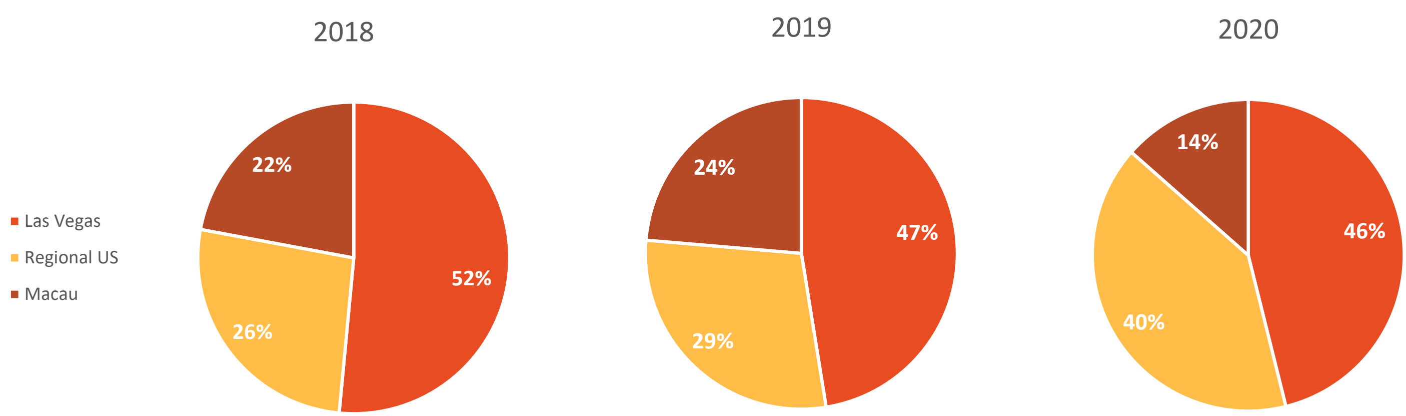
- **Regional Operations**, which consists of the following casino resorts: MGM Grand Detroit in Detroit, Michigan; Beau Rivage in Biloxi, Mississippi; Gold Strike Tunica in Tunica, Mississippi; Borgata in Atlantic City, New Jersey; MGM National Harbor in Prince George's County, Maryland; MGM Springfield in Springfield, Massachusetts; Empire City in Yonkers, New York; and MGM Northfield Park in Northfield Park, Ohio.

- **MGM China**, of which MGM only owns about 56%. This subsidiary owns MGM Grand Paradise, S.A. (MGM Grand Paradise), the Macau company that owns and operates the MGM Macau and MGM Cotai casino resorts and the related gaming subconcession and land concessions. The Macau government has granted gaming concessions and each of these concessionaires has granted a subconcession. The MGM Grand Paradise gaming subconcession expires in 2022.

In addition, on September 2021, MGM announced that its Japanese subsidiary (alongside its joint venture partner) has been selected by Osaka as the region's integrated resort partner, following the 2018 passage of **Japan**'s Integrated Resort Implementation Act. If selected to receive a license following the application process, MGM anticipates an opening date in the second half of the 2020s. Furthermore, management has implied interest in expanding investment in both Macau and the state of New York, though no firm plans in either jurisdiction have been announced.

Most of MGM's revenues stem from the Company's US operations, as seen in Exhibit 2.

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

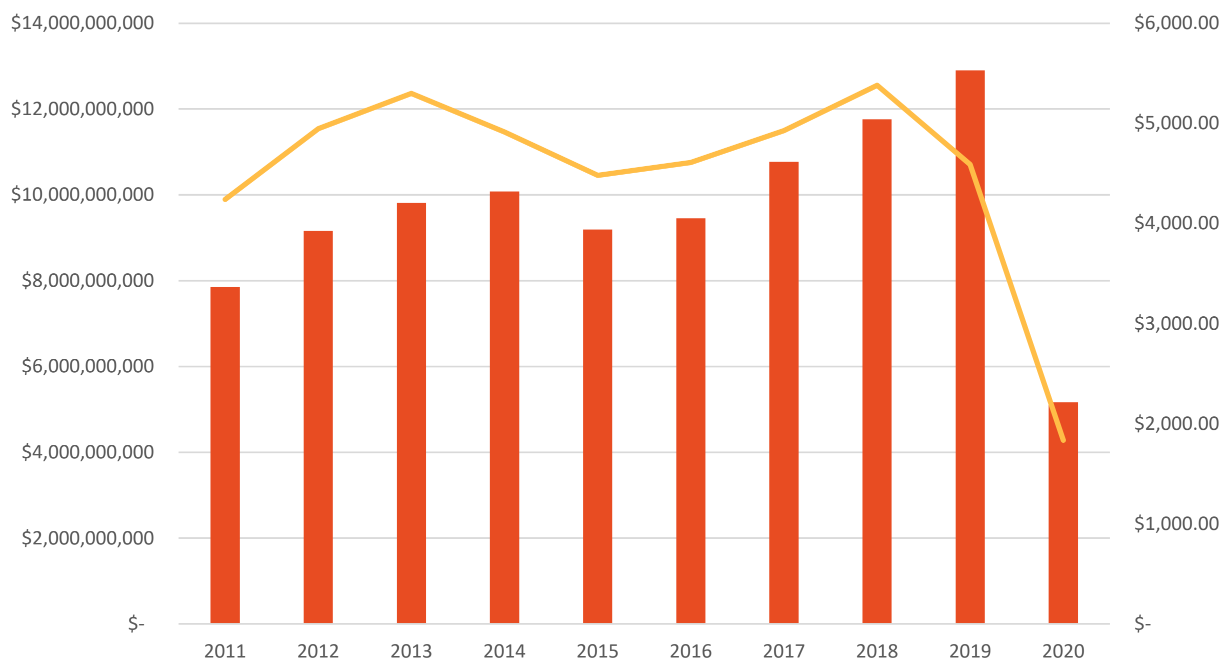


When considering revenue per square foot of gaming space, MGM has consistently been able to improve revenue when opening new casinos, as seen in Exhibit 3. This exhibit shows that when new casinos are opened, such as in 2013, revenue per square foot declines briefly but then recovers to new heights. The same occurrence explains the dip in revenue per square foot of in 2019, which was the result of the opening of MGM Cotai. Furthermore, the revenue decline in 2015 can also be partially attributed to the Chinese government's investigation into corruption, which caused many high-rollers to avoid gambling in Macau, thereby significantly reducing revenues from MGM's operations in this region for the period. This will be an important consideration when projecting MGM's revenue when it launches new casino locations. Additionally, when compared to competitors such as Wynn, MGM's ability to maintain revenue per square foot of gaming space continues to impress, as Wynn's revenue per square foot fell 50% from 2011 to 2016, as the company opened Wynn Palace. Overall, MGM's ability to consistently increase revenue per square foot with each additional property exemplifies the management team's ability to undertake positive NPV developments and improve the efficiency of operations.

However, it is notable that MGM's revenue per square foot of gaming space is below its competitors, namely Las Vegas Sands and Wynn. The reason for this is the fact that both LVS and

Wynn earn the vast majority (70+%) of their revenue from casino operations, which is more profitable, while MGM earns roughly 50% of its revenue from casino operations.

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



COMPANY OUTLOOK

Major Considerations

The largest consideration in projecting MGM's performance and the casino industry's performance as a whole is the speed at which revenues will recover from the **pandemic**. Since the start of the pandemic, MGM's properties have continued to generate revenues that are significantly lower than historical results, and its properties may still be subject to temporary, complete, or partial shutdowns in the future, depending on regulations enacted by the jurisdictions in which the properties are located. In addition, measures have been put in place, such as limitations on the number of gaming tables allowed to operate and on the number of seats at each table game, as well as slot machine spacing, reduced operating hours, temperature checks, mask protection, limitations on restaurant capacity, entertainment events and conventions, as well as other measures to enforce social distancing. In addition, we can still expect weakened demand as a result of continued domestic and international travel restrictions or warnings, restrictions on amenity use, such as gaming, restaurant and pool capacity limitations.

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.

The Company has recently entered into several investments, agreements and transactions, namely the sale of The Mirage, the sale of its stake in MGP, partial or complete acquisitions of three new resorts in Las Vegas, its selection by Osaka (Japan) as the region's integrated resort partner, additional investments in Macau, as well as exploration of key new jurisdictions.

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. In this respect, MGM is very well positioned with BetMGM having established itself as a leading operator nationwide, with the #1 position in iGaming.

Major Risks

MGM could be impacted by several risks, the largest of which being its Macau exposure. MGM generated roughly 24% 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 have direct impacts to revenues and costs depending on any actual regulations passed, and may cause fewer high rollers to travel to Macau to gamble (similar to what happened in 2015), thereby drastically impacting the revenue of the Macau casinos – we discuss this in more detail in following Scenario Analysis and Revenue Projections. This risk is amplified by the fact that MGM'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 MGM 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, MGM 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.

Scenario Analysis

Because about 24% of MGM's 2019 revenue came from its two Macau operations, we believe it is material to our projections to forecast the possible outcomes of the currently ongoing Chinese review of the Macau gaming industry. We evaluated a variety of reporting and publicly available information regarding China's potential regulation 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 MGM could no longer operate within Macau and would have to sell or close its operations. Naturally, this would have a dramatically negative impact on MGM overall. It is worth noting that MGM only owns approximately 56% of its MGM China division, instead having a partnership with Chinese investors for the remaining 44% stake. However, we believe that in our catastrophe scenario it is likely that MGM would be forced out entirely since they still retain majority control of the gaming license. It is possible that MGM may be able to restructure its ownership of MGM China to retain a minority stake, which may allow them to keep exposure to Macau and would certainly mitigate the risks described in this section. However, for the purposes of these projections we will assume that a full Chinese crackdown will effectively force MGM out of Macau.

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 Xinping has a 90% likelihood of being reelected. This has traded as high as 94% in the last month, but is currently priced at 90% as of the time of this writing. We take a Jinping reelection as a proxy for China maintaining course, whereas a Xinping 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 at the credit ratings of the MGM China subsidiary specifically. Because MGM China owns almost exclusively Macau exposure, MGM China'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 MGM China, whereas Macau's cash flows are high enough to sustain the subsidiary otherwise. Thus, we take MGM China's implied probability of default within five years (12.3% according to historic data from SCOPE Ratings, for MGM China's credit rating of BB-) as a proxy for the likelihood of a catastrophe scenario in Macau overall. We double-checked this methodology by comparing to Wynn Resorts, a competitor of MGM who also has substantial Macau exposure and has a worse financial position overall than MGM due to higher debt levels and less solid management. Wynn's credit rating matches the BB- of MGM China, implying the same probability of default for Wynn under the same circumstances. We realize this is not an ideal comparison because there is uncertainty around whether MGM China (or Wynn) would default in any scenario; however, we believe this proxy is at least in the proximity of an accurate likelihood, and the same result from both MGM China and Wynn gives us more comfort in our estimate. As a result, the probability of our downside scenario occurring is 77.7%, the remaining possibility after the 10% upside and 12.3% catastrophe 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, thereby creating a cap on possible revenue growth for MGM's Macau properties. In 2015, China's investigation into corruption caused many high-rollers to avoid travelling to Macau to gamble, causing a sizable decrease in revenue from MGM's Macau operations. 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. Finally, we anticipate that the growth of MGM's online gambling revenue will continue, as more states are passing legislation to allow for online gambling and iGaming. MGM's strong market share in the states where it has rolled out its platform BetMGM has been sizable and continued to grow.

Long-Term Outlook

In the long-term, our outlook for MGM is equally positive. Given the company's lower Macau exposure relative to competitors we anticipate that the Chinese government's review of the gambling industry will have a lesser negative toll on earnings than its competition. However, due to this inquiry, we utilized the previously discussed scenario analysis to better estimate the intrinsic value of MGM, by modelling the impacts of different scenarios on the relatively small share of revenue for MGM that stems from Macau. Additionally, we have noted MGM's ability to continue to increase revenues per square foot with each additional property, which we believe the management team will be able to continue. This is especially true given that competitors have been able to increase the revenue per square foot above the current levels of MGM's. Furthermore, winning the license to construct a resort in Osaka will be another strong driver of performance as this is a relatively untapped market and the popularity of games and gambling in Japan is incredibly high. Finally, one of the largest drivers of our positive outlook for the company stems from its successful launch of BetMGM, the company's online betting and iGaming platform. The service has been able to capture a 25% market share in the states where it has been fully rolled out, and this market share has continued to increase over time. Given the popularity of BetMGM, the continued and growing popularity of online betting and iGaming, and more states passing legislation to allow online betting and iGaming, we believe that MGM is in the best position to continue to capture market share and become one of the largest players in a rapidly growing industry.

FINANCIAL PROJECTIONS

Overall Projection

Below in Exhibit 4 we show the entire income statement history for MGM Resorts International since 2010, as well as our annual forecast through 2026.

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

	Historical												Projection					
MILLIONS	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 YTD	Q4 2021	2022	2023	2024	2025	2026
Period Ended	*12/31/10*	*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	$ 2,480	$ 4,003	$ 5,319	$ 5,876	$ 5,879	$ 4,843	$ 4,936	$ 5,984	$ 5,753	$ 6,518	$ 2,872	$ 3,251	$ 1,184	$ 6,033	$ 6,072	$ 6,176	$ 6,782	$ 6,898
BetMGM	-	-	-	-	-	-	-	-	-	-	-	584	216	992	1,214	1,469	1,763	2,100
Rooms	1,370	1,548	1,589	1,646	1,768	1,877	2,024	2,151	2,213	2,323	830	1,054	490	2,448	2,485	2,528	2,641	2,686
Food and beverage	1,339	1,425	1,472	1,470	1,559	1,575	1,640	1,790	1,959	2,145	696	877	416	2,260	2,295	2,334	2,444	2,485
Entertainment retail and other	1,141	1,205	1,163	1,208	1,259	1,248	1,251	1,363	1,413	1,477	519	640	316	1,584	1,610	1,637	1,677	1,706
Reimbursed costs	359	351	358	365	383	399	397	402	425	437	245	218	85	460	467	475	483	492
Net Revenue	**$ 6,056**	**$ 7,849**	**$ 9,161**	**$ 9,810**	**$ 10,082**	**$ 9,190**	**$ 9,455**	**$ 10,774**	**$ 11,763**	**$ 12,900**	**$ 5,162**	**$ 6,623**	**$ 2,708**	**$ 13,777**	**$ 14,144**	**$ 14,619**	**$ 15,791**	**$ 16,366**
Annual Growth		*29.6%*	*16.7%*	*7.1%*	*2.8%*	*-8.8%*	*2.9%*	*13.9%*	*9.2%*	*9.7%*	*-60.0%*		*80.8%*	*47.6%*	*2.7%*	*3.4%*	*8.0%*	*3.6%*
COGS																		
Casino	$ 1,423	$ 2,515	$ 3,397	$ 3,685	$ 3,644	$ 2,883	$ 2,718	$ 3,241	$ 3,200	$ 3,624	$ 1,702	$ 1,621	$ 571	$ 3,565	$ 3,591	$ 3,652	$ 4,018	$ 4,086
BetMGM	-	-	-	-	-	-	-	-	-	-	-	188	69	319	390	472	566	675
Rooms	423	486	508	517	549	564	576	608	792	830	419	402	161	785	797	810	847	861
Food and beverage	774	829	845	844	909	918	944	1,005	1,502	1,662	674	651	302	1,413	1,435	1,459	1,528	1,554
Entertainment retail and other	815	845	814	848	883	862	860	910	1,000	1,051	413	385	205	1,108	1,126	1,145	1,173	1,193
Reimbursed costs	359	351	358	365	383	399	397	402	425	437	245	218	85	460	467	475	483	492
Total COGS	**$ 3,794**	**$ 5,026**	**$ 5,921**	**$ 6,259**	**$ 6,369**	**$ 5,625**	**$ 5,496**	**$ 6,166**	**$ 6,919**	**$ 7,603**	**$ 3,453**	**$ 3,466**	**$ 1,392**	**$ 7,649**	**$ 7,806**	**$ 8,014**	**$ 8,616**	**$ 8,861**
Annual Growth		*32.5%*	*17.8%*	*5.7%*	*1.8%*	*-11.7%*	*-2.3%*	*12.2%*	*12.2%*	*9.9%*	*-54.6%*		*40.7%*	*57.5%*	*2.0%*	*2.7%*	*7.5%*	*2.8%*
Gross Profit	**$ 2,262**	**$ 2,823**	**$ 3,240**	**$ 3,551**	**$ 3,713**	**$ 3,565**	**$ 3,959**	**$ 4,608**	**$ 4,844**	**$ 5,296**	**$ 1,709**	**$ 3,158**	**$ 1,315**	**$ 6,127**	**$ 6,337**	**$ 6,604**	**$ 7,175**	**$ 7,505**
Annual Growth		*24.8%*	*14.8%*	*9.6%*	*4.6%*	*-4.0%*	*11.1%*	*16.4%*	*5.1%*	*9.3%*	*-67.7%*		*161.7%*	*37.0%*	*3.4%*	*4.2%*	*8.6%*	*4.6%*
General and administrative	$ 1,129	$ 1,183	$ 1,240	$ 1,278	$ 1,319	$ 1,309	$ 1,379	$ 1,560	$ 1,765	$ 2,101	$ 2,122	$ 1,760	$ 623	$ 2,055	$ 2,067	$ 2,137	$ 2,213	$ 2,296
Corporate expense	124	175	235	217	239	275	313	357	419	465	460	287	112	353	362	374	388	403
Preopening and start-up expenses	4	(0)	2	13	39	71	140	118	151	7	0	2	2	71	73	76	78	81
Property transactions net	1,451	179	697	125	41	36	17	50	9	276	94	1	4	504	517	535	555	576
Gain on transactions net	-	(3,496)	-	-	-	-	(291)	(41)	-	(2,678)	(1,492)	(1,562)	-	-	-	-	-	-
Depreciation and amortization	633	817	928	849	816	820	850	993	1,178	1,305	1,211	854	279	1,314	1,342	1,387	1,436	1,489
Impairment	-	-	-	-	-	1,468	-	-	-	-	-	-	-	-	-	-	-	-
Total Operating Expenses	**$ 3,342**	**$ (1,143)**	**$ 3,101**	**$ 2,482**	**$ 2,454**	**$ 3,979**	**$ 2,407**	**$ 3,038**	**$ 3,522**	**$ 1,475**	**$ 2,395**	**$ 1,341**	**$ 1,020**	**$ 4,297**	**$ 4,361**	**$ 4,509**	**$ 4,670**	**$ 4,846**
Income from unconsolidated affiliates	(78)	91	(17)	69	64	258	528	146	148	120	43	58	-	145	148	150	153	156
Operating income (EBIT)	**$ (1,159)**	**$ 4,057**	**$ 121**	**$ 1,137**	**$ 1,324**	**$ (156)**	**$ 2,080**	**$ 1,715**	**$ 1,469**	**$ 3,940**	**$ (642)**	**$ 1,875**	**$ 295**	**$ 1,975**	**$ 2,124**	**$ 2,246**	**$ 2,658**	**$ 2,815**
Annual Growth		*-450.1%*	*-97.0%*	*837.2%*	*16.4%*	*-111.8%*	*-1431.2%*	*-17.5%*	*-14.3%*	*168.1%*	*-116.3%*		*-437.8%*	*-9.0%*	*7.6%*	*5.7%*	*18.3%*	*5.9%*
Interest expense net of amounts capitalized	$ (1,114)	$ (1,087)	$ (1,116)	$ (857)	$ (817)	$ (798)	$ (695)	$ (669)	$ (770)	$ (848)	$ (676)	$ (598)	$ (322)	$ (975)	$ (975)	$ (975)	$ (975)	$ (975)
Non-operating items of unconsolidated affiliates	(109)	(119)	(131)	(209)	(88)	(76)	(53)	(35)	(48)	(62)	(103)	(67)	(23)	(167)	(169)	(172)	(174)	(177)
Other net	165	(20)	(608)	(9)	(8)	(16)	(73)	(48)	(18)	(183)	(89)	70	(49)	(96)	(97)	(99)	(101)	(103)
Total Other Income (Expense)	**$ (1,057)**	**$ (1,226)**	**$ (1,856)**	**$ (1,075)**	**$ (913)**	**$ (890)**	**$ (821)**	**$ (752)**	**$ (835)**	**$ (1,093)**	**$ (869)**	**$ (595)**	**$ (395)**	**$ (1,238)**	**$ (1,241)**	**$ (1,245)**	**$ (1,250)**	**$ (1,255)**
Income (loss) before income taxes	**$ (2,216)**	**$ 2,832**	**$ (1,734)**	**$ 62**	**$ 411**	**$ (1,046)**	**$ 1,259**	**$ 964**	**$ 634**	**$ 2,847**	**$ (1,511)**	**$ 1,279**	**$ (100)**	**$ 737**	**$ 884**	**$ 1,001**	**$ 1,408**	**$ 1,560**
Benefit (provision) for income taxes	779	403	117	(21)	(284)	7	(22)	1,133	(50)	(632)	192	(222)	-	(140)	(168)	(190)	(267)	(296)
Net income (loss)	**$ (1,437)**	**$ 3,235**	**$ (1,617)**	**$ 41**	**$ 127**	**$ (1,040)**	**$ 1,237**	**$ 2,096**	**$ 584**	**$ 2,214**	**$ (1,320)**	**$ 1,057**	**$ (100)**	**$ 597**	**$ 716**	**$ 810**	**$ 1,140**	**$ 1,264**
		-325.1%	*-150.0%*	*-102.6%*	*207.4%*	*-917.5%*	*-219.0%*	*69.5%*	*-72.1%*	*279.2%*	*-159.6%*		*-172.6%*	*-37.6%*	*19.8%*	*13.2%*	*40.7%*	*10.8%*
EBITDA	**$ (526)**	**$ 4,874**	**$ 1,049**	**$ 1,987**	**$ 2,139**	**$ 664**	**$ 2,929**	**$ 2,709**	**$ 2,648**	**$ 5,245**	**$ 568**	**$ 2,728**	**$ 575**	**$ 3,289**	**$ 3,466**	**$ 3,633**	**$ 4,094**	**$ 4,304**
Annual Growth		*-1027.5%*	*-78.5%*	*89.4%*	*7.7%*	*-69.0%*	*341.4%*	*-7.5%*	*-2.3%*	*98.1%*	*-89.2%*		*481.4%*	*-0.4%*	*5.4%*	*4.8%*	*12.7%*	*5.1%*

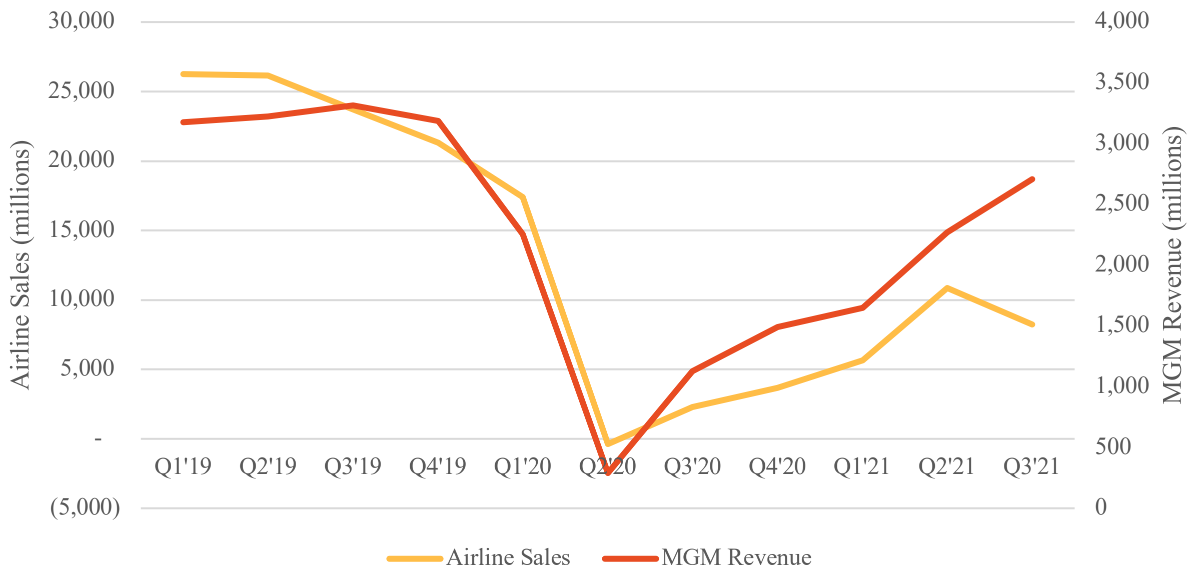
Revenue

We chose to project MGM's revenue independently for each of its four effective regions – the US, Macau, the anticipated launch of a new property in Japan, and the company's online gaming division, BetMGM. Because each of these regions has unique quirks, it makes the most sense to project these regions independently, and at the end aggregate them into the full income statement projection shown above in Exhibit 4.

United States

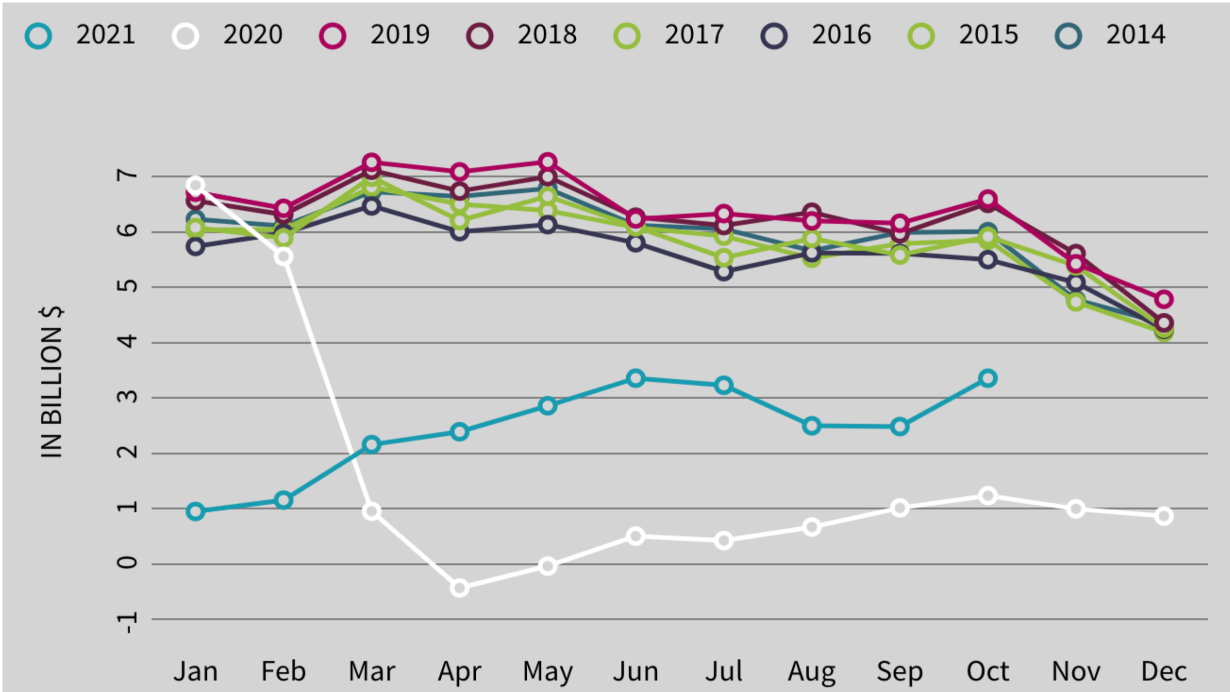
The US operations are by far the largest segment of MGM's revenue, comprising about 77% of the entire company's revenue in 2019. Within this region, properties on the Las Vegas Strip regularly outperform revenue from what MGM calls its regional properties across the rest of the US. Because Las Vegas is a destination for most people, rather than a day trip for gambling, we thought to look at how MGM's revenue tracks with sales of tickets across the airline industry. We turned to monthly data from Airlines Reporting Corp, and compared this data to MGM's quarterly revenues below in Exhibit 5.

Exhibit 5: MGM Quarterly Revenue vs. Airline Sales *(Source: Airline Reporting Corp, Public Filings)*



We can see that these two figures have tracked fairly closely through the pandemic period, although notably MGM has recovered more quickly following is pandemic lows than the airline industry has. Seeing that we can likely use airline sales as a proxy, we took a look at another set of Airline Reporting Corp data to see how Q4 2021 airline sales are shaping up, in the hope that may allow us to project Q4 2021. Unfortunately, as can be seen below in Exhibit 6, we only have data through October 2021 as of the time of this writing. However, the data does seem to show that sales through the earliest part of Q4 2021 are consistent with those in Q3 2021.

Exhibit 6: Monthly Airline Sales Data *(Source: Airline Reporting Corp)*



Because airline sales seem roughly flat between Q3 2021 and Q4 2021, we project that MGM revenues in Q4 2021 will be approximately the same as in Q3 2021. This assumption of consistent revenue between Q3 and Q4 is bolstered by the fairly constant state of the COVID-19 situation across the US, where the vaccine rollout has been mostly complete and there have been no major spikes of the virus or other changes domestically between the two quarters.

Turning to 2022, it becomes important to project the return-to-normal in the post-pandemic world. First, we sought to benchmark how US revenue has recovered so far, compared to the pre-pandemic peak of 2019. Total Q3 revenue from the US region totaled $2,307 million, and if we annualize this figure (note there is no apparent seasonality across MGM's quarterly revenues, at least within the last ~5 years that we have particularly analyzed) we would approximate a full-year revenue of $9,224 million. This figure is roughly 92% of the full-year 2019 revenue of $9,994 million from the US region. Accordingly, we believe that with continued improvement in the healthcare situation (such as booster shots becoming widely available late in Q4 2021 and early in 2022), it is reasonable to project that 2022 revenue will be equivalent to 2019 revenue, scaled for three years of 1.7% inflation.

The only difference we project in 2022 compared to 2019 (aside from inflation) is that MGM has announced that they plan to sell the operations of the Mirage resort in 2022, and will purchase the operations of the Cosmopolitan in late 2021. Accordingly, we have stripped out the revenue of the Mirage (~$649 million) from the 2019 figures before growing to 2022 revenue. Further, while the Cosmopolitan's historic financials are not public, MGM has announced that the Cosmopolitan's revenue in 2019 was about $959 million, which we added to US revenue figures starting in 2022.

Beyond 2022, we do not see any huge opportunities for growth within the physical properties segment of the US. Management has toyed with expanding MGM's presence in New York State, but has no firm commitment from the state or any particular plans for expansion that have been made public. Accordingly, from 2022 through the end of the projection period we grow US revenues by the rate of inflation at 1.7%.

Macau

As described previously, we see three possible scenarios unfolding in Macau due to China's contemplated regulations. Accordingly, we projected three unique sets of financial projections for Macau, one for each scenario. The full sets of these individual projections can be seen in detail in Appendices 2 through 4 at the conclusion of the report, for the sake of brevity and space we will only describe those projections in this section.

For all three scenarios, we projected that Q4 2021 revenue will be equal to Q3 2021 revenue, based on the same analysis that was shown above for the US region and airline travel. On top of this analysis, we see no material change in MGM's revenue profile in Q4 compared to Q3, primarily because regulators have established that there is a long comment prior on the gambling regulatory proposals, and no official decisions will be announced until the very end of Q4 2021. While the announcement of regulatory consideration was made partway through Q3 (such that for part of Q3 revenue was not artificially depressed by this announcement) we believe this will be roughly offset by the fact that China has started to slowly open travel between provinces and to Macau in Q4, allowing for slightly more travel and foot traffic to Macau.

We begin to separate revenue projections by regulatory scenario beginning in 2022. We asserted in our industry overview report and discussed above 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. For the upside case, we assumed that 2019 was our most recent normal year with total Macau revenue of $2,610 million, and scaled this figure by three years of 1.7% inflation in order to project 2022 revenue of $2,792 million.

For the downside scenario, we similarly assumed that the industry will return to normal in 2022, and we used MGM China's 2019 revenue figures as our starting point. In addition to scaling for inflation, we had to assign a penalty to the 2019 revenue to scale for the impact of Chinese regulation. To do this, we looked at MGM's annual revenues the last time an inquiry into Macau's gambling industry was announced, which was back in 2019. At this time, MGM China's gambling revenues fell by 32.5% between 2014 (pre-announcement of Chinese inquiry) and 2015 (post-announcement. Accordingly, we took -32.5% to be the penalty that we assigned to 2019 revenue before growing by inflation to 2022 dollars.

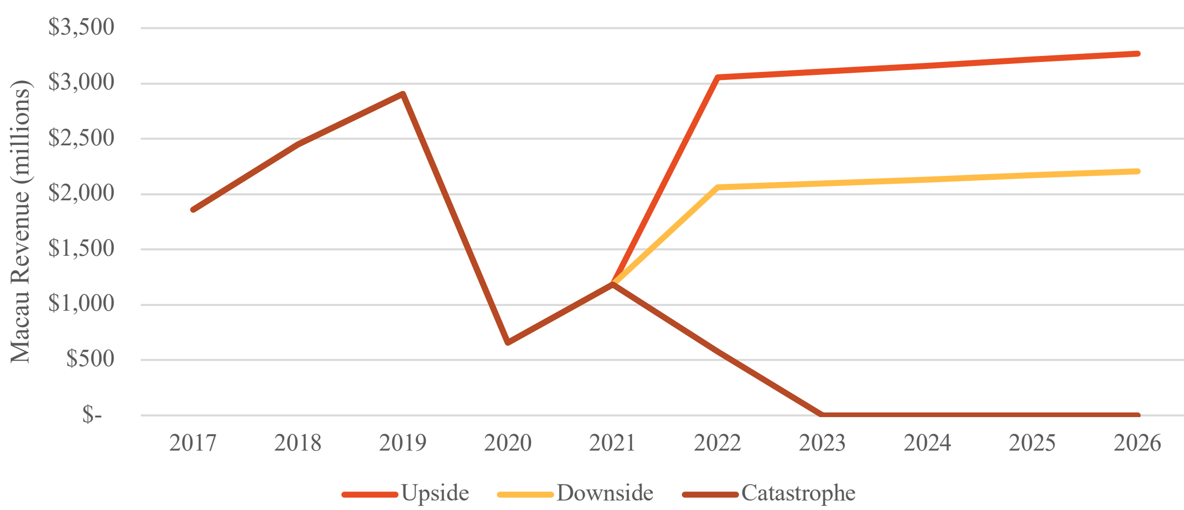
For both upside and downside cases, we grew the respective 2022 revenues by the rate of inflation from 2023-2026. We did not assign any higher growth rates in either instance because we see no indication from management that they plan to expand on their Macau presence at the time being, and historic growth has been fairly slow in the absence of any new launches.

Naturally, the projections for the catastrophe case appear materially different than the upside or downside cases. Since in the catastrophe case we project that MGM must dispose of their Macau casino assets starting once their license expires 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 revenue will completely dry up going forward.

It is very likely that in this scenario, MGM China will be forced into bankruptcy with no revenue or cash flows. While of course the loss of all Macau revenues would hurt MGM overall, we do not believe that an MGM China bankruptcy would cause MGM Resorts International to file for bankruptcy. For one, it is likely that MGM will seek to sell the property and operating assets of the two Macau casinos, the proceeds from which (even at potentially stressed levels) should help to offset and repay MGM China's debt burden. Further, debt issues directly attributable to MGM China total $2,750 million in face value, meaning that MGM Resorts International is likely able to repay those bonds with its $5,571 million of cash on hand. Even if we estimate that capitalized lease obligations in Macau are the same as the total debt issued, this total obligation would roughly equal MGM's cash on the balance sheet. Considering that MGM would still have revolver capacity and free cash flows from US operations under this scenario, we find bankruptcy would be unlikely even if MGM Resorts International has to guarantee all of MGM China's obligations.

The three Macau scenarios contribute very different trajectories for MGM, as shown in Exhibit 7.

Exhibit 7: 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 for the Macau region of MGM can be found in Appendix 5.

Japan

MGM announced that it is the sole bidder to build Japan's first ever casino hotel complex in Osaka. The company is currently still in the process of working with the city and the federal government to get all appropriate licenses and approvals, but plans and designs are underway. The most recent investor presentation claims that the project will be completed in the latter half of the 2020s, but on recent earnings calls management has claimed they may see revenue from this property as early as 2024. We think, based on the estimated license approval timeline of 2022, and the historic 3-year development timeline for the last casino MGM launched in 2018, that the true launch date of the casino hotel will likely be in 2025, in between the two estimates from management.

In order to project the 2025 first-year launch revenue from the Japan property, we looked at the same recent launch of MGM Cotai in 2018. In Exhibit 8 below, you can see that MGM revenue in Macau was fairly flat between 2016 and 2017, and jumped by about $592 million in 2018, when the MGM Cotai location was launched in February.

Exhibit 8: Impact of MGM Cotai Launch on Macau Revenue *(Source: Public Filings)*

Total Macau Revenue	2016	2017	2018	Cotai Impact
Casino	$ 1,695	$ 1,742	$ 2,195	$ 454
Rooms	57	55	119	64
Food and Beverage	51	51	115	64
Entertainment, retail and other	8	10	21	11
Total Revenue	**$ 1,812**	**$ 1,858**	**$ 2,450**	**$ 592**

Accordingly, we took this $592 million figure to be the anticipated first-year revenue for a new casino launch. In order to apply this to Japan in 2025, we scaled this $592 million by six years of 1.7% inflation to calculate a $655 million revenue contribution from Japan in 2025. We then grew this amount again by the rate of inflation for our 2026 forecast, alongside our projected growth rate for the other in-person MGM segments for that year.

BetMGM

As previously mentioned, BetMGM is MGM's online gambling and sports betting platform. Unfortunately for the sake of projections, there is very little history for BetMGM (it was launched only at the tail end of 2020), and little history for online gambling overall, which was only legalized nationwide in 2018 and has been legalized slowly on a state-by-state basis thereafter. Comparable companies such as daily fantasy bettors Draftkings and Fanduel have either been private (Draftkings) or owned within a larger gambling enterprise (Fanduel within Flutter Entertainment) for much of the early portion of their growth history.

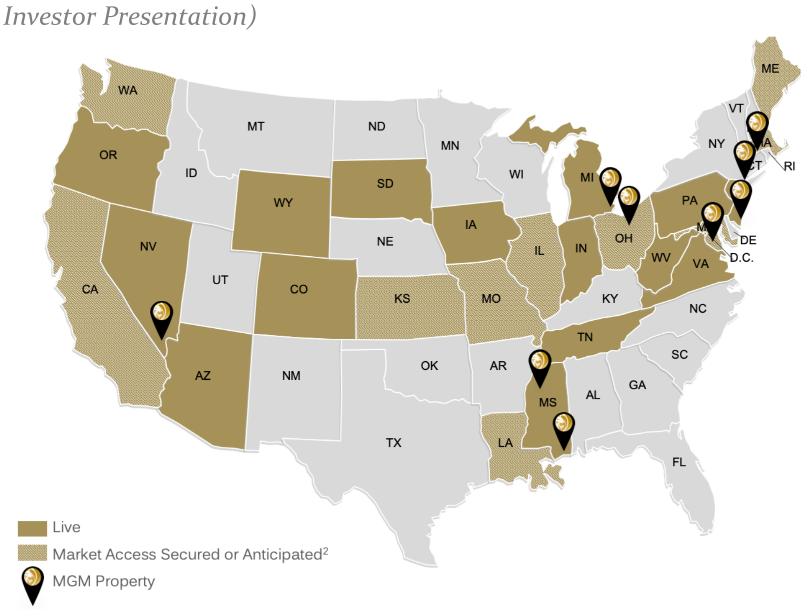
To get around this issue, we chose to look at data from the American Gaming Association to calculate a market size by state, a market growth rate by state, a projection of the number of states legalizing sports betting, and MGM's market share projections to derive an estimate of BetMGM's revenue growth. The findings are summarized below in Exhibit 9, and discussion follows on our calculations/estimates within these figures.

Exhibit 9: Derivation of BetMGM Revenue *(Source: American Gaming Association, MGM Investor Presentation)*

	2020	2021	2022	2023	2024	2025	2026
States	19	23	26	29	32	35	38
Market Per State	$ 1,132	$ 1,241	$ 1,362	$ 1,494	$ 1,639	$ 1,798	$ 1,972
Per State Growth	*9.7%*	*9.7%*	*9.7%*	*9.7%*	*9.7%*	*9.7%*	*9.7%*
Total iGaming Market Size	$ 21,500	$ 28,551	$ 35,406	$ 43,321	$ 52,440	$ 62,920	$ 74,939
Online Sports Betting Share		11%	11%	11%	11%	11%	11%
Online Sports Betting Market Size		$ 3,200	$ 3,968	$ 4,855	$ 5,877	$ 7,052	$ 8,399
Market Share MGM	25%	25%	25%	25%	25%	25%	25%
BetMGM Revenue		**$ 800**	**$ 992**	**$ 1,214**	**$ 1,469**	**$ 1,763**	**$ 2,100**

The states line shows how many states have legalized online sports betting and/or gambling. The 2020 and 2021 figures are actuals, as of each respective year. Exhibit 10 below shows the current outlook by state, per MGM's investor presentation in Q3 2021. As an anchor point, the American Gaming Association projects that 29 states will have legalized online gaming by the end of 2023. Between our actual 2021 figures and this projected 2023 figure, we extrapolated an annual rate of three states per year legalizing online gaming.

Exhibit 10: States where BetMGM is Active, or Anticipated to be Active by 2022 *(Source: MGM Investor Presentation)*

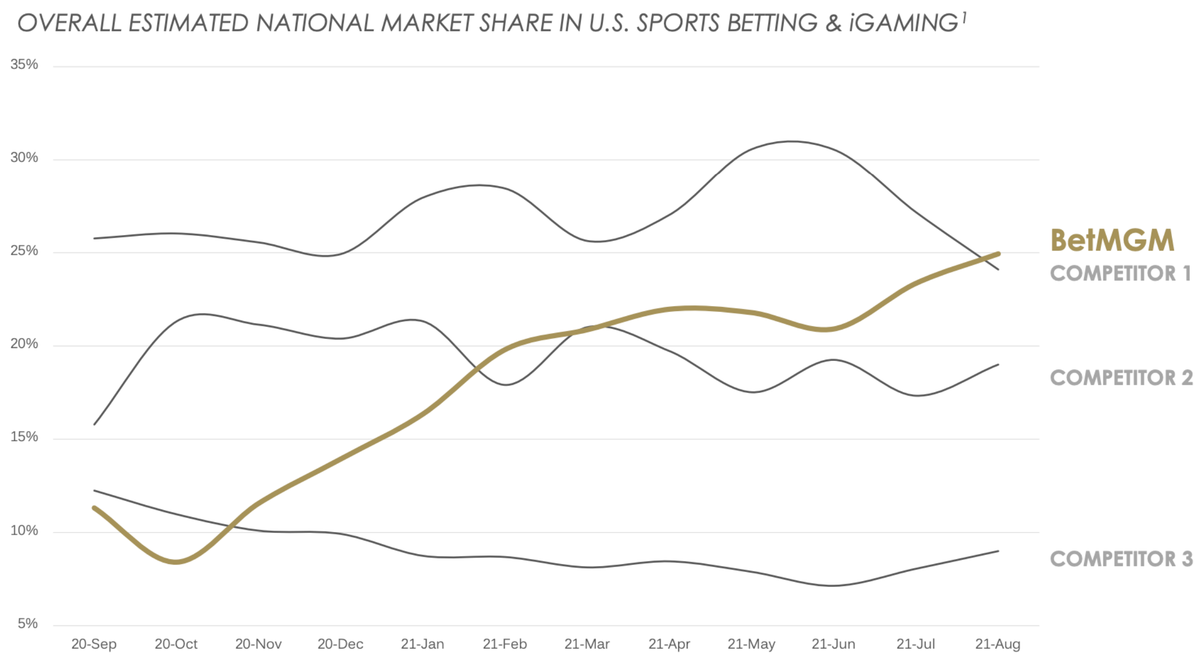


Next, the American Gaming Association calculated that the total online betting market size to be $21,500 million in 2020, when 19 states were live with online gaming and sports betting. For our purposes, this translated to a market size average of $1,132 million per state. The American Gaming Association also calculated that on a per-state basis, the market size had grown by ~9.7% intrastate on average in the past two years since online gaming and sports betting was legalized on a federal level. Accordingly, we grew the $1,132 million market size per state by 9.7% per year through our projection period, such that we project the average market size per state was $1,972 million in 2026. With 38 states legalizing online gaming by 2026, this projected a total online gambling/sports betting market size of $74,939 million in 2026. In summary, we calculate that number of states and total average revenue per state are the drivers of total market size growth in the online gambling space.

Since BetMGM is primarily (though not exclusively) a sports betting platform at this stage of development, we found it prudent to calculate the market size of online sports betting. Unfortunately, we were unable to find any impartial projections on this, even through the American Gaming Association. Instead, we backed into this market size calculation via BetMGM's 2021 revenues as confirmed by management in Q3 2021. Management estimated full-year BetMGM revenues of $800 million in 2021 at a 25% market share as of Q3. This implied a market size of $3,200 million for online sports betting in 2021, which in turn implied that sports betting makes up ~11% of the total online gambling market in 2021.

We kept this 11% market share of sports betting constant throughout the projection period as the overall online gambling market grows from $28,551 million in 2021 to $74,939 million in 2026. Accordingly, the market size of the online sports betting segment grows from $3,200 million in 2021 to $8,399 million in 2026.

Exhibit 11: BetMGM Market Share *(Source: MGM Investor Presentation)*

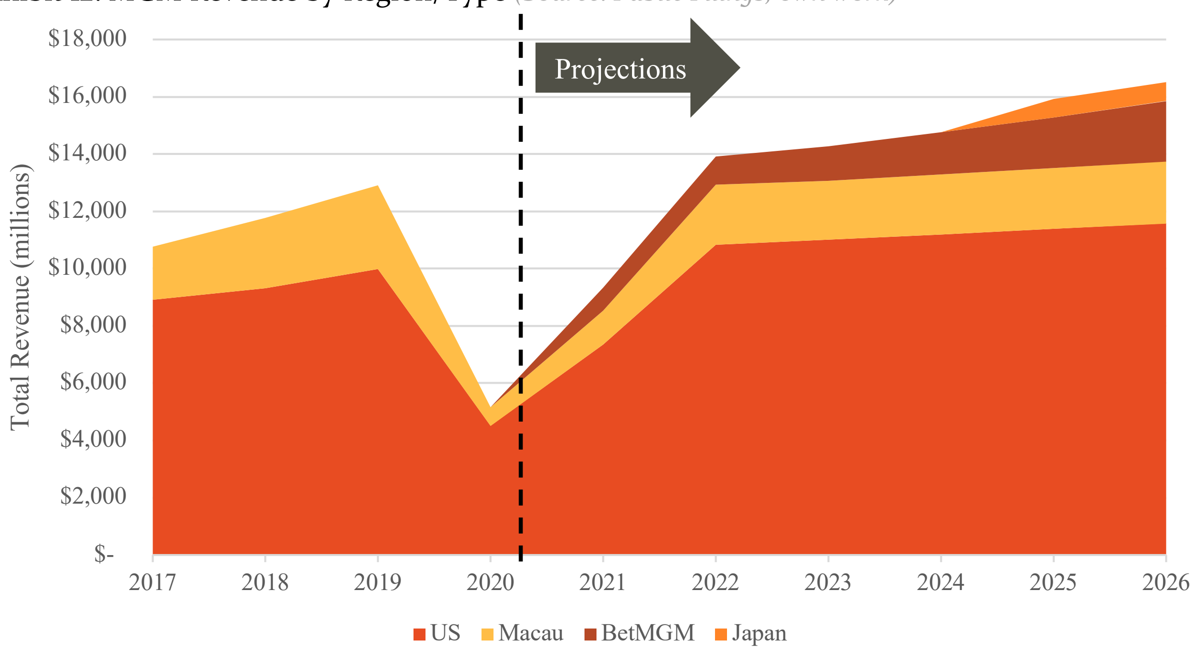


In Exhibit 11 above, you can see BetMGM's constantly increasing market share within the online sports betting and online gambling sectors since BetMGM's founding. While MGM did not disclose the names of the competitors in this chart, analysis of major online sports betting companies suggests these are possibly Draftkings, Fanduel, and Caesars Sportsbook. For the purposes of our projection, we have kept MGM's online market share constant at 25%. We see competing pressures between the momentum BetMGM has currently for increasing market share, balanced with the increasing competition amongst new entrants to the online gambling market, which leads us to believe the market share may remain constant. Given the constant market share, we project BetMGM's revenue growing from $800 million in 2021 to $2,100 million in 2026.

Aggregate Revenue

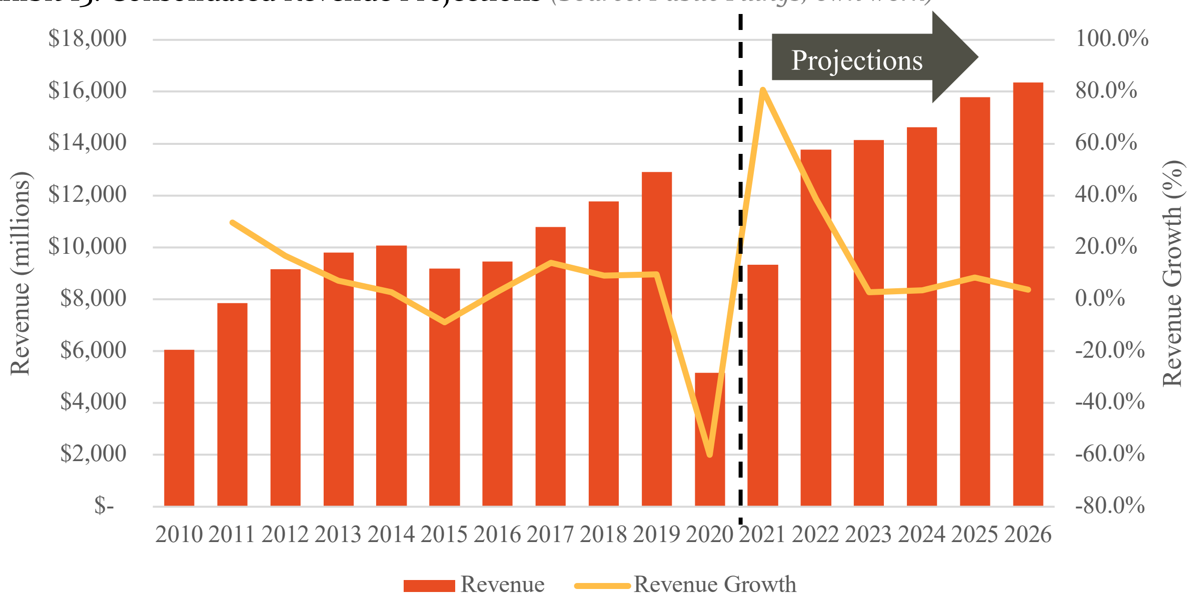
In order to calculate MGM's total revenue, we added our revenue projections from the four regions described above. As shown in Exhibit 12, the US in-person segments is projected to continue to dominate with a revenue share north of 70%. Notably, the BetMGM segment is projected to effectively match the output from Macau by 2026, and is the primary source of revenue growth in the coming years.

Exhibit 12: MGM Revenue by Region/Type *(Source: Public Filings, own work)*



Altogether, the aggregate revenue paints a fairly positive outlook for MGM over the course of the projection period. Unlike many other competitors in the Casino Hotels industry, MGM's online gaming presence provides exposure to a truly growing revenue source. As Exhibit 13 below shows, revenue growth remains positive throughout the projection period, and growth accelerates at times with the growth of BetMGM and the launch of MGM Osaka in Japan.

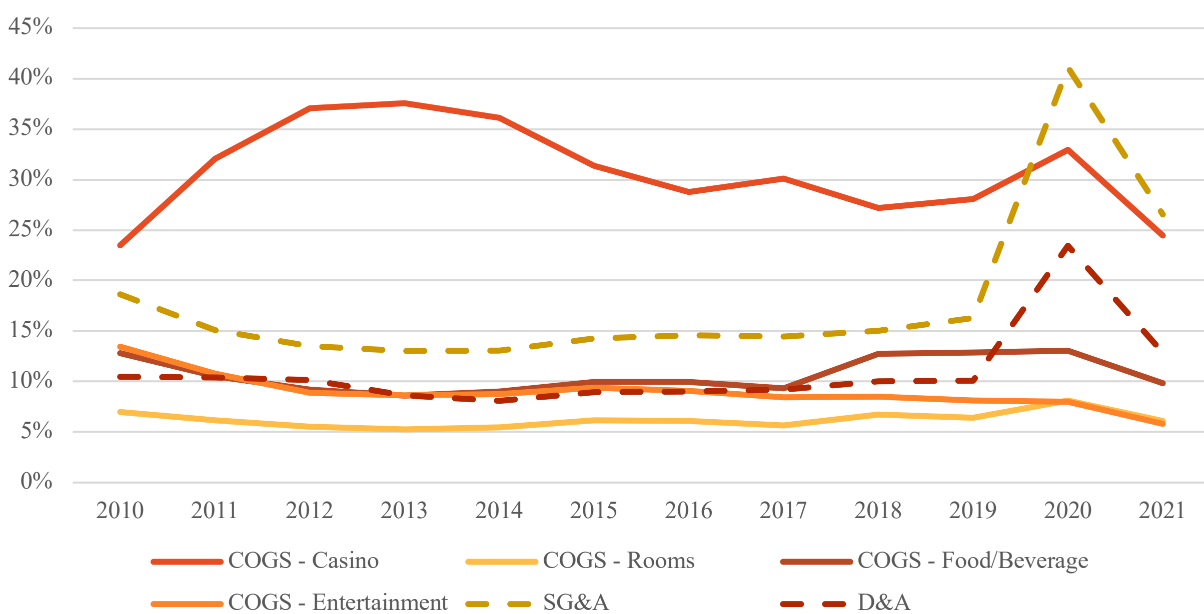
Exhibit 13: Consolidated Revenue Projections *(Source: Public Filings, own work)*



Cost

Because MGM is a mature company, many of its costs are fairly predictable relative to revenue or other sources. Exhibit 14 below shows a variety of MGM's major costs over the last 10-year period.

Exhibit 14: 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, Rooms COGS was fairly consistent across the projection period at 6%, Food and Beverage COGS was about 11%, and Entertainment/Retail/Other COGS was about 9%. On the fixed costs side, SG&A remained fairly flat at 15% and Depreciation and Amortization was fairly flat at 10%.

In order to project COGS for the BetMGM division (which heretofore does not have segregated financials), we looked to the COGS for a public sports betting competitor, Draftkings. Draftkings published that its overall COGS in 2019 was ~32%. Given the similarity of the two app-based betting businesses, we chose to use Draftkings' 32% COGS as an estimate for the COGS of BetMGM throughout our projection period.

The only major cost line that was noticeably not constant throughout the projection period was Casino COGS. The Exhibit shows that this peaked at about 37% of revenue around 2012-2013, and has since fallen to a low of about 27%. Eyeballing the trend, it seems fairly clear that Casino COGS fell quite sharply from 37% in 2013 to about 30% in 2016, and has been roughly flat for the several years since 2016. We believe that this tells a story of aggressive cost-cutting measures at MGM which have reached their plateau (or trough, as it were), and further COGS cuts on the Casino segment have been implausible. Accordingly, we see the floor of Casino COGS to be around 30%, and project this figure over the course of the projection period.

Finally, we calculated the weighted average interest rate on MGM's outstanding debt from its financial statements to be 5.5%. 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.

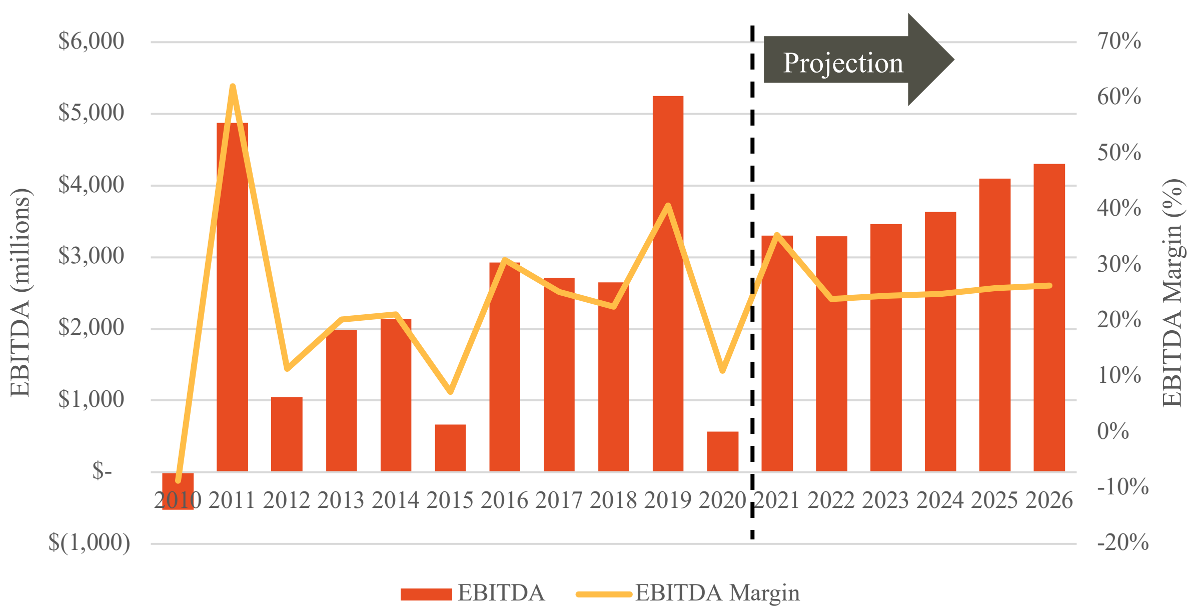
These cost figures were applied for every region and for the Upside and Downside scenarios within Macau. For the catastrophe case, we also kept the same ratios for Q4 2021. However, we did make adjustments to our cost forecasts in 2022, since in this scenario we project that MGM has to wind down its Macau operations. We kept the same COGS ratios as a percentage of revenue, but 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 over the course of 2021, which ends up greatly exceeding the historic revenue percentage. Within Macau, we used the same probability weighting methodology for costs as we did for revenues.

Earnings Analysis

Taken altogether, our consolidated revenue and cost projections outline an earnings forecast for MGM that is fairly positive for MGM from 2022 onward. MGM's Net Income and EBITDA have already turned around dramatically from their 2020 lows, returning to positive Net Income for 2021 after a -$1,320 million loss in 2020. Meanwhile, 2021 EBITDA is forecast to rebound to nearly 63% of MGM's 2019 high.

Net Income remains solidly positive in 2022 and is forecast to grow fairly consistently at a ~21% CAGR through the end of the projection period in 2026. Meanwhile, EBITDA is projected to increase from $3,303 million in 2021 to $4,304 million in 2026 at a CAGR of about 7%. While neither figure reaches the 2019 highs of $2,214 million revenue and $5,245 million EBITDA, Exhibit 15 below shows that these figures were abnormally high compared to most of MGM's history (2019 profitability was boosted by a $2,678 million gain on sale of business divisions, a non-operating one-off item unlikely to be repeated). As you can see in this Exhibit, earnings overall are projected to be fairly high and growing rapidly relative to historic levels for MGM, and EBITDA margin is projected to remain quite high as well.

Exhibit 15: EBITDA and EBITDA Margin *(Source: Public Filings, own work)*



Altogether, our forecast projects a fairly healthy outlook for MGM overall, in spite of Macau risks. Earnings over the projected period are expected to be high and growing steadily, with figures higher than most "normal" years in MGM's recent history.

INVESTMENT RECOMMENDATION

We recommend a **BUY** rating MGM Resorts International for US investors with a circa 5-year investment horizon. Our valuation process leads to a total estimated Enterprise Value of $44,471 million and an estimated Equity Value of $26,649 million. This compares to a current market cap of $20,887 million. On a per share basis, we calculate a **target share price of $55.03, which is 23.6% above the current stock price of $44.54**.

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

- Strong return-to-normal is projected for physical properties in the US in 2022, when we expect revenues to return to 2019 levels. This is bolstered in the US by the swapping out of the operations of the Mirage resort with the higher-earning Cosmopolitan.
- Within Macau, we project three potential regulatory states ranging from catastrophic (with 12.3% probability) to excellent (with 10% probability) to reflect the uncertainty of the Chinese government's regulation of Macau. Despite this, Macau's revenue and profitability in total is not projected to be harmed too dramatically.
- BetMGM is expected to contribute revenue that is expected to grow at a 21% CAGR over the projection period, spearheading much of MGM's revenue growth overall.
- The launch of Japan's first-ever casino hotel in Osaka is projected to contribute positive revenue starting in 2025 for MGM.

VALUATION METHODOLOGY

Free Cash Flow Forecast

In Exhibit 16, we show the historic and projected unlevered free cash flows for MGM. We see that MG has a history of steady, positive free cash flows. Impressively, MGM was even able to maintain positive free cash flows during the COVID-19-impacted years of 2020 and 2021. Our forecast actually shows a temporary decrease in free cash flows for MGM during the 2022-2024 period, primarily due to its construction of the new Japan property. After its completion, we see MGM's cash flow returning to very high positive levels north of $2,300 million per year.

Exhibit 16: Free Cash Flow Forecast *(Source: Public Filings, own work)*

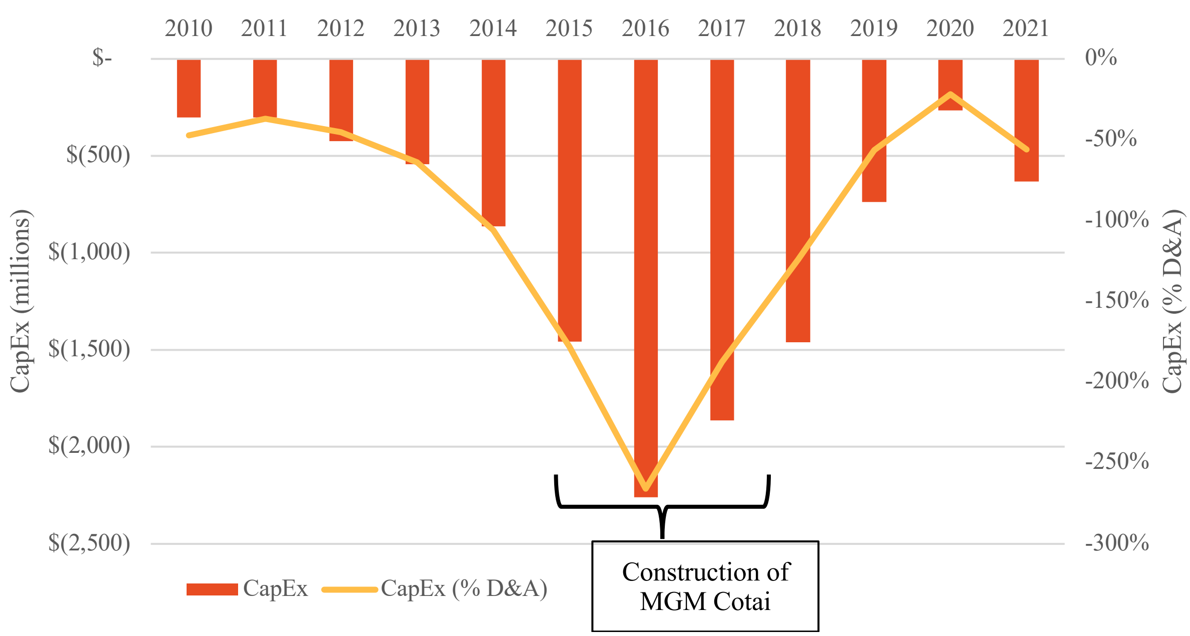
	Historical										
MILLIONS	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
EBIT	$ (1,159)	$ 4,057	$ 121	$ 1,137	$ 1,324	$ (156)	$ 2,080	$ 1,715	$ 1,469	$ 3,940	$ (642)
- Taxes	779	403	117	(21)	(284)	7	(22)	1,133	(50)	(632)	192
+ D&A	633	817	928	849	816	820	850	993	1,178	1,305	1,211
- CapEx	(301)	(301)	(422)	(544)	(864)	(1,459)	(2,259)	(1,863)	(1,461)	(736)	(264)
Free Cash Flows	**$ (48)**	**$ 4,977**	**$ 744**	**$ 1,422**	**$ 991**	**$ (789)**	**$ 648**	**$ 1,978**	**$ 1,136**	**$ 3,876**	**$ 495**

	Projection					
MILLIONS	2021	2022	2023	2024	2025	2026
EBIT	$ 2,170	$ 1,975	$ 2,124	$ 2,246	$ 2,658	$ 2,815
- Taxes	(222)	(140)	(168)	(190)	(267)	(296)
+ D&A	1,133	1,314	1,342	1,387	1,436	1,489
- CapEx	(633)	(2,337)	(3,567)	(2,601)	(1,596)	(1,656)
Free Cash Flows	**$ 2,448**	**$ 811**	**$ (269)**	**$ 842**	**$ 2,230**	**$ 2,352**

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, MGM is embarking on a project to develop a new casino hotel in Osaka, Japan, which will require quite a bit of capital expenditures.

In order to project the CapEx required to build the new Japan resort, we chose to look at MGM's CapEx spend the last time they developed a new casino. The most recent launch was of the MGM Cotai property in Macau, which launched in February 2018. We can see in Exhibit 17 below that MGM increased CapEx over the course of three years to a peak of about 266% of D&A expense in a year, or a peak of about $2,259 million within a given year.

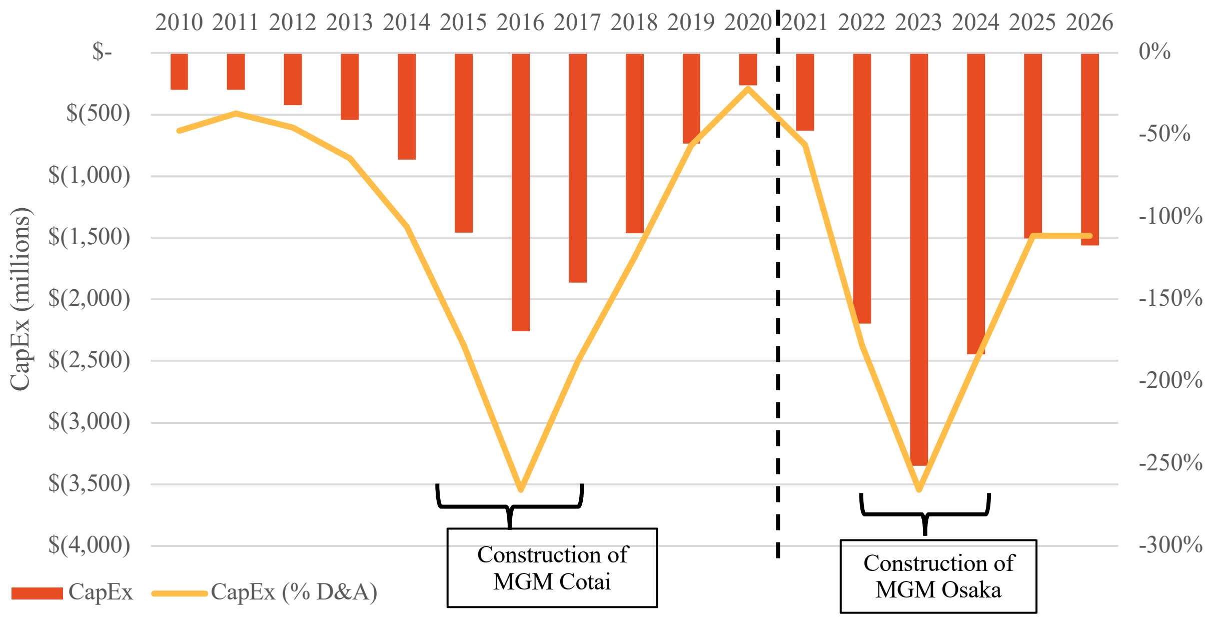
Exhibit 17: Historic CapEx *(Source: Public Filings, own work)*



We can see that this project took place over the course of roughly three years, where the peak of 266% of D&A in the middle year was flanked by two years of roughly 180% of D&A in CapEx. Given management's expectation that they will receive necessary permits for the Japan project in 2022, we estimated that MGM would replicate a similar three-year construction period for the Japan project as they did MGM Cotai. Accordingly, we reflected the historical CapEx pyramid to have CapEx equal to 180% of D&A in 2022, 266% of D&A in 2023, and 180% of D&A in 2024. Notably, because D&A is higher in our forecast period than it was in the 2015-2017 period, the total CapEx spend in our three-year project period is $8,505 million compared to $5,581 million for MGM Cotai. However, the latest estimates peg the Japan casino as having an estimated 2,500 guest rooms compared to only 1,390 at MGM Cotai. Accordingly, our CapEx spend should likely be considerably higher in Japan than for MGM Cotai, in order to build a larger resort. The comparison between the historic CapEx and our forecast CapEx can be seen in Exhibit 18.

Additionally, we looked to project a steady-state CapEx rate for our projection period after the Japan resort is completed. To calculate this, we took the average CapEx relative to D&A across all years except for 2020 (where spending was curtailed due to COVID), to calculate a steady-state CapEx spend of ~111% of D&A annually.

Exhibit 18: Historic and Projected CapEx *(Source: Public Filings, own work)*

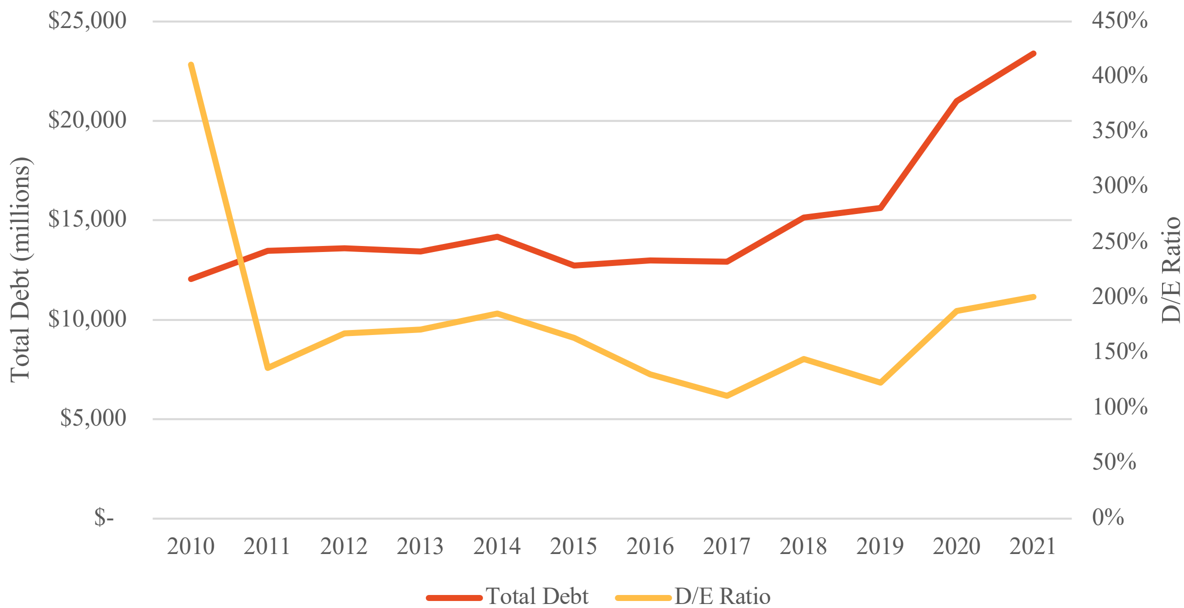


Debt Projections and Discount Methodology

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

We can see in Exhibit 19 how MGM has historically treated its total debt and its debt-to-equity ratio since 2010. Notably, we can see that the company's total debt was fairly constant all the way from 2010-2017 at about $13,000 - $13,500 million. This debt level clearly represented MGM's target debt level for their property portfolio. Debt increased slightly in 2018-2019 to north of $15,000 million, but only jumped considerably at the onset of COVID as the company raised cash to improve its liquidity cushion. Meanwhile, the company's debt-to-equity ratio has bounced around considerably over the time frame, bouncing anywhere between 111% and 186% even in the steadiest period. This indicates that MGM targets a level of debt, rather than a fixed debt-to-equity ratio. Accordingly, it will be more appropriate to utilize the Adjusted Present Value discounting method rather than WACC because of this fixed debt assumption.

Exhibit 19: MGM Total Debt and D/E Ratio *(Source: Public Filings)*



Despite raising debt for the purpose of improving the company's liquidity position in the face of COVID-19 uncertainty, management has made no apparent indication that they plan to pay down any of that debt in the short-term, instead seeming to favor holding the bolstered liquidity profile and perhaps paying some back to shareholders as dividends. Accordingly, we do not reduce the company's debt load as the result of voluntary repayments.

Instead, we do decrease the company's debt level starting in 2022, due to a transaction that MGM is currently completing with VICI Properties. VICI is buying the real estate assets of several of MGM's Las Vegas Strip properties, and MGM has entered into an agreement to lease and operate these properties for the foreseeable future. This will have no day-to-day impact on MGM's operations, but as part of the deal VICI is assuming $5,700 million of debt associated with those properties. On top of this debt reduction on MGM's balance sheet, MGM is also slated to get $4,400 million in cash from VICI as well.

As far as the Japan property, the company has not mentioned in earnings calls or financial statements any plans to raise new debt specifically to finance its construction. It seems feasible that the company will be able to pay for the Japan CapEx simply from its current cash and the cash from the VICI transaction. While of course it is a reasonable option (and possibly likely) for MGM to raise new debt as part of their financing, we do not feel we have enough evidence of intent to add extra debt to our forecast. Accordingly, after dropping the total debt for MGM from $23,393 million in 2021 to $17,693 million in 2022, we keep it flat at that level for the remainder of the projection period.

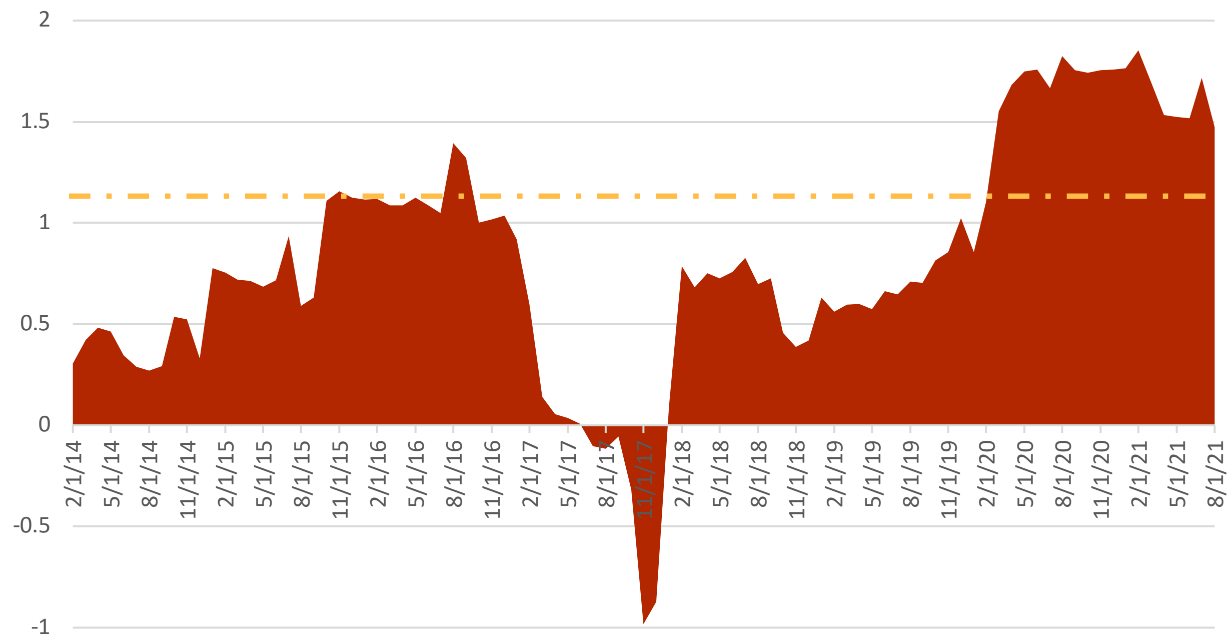
At this time it is worth quickly considering the company's credit rating, which currently sits at BB- with a negative watch. This does rate MGM's bond as junk quality, though only barely. Despite a noticeable 5-year default probability for companies with this debt rating, we believe that the chance of MGM defaulting on its debt is very minimal. The company currently has a strong liquidity profile, with $5,571 million in cash on the balance sheet, another $4,400 million of cash due to come in the door from the VICI transaction, and an estimated $1,000 million+ in undrawn revolver capacity. This $11,000 million of liquidity compares very favorably to the total $4,050 million of debt due before 2024. As previously mentioned, we also believe that the parent MGM Resorts International could also withstand a bankruptcy of its MGM China subsidiary as a result of a catastrophe scenario in Macau. Altogether, we think there is minimal risk of MGM defaulting within the investment horizon.

Because MGM 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 2.15 and an unlevered beta of 1.19 (seen in Exhibit 21) by comparing MGM's 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). For a market risk premium, we utilized Aswath Damodaran's estimate of 4.62%. For the risk-free rate, we utilized the 5-year Treasury rate (as of November 22nd, 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. These numbers together calculated a short-term cost of equity of 11.25% and a long-term cost of equity of 11.55%. 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 8.55% and a long-term discount rate of 8.55% and a long-term discount rate of 8.66%. All these figures are summarized below in Exhibit 20.

Exhibit 20: Discounting Metrics *(Source: Aswath Damodaran, WRDS Market and Stock Data, US Treasury, MGM Public Filings)*

Levered Beta	2.15
Unlevered Beta	1.19
5yr Treasury Rate	1.33%
10yr Treasury Rate	1.63%
Market Risk Premium	4.62%
Short-Term Cost of Equity	11.25%
Long-Term Cost of Equity	11.55%
Cost of Debt	7.07%
Tax Rate	19%
Terminal Growth Rate	1.70%
Short-Term Discount Rate	8.55%
Long-Term Discount Rate	8.66%

Exhibit 21: Rolling 1-Year Unlevered Beta *(Source: Public Filings, own work)*



Note that the rolling unlevered beta is so inconsistent over the course of our historical period. This meant that we didn't find any period of rolling betas particularly reliable. Instead we took the average (non-rolling) unlevered beta across our entire historical period which we calculated to be 1.19. This was very close to the industry beta of 1.16, so we felt comfortable using this figure.

DCF Results and Analysis

Based on this discounting methodology, we performed a DCF analysis on the consolidated, financial forecast that we projected. The results of this DCF can be seen below in Exhibit 22.

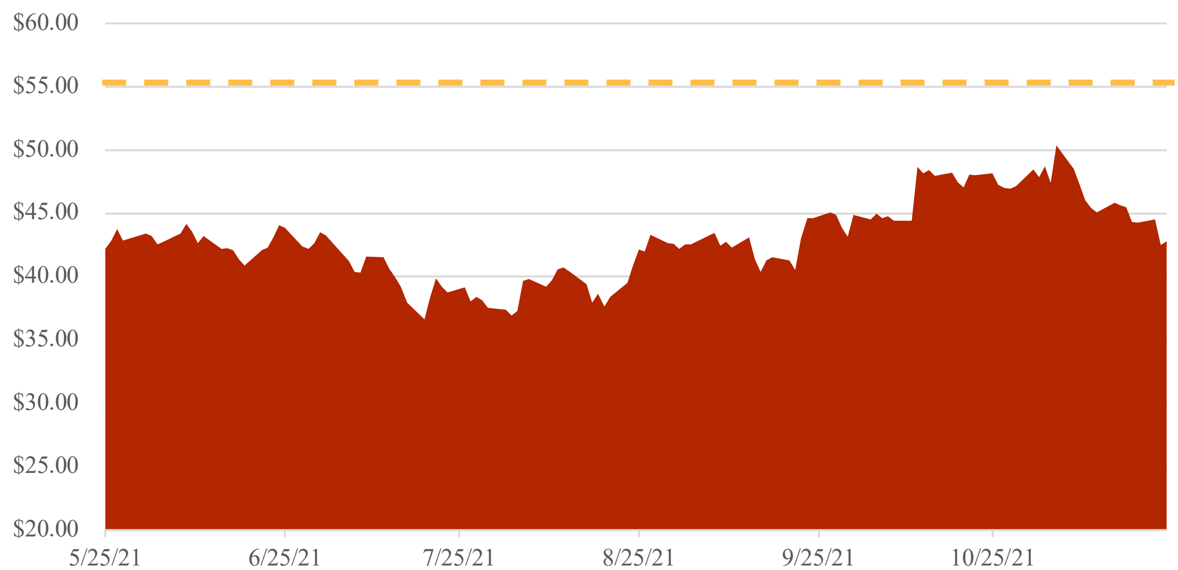
Exhibit 22: DCF Results *(Source: own work)*

Sum of PV of UFCF	$	6,654	Post-VICI Debt Load	$	17,693			
Terminal Value		34,364	Tax Rate		19%			
			Interest Rate		5.51%			
			Cost of Debt		7.07%			
Total PV of Cash Flows	**$**	**41,018**	**PV of Tax Shield**	**$**	**2,611**	**Total Enterprise Value**	**$**	**43,630**
						(+) Cash		5,571
						(-) Current Debt Load		(23,393)
						Total Equity Value	**$**	**25,807**

Of note, we used the Debt Load following the completion of the VICI transaction (which reduces debt by $5,700 million) for the calculation of the present value of the tax shield, as it will be this debt level the company operates on starting in 2022. However, since the investment is taking place today, we use today's current debt level for the purpose of current equity value calculation.

Altogether, we calculated an NPV of unlevered cash flows of $6,654 million, a PV of the terminal value (at 1.7% growth rate) of $34,363 million, and a PV of the tax shield of $2,611 million. Together, this amounted to a total enterprise value of $41,018 million. Including both the current debt load and cash balance, we derive a total equity value of $25,807 million. Given a total shares outstanding of ~469 million, this results in a target price per share of $55.03 based on our valuation.

Exhibit 23: Historic MGM Stock Price *(Source: NASDAQ)*

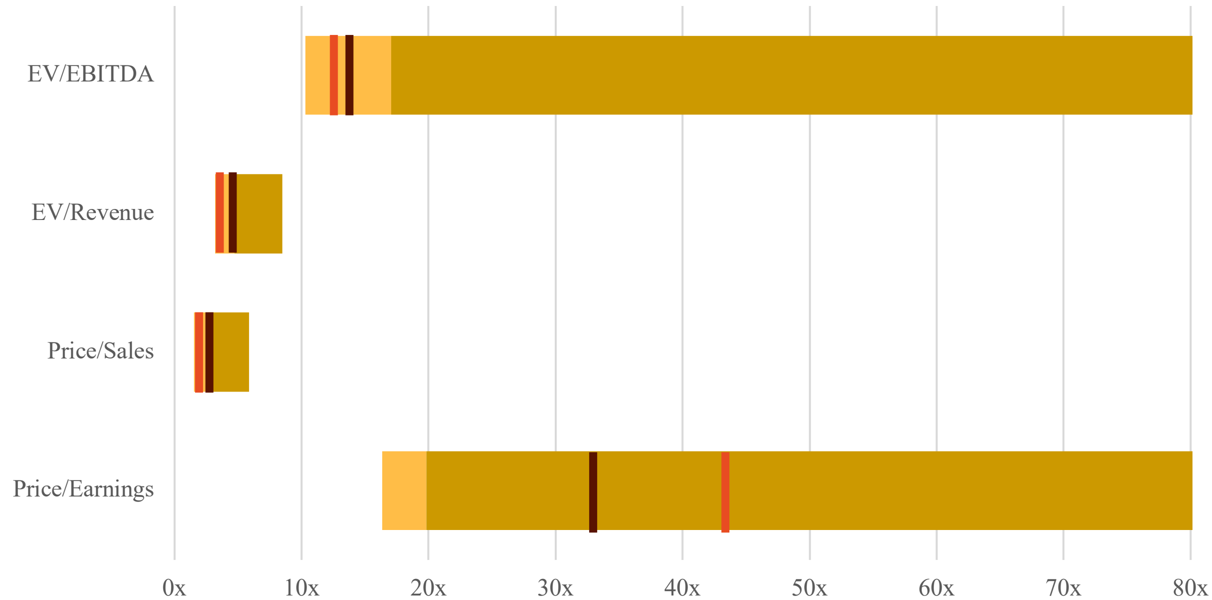


Meanwhile, the market currently prices MGM at $44.54 per share. This implies that the market is undervaluing MGM by about 23.6%. Notably, our price target is higher than the stock has traded in the last six months (as shown in Exhibit 23 above), or even well before then. However, we believe that our conclusions and forecasts are well-founded and rigorous, and as described in the Investment Recommendation section our model projects good health and upside for MGM. Accordingly, we believe the appropriate rating for the stock at this time is BUY.

Market Comparison

As a sense check, we looked to compare how MGM's current valuation metrics and our forecast valuation metrics track against the rest of the industry. Accordingly, see Exhibit 24 below for a simple visualization. We looked at four ratio valuation analyses – price/earnings, price/sales, enterprise value/revenue, and enterprise value/EBITDA. For each of these, we plotted the bottom 50% of the industry ratios in yellow, and the top 50% range of industry ratios in gold. Then we plotted a maroon line to mark where MGM currently sits for each particular ratio, and an orange line to indicate where MGM would sit under our projections and recommended pricing.

Exhibit 24: Ratio Analysis *(Source: Yahoo Finance, own analysis)*



It is clear that currently MGM is in the bottom 50% of all metrics relative to the industry, except for its current P/E ratio. Even here, it remains well below the top range of industry figures. Under our projections, MGM would remain within the reasonable range of the industry for all figures, and while the P/E ratio would tick up it would still remain well within reason. Altogether, this indicates to us that our forecasts for MGM remain reasonable compared to the market's evaluation of the industry on the whole.

Another important line of inquiry is to understand where the market's view on MGM differs from ours. A fair number of differing opinions could exist across metrics like revenue growth, return-to-normal from COVID, or our scenario analysis of Macau's position; certainly, we can calculate any number of changes to these projections within our model and calculate a roughly equivalent forecast price to the current market price. However, we think it is more likely that our projections will differ from the market in two areas that are perhaps more uncertain – the launch of the Japan casino and the growth of the BetMGM online sports betting. For instance, if we push out the launch of the Japan location from 2025 in our forecast by a handful of years (which may still be in line with management's forecast), and we decrease BetMGM's market share in online sports betting from the current 25% to 20% for the entire duration of our forecast (a change for which investors could make a reasonable argument), we would project a new share price within 2% of ours. Accordingly, we think that these two components of our projection are where we most differ from the market.

CONCLUSION

MGM Resorts International has set up a relative powerhouse within the Casino Hotels industry. It has positioned itself to be well-diversified in its physical presence with not only a commanding presence in Las Vegas but with well-performing locations across the US, and material but not overwhelming exposure to Macau. This has positioned MGM to be one of the few competitors in the Casino Hotels industry that maintained a positive profit during the COVID-19-impacted year of 2020.

Importantly, MGM is on the path toward even increasing diversification, as it seeks to expand into Japan and to build out one of the strongest online sports betting and gambling platforms in the US market. While we project strong recovery in the US and our probabilistic approach to projecting the uncertainty in Macau leads to stable earnings there, the growth of the BetMGM division and the launch of a Japan property prove to be significant revenue drivers for MGM over the course of our projection.

Because of these growth engines, we forecast that MGM will have significantly positive earnings and growth over the course of the investment horizon. All in all, our valuation process leads us to believe that MGM is currently undervalued by the market. Accordingly, our recommendation is to **BUY** MGM and ride the wave of growth from its online platform.

APPENDIX

Appendix 1 – US Revenue Projections

	Historical					Projection					
MILLIONS	2017	2018	2019	2020	2021 YTD	Q4 2021	2022	2023	2024	2025	2026
Period Ended	*12/31/17*	*12/31/18*	*12/31/19*	*12/31/20*							
Operating Revenue											
Casino	$ 4,243	$ 3,558	$ 3,908	$ 2,306	$ 1,866	$ 932	$ 4,275	$ 4,348	$ 4,421	$ 4,497	$ 4,573
Rooms	2,097	2,094	2,180	794	1,006	474	2,351	2,391	2,432	2,473	2,515
Food and beverage	1,739	1,844	2,018	656	826	401	2,174	2,211	2,248	2,287	2,325
Entertainment retail and other	1,352	1,391	1,451	505	627	312	1,566	1,592	1,620	1,647	1,675
Reimbursed costs	402	425	437	245	218	85	460	467	475	483	492
Net Revenue	**$ 8,916**	**$ 9,313**	**$ 9,994**	**$ 4,505**	**$ 5,143**	**$ 2,202**	**$ 10,826**	**$ 11,010**	**$ 11,197**	**$ 11,387**	**$ 11,581**
Annual Growth	*-5.7%*	*4.5%*	*7.3%*	*-54.9%*		*63.0%*	*47.4%*	*1.7%*	*1.7%*	*1.7%*	*1.7%*
COGS											
Casino	$ 2,283	$ 1,992	$ 2,187	$ 1,390	$ 1,189	$ 500	$ 2,585	$ 2,629	$ 2,674	$ 2,719	$ 2,766
Rooms	591	755	786	408	388	156	755	768	781	794	808
Food and beverage	975	1,435	1,588	651	622	293	1,363	1,386	1,409	1,433	1,458
Entertainment retail and other	902	985	1,033	403	376	202	1,095	1,114	1,133	1,152	1,172
Reimbursed costs	402	425	437	245	218	85	460	467	475	483	492
Total COGS	**$ 5,154**	**$ 5,594**	**$ 6,031**	**$ 3,097**	**$ 2,980**	**$ 1,235**	**$ 6,258**	**$ 6,364**	**$ 6,472**	**$ 6,582**	**$ 6,694**
Annual Growth	*-6.2%*	*8.5%*	*7.8%*	*-48.6%*		*36.1%*	*48.5%*	*1.7%*	*1.7%*	*1.7%*	*1.7%*
Gross Profit	**$ 3,761**	**$ 3,719**	**$ 3,964**	**$ 1,409**	**$ 2,747**	**$ 1,184**	**$ 4,568**	**$ 4,645**	**$ 4,724**	**$ 4,805**	**$ 4,886**
Annual Growth	*-5.0%*	*-1.1%*	*6.6%*	*-64.5%*		*179.0%*	*16.2%*	*1.7%*	*1.7%*	*1.7%*	*1.7%*
General and administrative	$ 1,289	$ 1,407	$ 1,677	$ 1,698	$ 1,402	$ 517	$ 1,580	$ 1,607	$ 1,634	$ 1,662	$ 1,690
Corporate expense	310	357	391	444	264	105	274	279	283	288	293
Preopening and start-up expenses	111	141	(5)	(3)	(2)	0	58	59	60	61	62
Property transactions net	13	(40)	217	80	(17)	(3)	420	427	434	442	449
Gain on transactions net	(41)	-	(2,678)	(1,492)	(1,562)	-	-	-	-	-	-
Depreciation and amortization	819	948	1,032	1,149	770	252	1,028	1,046	1,064	1,082	1,100
Impairment	-	-	-	-	-	-	-	-	-	-	-
Total Operating Expenses	**$ 2,501**	**$ 2,813**	**$ 635**	**$ 1,876**	**$ 855**	**$ 872**	**$ 3,360**	**$ 3,417**	**$ 3,475**	**$ 3,534**	**$ 3,594**
Income from unconsolidated affiliates	146	148	120	43	58	-	145	148	150	153	156
Operating income (EBIT)	**$ 1,407**	**$ 1,054**	**$ 3,448**	**$ (425)**	**$ 1,950**	**$ 312**	**$ 1,353**	**$ 1,376**	**$ 1,400**	**$ 1,423**	**$ 1,448**
Annual Growth	*-32.4%*	*-25.1%*	*227.3%*	*-112.3%*		*-632.3%*	*-40.2%*	*1.7%*	*1.7%*	*1.7%*	*1.7%*
Interest expense net of amounts capitalized	$ (516)	$ (568)	$ (609)	$ (622)	$ (524)	$ (176)	$ (890)	$ (905)	$ (920)	$ (936)	$ (952)
Non-operating items from unconsolidated affiliates	(11)	(16)	(24)	(95)	(56)	(20)	(141)	(144)	(146)	(149)	(151)
Other net	(34)	0	(161)	(84)	77	(47)	(82)	(83)	(84)	(86)	(87)
Total Other Income (Expense)	$ (561)	$ (584)	$ (795)	$ (802)	$ (503)	$ (243)	$ (1,112)	$ (1,131)	$ (1,151)	$ (1,170)	$ (1,190)
Income (loss) before income taxes	**$ 846**	**$ 470**	**$ 2,653**	**$ (1,226)**	**$ 1,447**	**$ 69**	**$ 241**	**$ 245**	**$ 249**	**$ 253**	**$ 258**
Benefit (provision) for income taxes	1,155	(19)	(596)	138	(254)	(291)	(46)	(46)	(47)	(48)	(49)
Net income (loss)	**$ 2,001**	**$ 451**	**$ 2,058**	**$ (1,089)**	**$ 1,193**	**$ 255**	**$ 195**	**$ 198**	**$ 202**	**$ 205**	**$ 209**
	61.8%	*-77.5%*	*356.3%*	*-152.9%*		*-233.0%*	*-86.5%*	*1.7%*	*1.7%*	*1.7%*	*1.7%*
EBITDA	**$ 2,226**	**$ 2,002**	**$ 4,481**	**$ 724**	**$ 2,720**	**$ (11)**	**$ 2,382**	**$ 2,422**	**$ 2,463**	**$ 2,505**	**$ 2,548**
Annual Growth	*-24.0%*	*-10.1%*	*123.8%*	*-83.8%*		*274.1%*	*-12.1%*	*1.7%*	*1.7%*	*1.7%*	*1.7%*

Appendix 2 – Macau Upside Scenario Projections

	Historical					Projection					
MILLIONS	2017	2018	2019	2020	2021 YTD	Q4 2021	2022	2023	2024	2025	2026
Period Ended	*12/31/17*	*12/31/18*	*12/31/19*	*12/31/20*							
Operating Revenue											
Casino	$ 1,742	$ 2,195	$ 2,610	$ 566	$ 785	$ 252	$ 2,745	$ 2,792	$ 2,839	$ 2,888	$ 2,937
Rooms	55	119	142	37	48	17	150	152	155	157	160
Food and beverage	51	115	127	40	50	16	134	136	138	141	143
Entertainment retail and other	10	21	26	14	13	4	28	28	28	29	29
Reimbursed costs	-	-	-	-	-	-	-	-	-	-	-
Net Revenue	**$ 1,858**	**$ 2,450**	**$ 2,905**	**$ 657**	**$ 896**	**$ 289**	**$ 3,056**	**$ 3,108**	**$ 3,161**	**$ 3,215**	**$ 3,269**
Annual Growth	*-80.3%*	*31.8%*	*18.6%*	*-77.4%*		*80.5%*	*157.9%*	*1.7%*	*1.7%*	*1.7%*	*1.7%*
COGS											
Casino	$ 1,053	$ 1,328	$ 1,437	$ 342	$ 475	$ 153	$ 1,660	$ 1,688	$ 1,717	$ 1,746	$ 1,776
Rooms	18	38	46	12	15	5	48	49	50	51	51
Food and beverage	32	72	80	25	32	10	84	85	87	88	90
Entertainment retail and other	7	15	18	10	9	3	19	20	20	20	21
Reimbursed costs	-	-	-	-	-	-	-	-	-	-	-
Total COGS	**$ 1,110**	**$ 1,453**	**$ 1,581**	**$ 389**	**$ 531**	**$ 171**	**$ 1,811**	**$ 1,842**	**$ 1,873**	**$ 1,905**	**$ 1,938**
Annual Growth	*-79.8%*	*30.8%*	*8.8%*	*-75.4%*		*80.4%*	*158.2%*	*1.7%*	*1.7%*	*1.7%*	*1.7%*
Gross Profit	**$ 748**	**$ 997**	**$ 1,325**	**$ 268**	**$ 365**	**$ 118**	**$ 1,245**	**$ 1,266**	**$ 1,287**	**$ 1,309**	**$ 1,332**
Annual Growth	*-81.1%*	*33.4%*	*32.8%*	*-79.8%*		*80.6%*	*157.4%*	*1.7%*	*1.7%*	*1.7%*	*1.7%*
General and administrative	$ 271	$ 358	$ 424	$ 424	$ 318	$ 106	446	454	461	469	477
Corporate expense	47	62	74	17	23	7	77	79	80	81	83
Preopening and start-up expenses	10	13	15	3	5	2	16	17	17	17	17
Property transactions net	72	95	113	25	35	11	119	121	123	125	127
Gain on transactions net	-	-	-	-	-	-	-	-	-	-	-
Depreciation and amortization	177	233	276	62	85	27	290	295	300	305	311
Impairment	-	-	-	-	-	-	-	-	-	-	-
Total Operating Expenses	**$ 577**	**$ 760**	**$ 902**	**$ 532**	**$ 465**	**$ 154**	**$ 949**	**$ 965**	**$ 981**	**$ 998**	**$ 1,015**
Income from unconsolidated affiliates	-	-	-	-	-	-	-	-	-	-	-
Operating income (EBIT)	**$ 171**	**$ 237**	**$ 423**	**$ (264)**	**$ (100)**	**$ (35)**	**$ 296**	**$ 301**	**$ 306**	**$ 312**	**$ 317**
Annual Growth	*-91.8%*	*38.5%*	*78.4%*	*-162.5%*		*-48.8%*	*-318.7%*	*1.7%*	*1.7%*	*1.7%*	*1.7%*
Interest expense net of amounts capitalized	$ (153)	$ (201)	$ (239)	$ (54)	$ (74)	$ (24)	$ (251)	$ (255)	$ (260)	$ (264)	$ (269)
Non-operating items from unconsolidated affiliates	(24)	(32)	(38)	(9)	(12)	(4)	(40)	(41)	(41)	(42)	(43)
Other net	(14)	(18)	(22)	(5)	(7)	(2)	(23)	(23)	(24)	(24)	(25)
Total Other Income (Expense)	$ (191)	$ (252)	$ (299)	$ (67)	$ (92)	$ (30)	$ (314)	$ (319)	$ (325)	$ (330)	$ (336)
Income (loss) before income taxes	$ (20)	$ (15)	$ 124	$ (332)	$ (192)	$ (65)	$ (18)	$ (18)	$ (18)	$ (19)	$ (19)
Benefit (provision) for income taxes	4	3	(24)	63	36	12	3	3	3	4	4
Net income (loss)	**$ (16)**	**$ (12)**	**$ 101**	**$ (269)**	**$ (156)**	**$ (53)**	**$ (14)**	**$ (15)**	**$ (15)**	**$ (15)**	**$ (15)**
	-101.3%	*-25.3%*	*-937.4%*	*-367.2%*		*-22.5%*	*-93.1%*	*1.7%*	*1.7%*	*1.7%*	*1.7%*
EBITDA	**$ 348**	**$ 470**	**$ 699**	**$ (202)**	**$ (15)**	**$ (8)**	**$ 587**	**$ 597**	**$ 607**	**$ 617**	**$ 627**
Annual Growth	*-88.1%*	*35.1%*	*48.8%*	*-128.9%*		*-88.7%*	*-2668.5%*	*1.7%*	*1.7%*	*1.7%*	*1.7%*

Appendix 3 – Macau Downside Scenario Projections

	Historical					Projection					
MILLIONS	2017	2018	2019	2020	2021 YTD	Q4 2021	2022	2023	2024	2025	2026
Period Ended	12/31/17	12/31/18	12/31/19	12/31/20							
Operating Revenue											
Casino	$ 1,742	$ 2,195	$ 2,610	$ 566	$ 785	$ 252	$ 1,852	$ 1,884	$ 1,916	$ 1,948	$ 1,982
Rooms	55	119	142	37	48	17	101	103	104	106	108
Food and beverage	51	115	127	40	50	16	90	92	93	95	97
Entertainment retail and other	10	21	26	14	13	4	19	19	19	20	20
Reimbursed costs	-	-	-	-	-	-	-	-	-	-	-
Net Revenue	**$ 1,858**	**$ 2,450**	**$ 2,905**	**$ 657**	**$ 896**	**$ 289**	**$ 2,062**	**$ 2,097**	**$ 2,133**	**$ 2,169**	**$ 2,206**
Annual Growth	*-80.3%*	*31.8%*	*18.6%*	*-77.4%*		*80.5%*	*74.0%*	*1.7%*	*1.7%*	*1.7%*	*1.7%*
COGS											
Casino	$ 958	$ 1,207	$ 1,437	$ 312	$ 432	$ 139	$ 1,020	$ 1,037	$ 1,055	$ 1,073	$ 1,091
Rooms	17	36	44	11	15	5	31	32	32	33	33
Food and beverage	30	66	74	23	29	9	52	53	54	55	56
Entertainment retail and other	7	15	18	10	9	3	13	13	13	14	14
Reimbursed costs	-	-	-	-	-	-	-	-	-	-	-
Total COGS	**$ 1,012**	**$ 1,325**	**$ 1,573**	**$ 356**	**$ 485**	**$ 156**	**$ 1,116**	**$ 1,135**	**$ 1,155**	**$ 1,174**	**$ 1,194**
Annual Growth	*-81.6%*	*31.0%*	*18.7%*	*-77.4%*		*80.2%*	*74.0%*	*1.7%*	*1.7%*	*1.7%*	*1.7%*
Gross Profit	**$ 846**	**$ 1,125**	**$ 1,333**	**$ 301**	**$ 411**	**$ 133**	**$ 946**	**$ 962**	**$ 978**	**$ 995**	**$ 1,012**
Annual Growth	*-78.6%*	*32.9%*	*18.5%*	*-77.4%*		*80.8%*	*74.0%*	*1.7%*	*1.7%*	*1.7%*	*1.7%*
General and administrative	$ 271	$ 358	$ 424	$ 424	$ 318	$ 106	301	306	311	317	322
Corporate expense	47	62	74	17	23	7	52	53	54	55	56
Preopening and start-up expenses	8	10	12	3	4	1	8	9	9	9	9
Property transactions net	38	50	59	13	18	6	42	42	43	44	45
Gain on transactions net	-	-	-	-	-	-	-	-	-	-	-
Depreciation and amortization	174	230	272	62	84	27	193	197	200	203	207
Impairment	-	-	-	-	-	-	-	-	-	-	-
Total Operating Expenses	**$ 538**	**$ 709**	**$ 841**	**$ 518**	**$ 447**	**$ 147**	**$ 597**	**$ 607**	**$ 617**	**$ 628**	**$ 638**
Income from unconsolidated affiliates	-	-	-	-	-	-	-	-	-	-	-
Operating income (EBIT)	**$ 309**	**$ 416**	**$ 492**	**$ (218)**	**$ (36)**	**$ (15)**	**$ 349**	**$ 355**	**$ 361**	**$ 367**	**$ 373**
Annual Growth	*-85.2%*	*34.7%*	*18.3%*	*-144.2%*		*-76.8%*	*-793.1%*	*1.7%*	*1.7%*	*1.7%*	*1.7%*
Interest expense net of amounts capitalized	$ (153)	$ (201)	$ (239)	$ (54)	$ (74)	$ (24)	$ (169)	$ (172)	$ (175)	$ (178)	$ (181)
Non-operating items from unconsolidated affiliates	(24)	(32)	(38)	(9)	(12)	(4)	(27)	(27)	(28)	(28)	(29)
Other net	(14)	(18)	(22)	(5)	(7)	(2)	(16)	(16)	(16)	(16)	(17)
Total Other Income (Expense)	**$ (191)**	**$ (252)**	**$ (299)**	**$ (67)**	**$ (92)**	**$ (30)**	**$ (212)**	**$ (216)**	**$ (219)**	**$ (223)**	**$ (227)**
Income (loss) before income taxes	**$ 118**	**$ 164**	**$ 193**	**$ (285)**	**$ (128)**	**$ (44)**	**$ 137**	**$ 140**	**$ 142**	**$ 144**	**$ 147**
Benefit (provision) for income taxes	(22)	(31)	(37)	54	24	8	(26)	(26)	(27)	(27)	(28)
Net income (loss)	**$ 95**	**$ 133**	**$ 157**	**$ (231)**	**$ (104)**	**$ (36)**	**$ 111**	**$ 113**	**$ 115**	**$ 117**	**$ 119**
	-92.3%	*39.2%*	*17.8%*	*-247.5%*		*-39.6%*	*-179.7%*	*1.7%*	*1.7%*	*1.7%*	*1.7%*
EBITDA	**$ 483**	**$ 646**	**$ 764**	**$ (156)**	**$ 48**	**$ 13**	**$ 542**	**$ 552**	**$ 561**	**$ 571**	**$ 580**
Annual Growth	*-83.5%*	*33.7%*	*18.4%*	*-120.4%*		*-139.0%*	*792.5%*	*1.7%*	*1.7%*	*1.7%*	*1.7%*

Appendix 4 – Macau Catastrophe Scenario Projections

	Historical					Projection					
MILLIONS	2017	2018	2019	2020	2021 YTD	Q4 2021	2022	2023	2024	2025	2026
Period Ended	*12/31/17*	*12/31/18*	*12/31/19*	*12/31/20*							
Operating Revenue											
Casino	$ 1,742	$ 2,195	$ 2,610	$ 566	$ 785	$ 252	$ 505	$ -	$ -	$ -	$ -
Rooms	55	119	142	37	48	17	33	-	-	-	-
Food and beverage	51	115	127	40	50	16	32	-	-	-	-
Entertainment retail and other	10	21	26	14	13	4	8	-	-	-	-
Reimbursed costs	-	-	-	-	-	-	-	-	-	-	-
Net Revenue	**$ 1,858**	**$ 2,450**	**$ 2,905**	**$ 657**	**$ 896**	**$ 289**	**$ 578**	**$ -**	**$ -**	**$ -**	**$ -**
Annual Growth	*-80.3%*	*31.8%*	*18.6%*	*-77.4%*		*80.5%*	*-51.2%*	*-100.0%*	*0.0%*	*0.0%*	*0.0%*
COGS											
Casino	$ 958	$ 1,207	$ 1,437	$ 312	$ 432	$ 139	$ 278	$ -	$ -	$ -	$ -
Rooms	17	36	44	11	15	5	10	-	-	-	-
Food and beverage	30	66	74	23	29	9	18	-	-	-	-
Entertainment retail and other	7	15	18	10	9	3	6	-	-	-	-
Reimbursed costs	-	-	-	-	-	-	-	-	-	-	-
Total COGS	**$ 1,012**	**$ 1,325**	**$ 1,573**	**$ 356**	**$ 485**	**$ 156**	**$ 312**	**$ -**	**$ -**	**$ -**	**$ -**
Annual Growth	*-81.6%*	*31.0%*	*18.7%*	*-77.4%*		*80.2%*	*-51.3%*	*-100.0%*	*0.0%*	*0.0%*	*0.0%*
Gross Profit	**$ 846**	**$ 1,125**	**$ 1,333**	**$ 301**	**$ 411**	**$ 133**	**$ 266**	**$ -**	**$ -**	**$ -**	**$ -**
Annual Growth	*-78.6%*	*32.9%*	*18.5%*	*-77.4%*		*80.8%*	*-51.1%*	*-100.0%*	*0.0%*	*0.0%*	*0.0%*
General and administrative	$ 271	$ 358	$ 424	$ 424	$ 318	$ 106	$ 424	$ -	$ -	$ -	$ -
Corporate expense	47	62	74	17	23	7	30	-	-	-	-
Preopening and start-up expenses	8	10	12	3	4	1	5	-	-	-	-
Property transactions net	38	50	59	13	18	6	24	-	-	-	-
Gain on transactions net	-	-	-	-	-	-	-	-	-	-	-
Depreciation and amortization	174	230	272	62	84	27	111	-	-	-	-
Impairment	-	-	-	-	-	-	-	-	-	-	-
Total Operating Expenses	**$ 538**	**$ 709**	**$ 841**	**$ 518**	**$ 447**	**$ 147**	**$ 594**	**$ -**	**$ -**	**$ -**	**$ -**
Income from unconsolidated affiliates	-	-	-	-	-	-	-	-	-	-	-
Operating income (EBIT)	**$ 309**	**$ 416**	**$ 492**	**$ (218)**	**$ (36)**	**$ (15)**	**$ (328)**	**$ -**	**$ -**	**$ -**	**$ -**
Annual Growth	*-85.2%*	*34.7%*	*18.3%*	*-144.2%*		*-76.8%*	*551.9%*	*-100.0%*	*0.0%*	*0.0%*	*0.0%*
Interest expense net of amounts capitalized	$ (153)	$ (201)	$ (239)	$ (54)	$ (74)	$ (24)	$ (183)	$ -	$ -	$ -	$ -
Non-operating items from unconsolidated affiliates	(24)	(32)	(38)	(9)	(12)	(4)	(8)	-	-	-	-
Other net	(14)	(18)	(22)	(5)	(7)	(2)	(4)	-	-	-	-
Total Other Income (Expense)	**$ (191)**	**$ (252)**	**$ (299)**	**$ (67)**	**$ (92)**	**$ (30)**	**$ (195)**	**$ -**	**$ -**	**$ -**	**$ -**
Income (loss) before income taxes	**$ 118**	**$ 164**	**$ 193**	**$ (285)**	**$ (128)**	**$ (44)**	**$ (524)**	**$ -**	**$ -**	**$ -**	**$ -**
Benefit (provision) for income taxes	(22)	(31)	(37)	54	24	8	99	-	-	-	-
Net income (loss)	**$ 95**	**$ 133**	**$ 157**	**$ (231)**	**$ (104)**	**$ (36)**	**$ (425)**	**$ -**	**$ -**	**$ -**	**$ -**
	-92.3%	*39.2%*	*17.8%*	*-247.5%*		*-39.6%*	*204.2%*	*-100.0%*	*0.0%*	*0.0%*	*0.0%*
EBITDA	**$ 483**	**$ 646**	**$ 764**	**$ (156)**	**$ 48**	**$ 13**	**$ (217)**	**$ -**	**$ -**	**$ -**	**$ -**
Annual Growth	*-83.5%*	*33.7%*	*18.4%*	*-120.4%*		*-139.0%*	*-457.2%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*

Appendix 5 – Macau Probabilistic Aggregated Projection

	Historical					Projection					
MILLIONS	2017	2018	2019	2020	2021 YTD	Q4 2021	2022	2023	2024	2025	2026
Period Ended	*12/31/17*	*12/31/18*	*12/31/19*	*12/31/20*							
Operating Revenue											
Casino	$ 1,742	$ 2,195	$ 2,610	$ 566	$ 785	$ 252	$ 1,758	$ 1,725	$ 1,754	$ 1,784	$ 1,814
Rooms	55	119	142	37	48	17	97	94	96	97	99
Food and beverage	51	115	127	40	50	16	87	84	85	87	88
Entertainment retail and other	10	21	26	14	13	4	18	17	18	18	18
Reimbursed costs	-	-	-	-	-	-	-	-	-	-	-
Net Revenue	**$ 1,858**	**$ 2,450**	**$ 2,905**	**$ 657**	**$ 896**	**$ 289**	**$ 1,959**	**$ 1,920**	**$ 1,953**	**$ 1,986**	**$ 2,020**
Annual Growth	*-80.3%*	*31.8%*	*18.6%*	*-77.4%*		*80.5%*	*65.3%*	*-2.0%*	*1.7%*	*1.7%*	*1.7%*
COGS											
Casino	$ 958	$ 1,207	$ 1,437	$ 312	$ 432	$ 140	$ 980	$ 962	$ 978	$ 995	$ 1,012
Rooms	17	36	44	11	15	5	30	29	30	30	31
Food and beverage	30	66	74	23	29	9	51	49	50	51	52
Entertainment retail and other	7	15	18	10	9	3	13	12	12	13	13
Reimbursed costs	-	-	-	-	-	-	-	-	-	-	-
Total COGS	**$ 1,012**	**$ 1,325**	**$ 1,573**	**$ 356**	**$ 485**	**$ 157**	**$ 1,073**	**$ 1,052**	**$ 1,070**	**$ 1,088**	**$ 1,107**
Annual Growth	*-81.6%*	*31.0%*	*18.7%*	*-77.4%*		*80.5%*	*67.0%*	*-1.9%*	*1.7%*	*1.7%*	*1.7%*
Gross Profit	**$ 846**	**$ 1,125**	**$ 1,333**	**$ 301**	**$ 411**	**$ 132**	**$ 886**	**$ 868**	**$ 883**	**$ 898**	**$ 913**
Annual Growth	*-78.6%*	*32.9%*	*18.5%*	*-77.4%*		*80.4%*	*63.3%*	*-2.1%*	*1.7%*	*1.7%*	*1.7%*
						-	-	-	-	-	-
General and administrative	$ 271	$ 358	$ 424	$ 424	$ 358	$ 106	$ 328	$ 280	$ 285	$ 290	$ 295
Corporate expense	47	62	74	17	23	7	51	49	49	50	51
Preopening and start-up expenses	8	10	12	3	4	1	9	8	8	8	9
Property transactions net	38	50	59	13	18	6	46	43	44	45	46
Gain on transactions net	-	-	-	-	-	-	-	-	-	-	-
Depreciation and amortization	174	230	272	62	84	27	191	180	183	187	190
Impairment	-	-	-	-	-	-	-	-	-	-	-
Total Operating Expenses	**$ 538**	**$ 709**	**$ 841**	**$ 518**	**$ 486**	**$ 148**	**$ 625**	**$ 561**	**$ 570**	**$ 580**	**$ 590**
Income from unconsolidated affiliates	-	-	-	-	-	-	-	-	-	-	-
Operating income (EBIT)	**$ 309**	**$ 416**	**$ 492**	**$ (218)**	**$ (75)**	**$ (16)**	**$ 262**	**$ 307**	**$ 312**	**$ 318**	**$ 323**
Annual Growth	*-85.2%*	*34.7%*	*18.3%*	*-144.2%*		*-57.9%*	*-385.6%*	*17.4%*	*1.7%*	*1.7%*	*1.7%*
						-	-	-	-	-	-
Interest expense net of amounts capitalized	$ (153)	$ (201)	$ (239)	$ (54)	$ (74)	$ (24)	$ (176)	$ (158)	$ (160)	$ (163)	$ (166)
Non-operating items from unconsolidated affiliates	(24)	(32)	(38)	(9)	(12)	(4)	(26)	(25)	(25)	(26)	(26)
Other net	(14)	(18)	(22)	(5)	(7)	(2)	(15)	(14)	(15)	(15)	(15)
Total Other Income (Expense)	**$ (191)**	**$ (252)**	**$ (299)**	**$ (67)**	**$ (92)**	**$ (30)**	**$ (216)**	**$ (197)**	**$ (201)**	**$ (204)**	**$ (208)**
Income (loss) before income taxes	**$ 118**	**$ 164**	**$ 193**	**$ (285)**	**$ (167)**	**$ (46)**	**$ 45**	**$ 110**	**$ 112**	**$ 113**	**$ 115**
Benefit (provision) for income taxes	(22)	(31)	(37)	54	32	9	(9)	(21)	(21)	(21)	(22)
Net income (loss)	**$ 95**	**$ 133**	**$ 157**	**$ (231)**	**$ (136)**	**$ (37)**	**$ 37**	**$ 89**	**$ 90**	**$ 92**	**$ 94**
	-92.3%	*39.2%*	*17.8%*	*-247.5%*		*-25.1%*	*-121.2%*	*142.7%*	*1.7%*	*1.7%*	*1.7%*
						0	0	0	0	0	0
EBITDA	**$ 483**	**$ 646**	**$ 764**	**$ (156)**	**$ 9**	**$ 11**	**$ 453**	**$ 487**	**$ 496**	**$ 504**	**$ 513**
Annual Growth	*-83.5%*	*33.7%*	*18.4%*	*-120.4%*		*-112.6%*	*2207.2%*	*7.7%*	*1.7%*	*1.7%*	*1.7%*

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