



# New Jersey Lottery Enterprise Valuation Report

*Report of Acacia Financial Group, Inc as Independent  
Valuation Service Provider*

A valuation report on the New Jersey Lottery Enterprise dated May 11, 2017



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## *Executive Summary - Purpose of Report*

Acacia Financial Group, Inc. (“Acacia”) has been engaged by the State of New Jersey (“State”) to serve as the “independent valuation service provider” (the “Valuation Provider”) of the New Jersey Lottery Enterprise in connection with the possible contribution of the Lottery Enterprise to certain State Retirement Systems. In connection with this engagement, we have reviewed the draft “Lottery Enterprise Contribution Act” provided to us by the New Jersey State Treasurer (the “Draft Contribution Act”). The purpose of the Draft Contribution Act is to authorize the contribution (the “Proposed Contribution”) of the Lottery Enterprise for a term of 30 years to a common trust fund for the benefit of the Eligible Members of certain State Retirement Systems. Consistent with the Draft Contribution Act, Acacia, as the Valuation Provider has conducted a review and due diligence of the Lottery Enterprise<sup>1</sup>, including its cashflows, operating history, legal structure and projections and issued a report which represents its opinion as to the valuation of the Lottery Enterprise.”

As a result of the review and due diligence undertaken by Acacia pertaining to the Lottery Enterprise and based upon the methodologies, considerations, and assumptions described herein, in the professional opinion of Acacia, the Lottery Enterprise has a fair value, in connection with the Proposed Contribution, in the amount of \$13.535 billion as of June 30, 2017.

Acacia is an independent municipal advisory firm engaged in the business of providing municipal advisory services to governmental entities across the country. Acacia was founded in 2006 and has advised on the issuance of more than \$118 billion in municipal securities since that time. The shareholders with Acacia average approximately 25 years of experience in municipal finance, having worked with other preeminent financial advisory firms and investment banking firms prior to the creation of Acacia. Acacia is registered as a municipal advisor with the Securities Exchange Commission and the Municipal Securities Rulemaking Board. The professionals with Acacia have worked on numerous transactions in the past that have included privatization efforts including concession payments and other esoteric transactions that have include valuations of non-standard assets.

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<sup>1</sup> Under the Draft Contribution Act, the term “Lottery Enterprise” is essentially defined as the New Jersey State Lottery, with all of its assets presently existing or acquired in the future, useful or necessary to operate the State Lottery (including the expectation to produce net proceeds for the benefit of the Retirement Systems) and liabilities related to the foregoing, on or prior to a proposed contribution in 2017 (exclusive of “Retained Liabilities” and “Retained Assets”).

## *Lottery Governance Structure and Enabling Legislation*

The New Jersey State Lottery (“Lottery”) was created pursuant to enactment of the “State Lottery Law” (codified as N.J.S.A. 5:9-1 et seq.) to implement the amendment of the Constitution of New Jersey as approved by the people in the general election of November 1969. Notable provisions of the State Lottery Law, as it currently exists without any amendments contained in the Draft Contribution Act, include: (i) N.J.S.A. 5:9-7(a) which authorizes the State Lottery Commission (“Commission”) to promulgate such rules and regulations governing the operation of the Lottery such that it “shall produce the maximum amount of net revenues for State institutions and State aid for education”, and (ii) N.J.S.A. 5:9-7(a)(11) which stipulates that no less than 30% of the total revenues accruing from the sale of lottery tickets shall be dedicated to State institutions and State aid for education.

Under the State Lottery Law, the Division of the State Lottery (“DSL”) was created within the Department of the Treasury. The State Lottery Law established, within the DSL, the Commission and the Director of the DSL (“Director”). The Commission is charged, under the State Lottery Law, with the power and the duty to establish rules and regulations regarding the Lottery pertaining to, among other things:

- The type of lottery games conducted;
- The price(s) of tickets and shares in the lottery;
- The number and sizes of the prizes on the winning tickets or shares;
- The manner of selecting the winning tickets or share;
- The manner of payment of prizes;
- The frequency of lottery drawings;
- The types and locations at which tickets can be sold;
- The method to be used in selling tickets;
- The licensing of agents to sell tickets;
- The manner and amount of compensation to be paid to licensed sales agents;
- The apportionment of total Lottery revenues to the payment of prizes and operating expenses of the Lottery such that the at least 30% of total revenues are transferred for State institutions and State aid for education.

The Director is charged, under the State Lottery Law, with the power and the duty to, among other things:

- Supervise and administer the operations of the Lottery;
- Subject to the approval of the Commission, appoint deputy directors, professional, technical and clerical assistants and employees;
- Act as secretary and executive officer to the Commission;

- In accordance with the State Lottery Law and the rules and regulations of the Commission, license (retail) agents to sell lottery tickets;
- Suspend or revoke agent licenses pursuant to the State Lottery Law and the rules and regulations of the Commission;
- Confer regularly with the Commission and make available books, records, files and other information of the DSL;
- Subject to the approval of the Commission, act on purchases of goods and services required in the operation of the Lottery;
- Certify on a monthly basis to the State Treasurer and the Commission a full and complete statement of the Lottery revenues, prize disbursements and other expenses of the preceding months.

## Discussion of Lottery Enterprise Operations

### Revenue Sources

The Lottery Enterprise generates revenue almost exclusively from three sources: the sale of tickets for draw or online games (“Draw Games”), the sale of tickets for instant or “scratch-off” games (“Instant Games”), and forfeited prizes for unclaimed winning tickets older than one year. The sales of tickets represent the vast preponderance of the generated revenue. For context, in State fiscal year 2016 actual (2016A), ticket sales for Draw Games and Instant Games generated nearly \$3.3 billion and forfeited prizes totaled approximately \$33 million.

### Existing Games

#### Draw Games

The Lottery includes eight (8) Draw Games: Pick 3, Pick 4, Jersey Cash 5, 5 Card Cash, Pick 6 Lotto, Mega Millions, CASH4LIFE and Powerball. The draws for these games take place every day (once or twice a day) or two (2) times per week, depending on the game. A summary of each the Draw Games is detailed below.

#### Pick-3



Pick-3 is a 3 digit Draw Game drawn twice per day. It began on May 22, 1975. Ways to win, from highest payout to lowest are:

- **Straight** – Matching all three digits exactly as they are drawn
- **Wheel** – Match all three digits in any order (min. play is \$1.50)
- **Box** – Match all three digits in any order (min. play is \$0.50)
- **Pair** – Two-digit wager; first and second or second and third match
- **Split** – Two-digit wager; first and last digit match

### Pick-4



Pick-4 is a four-digit Draw Game drawn twice per day. It began on July 9, 1977. Ways to win, from highest payout to lowest are:

- **Straight** – Matching all four digits exactly
- **Box** – Matching all four digits in any order

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### Jersey Cash 5



Jersey Cash 5 is a daily Draw Game that draws five balls from numbers 1 through 43. Drawings are held nightly. It began on September 30, 1992. Ways to win, from highest payout to lowest are:

- Matching all five numbers shown (Jackpot).
- Matching four out of five numbers shown
- Matching three out of five numbers shown

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### 5 Card Cash



5 Card Cash is a daily quick pick Draw Game which offers two plays with a single hand of cards based on the rules of poker. It began on May 16, 2016. Ways to win, from highest payout to lowest are:

- **Win Now** – match cards with poker hand (Instant)
- **Win Tonight** – drawing held each evening

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### Pick 6 Lotto



Pick-6 Lotto is a Draw Game drawn on Monday and Thursday evenings. It draws six balls from 1 through 49. It began on May 9, 1980.

- Games cost \$1 each with a jackpot starting at \$2 million
- If no winner is claimed, the jackpot gets rolled to the next drawing
- XTRA option for \$1 to increase prizes

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### Mega Millions



Mega Millions is a Draw Game that is offered by 44 states. The drawings are held each Tuesday and Friday night. It began in New Jersey in May 1999.

- Games are \$1 with a beginning jackpot of \$15 million
- If no winner is claimed, the jackpot gets rolled to the next drawing
- \$1 Megaplier option to increase prizes

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### CASH4LIFE



Cash4Life is a Draw Game drawn on Monday and Thursday nights. Players choose five of 60 numbers and one of four "Cash Ball" numbers. It began on June 13, 2014.

- Games are \$2
- Matching all six numbers wins \$1,000 per day for life
- Matching five of six numbers wins \$1,000 per week for life

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### Powerball



Powerball is a Draw Game that is drawn on Wednesday and Saturday evenings. Like Mega Millions, it also encompasses 44 states. It began in New Jersey on January 31, 2010.

- Games are \$1 with a beginning jackpot of \$15 million
- If no winner is claimed, the jackpot gets rolled to the next drawing
- \$1 add-on Power play option to increase prizes

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### Instant Games/Fast Play

Since 1975, the DSL has offered Instant Games. Instant Games come with numerous price points, prizes formats and themes. These games are offered at prices ranging from \$1 up to \$30. As of April 27,

2017, there are 70 Instant Games that are active for purchase at participating New Jersey Lottery locations. Of these 70 Instant Games, there are eight (8) \$1 games, eighteen (18) \$2 games, eight (8) \$3 games, nineteen (19) \$5 dollar games, eleven (11) \$10 games, four (4) \$20 games and two (2) \$30 games.

In 2015, the DSL released a series of games called “Fast Play”. These are Instant Games as well, but are generated by the Lottery terminal. These games also vary in price ranging from \$1 through \$10. As of April 27, 2017, there are twenty-five (25) Fast Play games that are active in the marketplace. Of these twenty-five games, there are eight (8) \$1 games, six (6) \$2 games, five (5) \$3 games, four (4) \$5 games and two (2) \$10 games.

Shown below in Table 1 is the history for the past five years of the sales revenue for various Draw Games and aggregate Instant Games:

Table 1 – Historic Sales Revenue by Game

SALES REVENUE BY GAME 2012-2016					
	2012	2013	2014	2015	2016
	<u>Sales</u>	<u>Sales</u>	<u>Sales</u>	<u>Sales</u>	<u>Sales</u>
Pick 3	431,483,145	434,042,304	436,742,690	437,774,537	439,627,708
Pick 4	261,758,786	266,142,981	268,396,396	271,765,815	275,200,494
Jersey Cash 5	142,219,274	144,392,456	148,226,709	148,424,382	151,636,143
Pick 6 Lotto	84,151,564	65,323,206	77,529,761	57,613,947	54,632,415
Cash 4 Life			4,727,306	71,417,890	45,760,158
Mega Millions	238,194,873	136,832,941	205,860,905	162,460,731	144,424,092
Powerball	183,892,771	300,381,206	233,653,931	165,435,126	286,003,472
Fastplay					48,388,770
5 Card Cash					3,064,919
Monopoly Millionaires Club				3,265,580	
Raffle Sales			1,227,770		
Instant	1,417,664,313	1,474,285,065	1,531,771,568	1,709,143,246	1,872,915,471
Sales Discounts/Tickets Provided as Prizes	(474,941)	-	(6,491,474)	(26,772,618)	(31,806,927)
<b>Total Ticket Sales</b>	<b>2,758,899,785.00</b>	<b>2,821,400,159</b>	<b>2,901,645,562</b>	<b>3,000,528,636</b>	<b>3,289,846,715</b>

The individual Draw Games have seen fluctuation in their sales revenue over the past five years, particularly with the large jackpot games (Mega Millions and Powerball), driven by the strong increase in play accompanying very large winning jackpots (> \$250M). However, taken in aggregate, the Draws Games (excluding Cash 4 Life which originated during such period) have shown a mild **0.4%** average annual growth over this period with high and low growth of 8.7% and -9.3%. Instant Games have shown more constant and stronger growth of **6.8%** average annual growth over this period with high and low growth of 10.3% and 3.5%. Overall, Draw Games and Instant Games combined have shown steady growth of **4.5%** average annual growth in revenue over this period with high and low growth of 9.6% and 2.3%.

## Proposed Monitor “Quick Draw” Game (Keno Style Game)

The DSL is planning to introduce a new game to the market called “Quick Draw,” a keno style game. This new game will employ the same features as the Lottery’s other draw games. The main difference between the two is that Quick Draw will feature drawings every five minutes as opposed to once or twice per day or per week. Players will select their own numbers or choose an option called “Quick Pick” and the Lottery’s random number generator will reveal the winning numbers. Winning numbers will be displayed on a television monitor that will be in place where tickets are sold. This game will be most commonly played in social settings such as bars and restaurants to attract new participants to the Lottery. Quick Draw is anticipated to launch in New Jersey during the summer of 2017.

## Operational Expenses

The expenses of the DSL include prize expenses (payout of Lottery winnings) and operational expense of the DSL, of which prize expense represent the vast majority (~87%).

Table 2 – Historic Lottery Expenses (not including Northstar Incentive Compensation)

LOTTERY EXPENSES (2012 - 2016)								
<u>Operating Expenses</u>				2012 Expenses	2013 Expenses	2014 Expenses	2015 Expenses	2016 Expenses
Prize Expenses				1,617,771,751	1,670,394,764	1,731,959,514	1,825,233,183	2,001,693,206
Retailer commissions				153,657,527	157,880,945	162,107,574	169,445,854	185,980,265
Instant ticket vendor printing fees				16,739,981	18,140,608	18,706,070	22,316,078	24,467,215
Gaming system vendor fees				20,273,146	17,398,700	27,220,623	31,786,934	35,080,631
Northstar NJ management fee				-	-	3,552,740	4,850,004	4,952,335
Northstar NJ manager expenses				-	-	9,383,269	14,186,014	13,979,117
Northstar NJ advertising & marketing expenses				-	-	16,331,995	23,320,008	24,779,320
Administration expenses				36,595,216	35,276,475	15,877,577	9,967,207	10,134,156
Multi-State fees				33,773	14,751	65,122	81,538	61,239
Drawing broadcast fees				30,702	126,906	5,980	334,957	407,093
Bad debt expense				-	-	400,000	625,000	110,000
<b>Total Operating Expenses</b>				<b>\$1,845,102,096</b>	<b>\$1,899,233,149</b>	<b>\$1,985,610,464</b>	<b>\$2,102,146,777</b>	<b>\$2,301,644,577</b>

There are certain trends in operational expenses to identify as they pertain to assumptions of future expenses as discussed:

- Prize Expenses are directly tied to Lottery sales. Historically, the ratio of Prize Expenses to Sales (payout ratio) is very close to 60% with the payout ratio for most and the largest of the Draw Games very close to 50% and for the Instant Games very close to 67%. It is reasonable to assume this payout ratio to remain very close to these values in light of the statutory requirement that 30% of gross revenues be used as permitted under the Constitution for State institutions and State aid for education.
- Retailer Commissions are directly tied to Lottery sales. Historically, the ratio of Retailer Commissions to Sales is very close to 5.6%.

- The change in year-over-year values of the remaining expenses are relatively de minimis and, with respect to administrative and management expenses, are affected by the commencement of the Northstar contract (discussed in the subsequent section).

## *Discussion of Northstar Services Contract*

In 2014, the State executed a 15-year Lottery Growth Management Agreement (the “Northstar Service Contract”) with Northstar New Jersey Lottery Group, LLC (“Northstar”). Under the Northstar Service Contract, the DSL, while continuing to conduct and maintain oversight and control of the Lottery, has engaged Northstar (i) to provide certain services to the DSL and (ii) to increase sales and net income from the Lottery in order to increase funds for State institutions and State aid to education while maintaining the highest levels of integrity and responsibility.

Briefly, under the Northstar Service Contract, the DSL has engaged Northstar to provide the following listed functions and responsibilities while the DSL has maintained the following listed operations and responsibilities:

### Northstar Services:

- The maintenance and updating of the Lottery Enterprise’s “Central Gaming System” including hardware and software;
- The provision of necessary data reports;
- The hosting and maintenance of Lottery websites and social media;
- The installation, maintenance and updating of retail hardware and peripherals;
- The installation, maintenance and updating of vending machines for instant games;
- The development of design, format, payout, pricing of existing and new Lottery games;
- The maintenance, warehousing, distribution and inventory management of instant games tickets (with existing contractors);
- The recruitment, training and supervision of Lottery retailers;
- The management of customer relations;
- The revocation, suspension and removal of equipment for suspended Lottery retailers;
- The retrieval, reconciliation and return of Lottery retailer instant game tickets at game end;
- The procedures, design and prizes related to second chance draws;
- The design, implementation, and funding of marketing, advertising, public relations, promotional campaigns, branding and loyalty campaigns;
- The creation of general marketing strategy;
- The support and facilitation of daily broadcast of Lottery drawings on established mediums;
- The operation of Lottery call centers;

- The development, operation and maintenance of responsible gambling program;
- The engagement and contracting of subcontractors to provide these services;
- The maintenance and monitoring of compliance with regulatory requirements, State policies and rules;
- The protection of State intellectual property;
- The provision of services relating to new multi-state lottery games

DSL Retained Operational Responsibilities:

- The validation of winning Lottery tickets;
- The setting and payment of jackpot prizes;
- The management and broadcast of primary Lottery drawings;
- The control of collections from Lottery retailers and transfer of funds to the State;
- The licensing of Lottery retailers;
- Tax reporting for prizes and Lottery retailers;
- Fraud investigations, audits and financial reporting;
- Obtaining approvals from the Lottery Commission

Northstar is compensated under the Northstar Service Contract (i) for reimbursement of Operating Expenses which generally means Northstar direct employee salaries and benefits, Northstar overhead for business operations, and subcontractor expenses for goods and services in support of the Lottery operations and (ii) based upon the Net Income generated by the Lottery (the “Incentive Compensation”) during the Northstar Service Contract. The amount of the Incentive Compensation is based upon formulaic calculations of the differences in the amount of Net Income generated relative to various static benchmark and baseline net income levels specified for each of the State fiscal years of the Northstar Service Contract. The net effect of these formulaic calculations is generally (a) to permit the sharing of Net Income between the DSL and Northstar under circumstances where Net Income exceeds certain thresholds but in no event may Northstar receive more than 5% of the Net Income, and (b) to require that Northstar make payments to the DSL for a portion of the amount, when occurring, by which Net Income lags certain thresholds<sup>2</sup>. This results in the following effects or potential benefits to the DSL:

- Northstar is incentivized, by the nature of the Incentive Compensation, to maximize the Net Income to which the DSL shares in the benefit.

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<sup>2</sup> There are further provisions in the Northstar Service Contract limiting or “capping” the net Incentive Compensation payment that may be due from or paid to Northstar. Reference is made to the actual Northstar Service Contract for a complete discussion of the mechanics of the calculation of Incentive Compensation.

- The DSL is partially insulated from reduced Net Income as a result of downturns in Lottery game participation whether as a function of economic conditions or player interests.
- The DSL is the beneficiary of unique skills brought by Northstar to maximize Net Income.

The effect to the DSL of the Northstar Service Contract is that expected Net Income to the DSL is moderately “corralled” under scenarios of more or less Lottery sales than projected. It should be noted that the financial projections for the Lottery as prepared by Northstar (without including the projected effects of the Quick Draw game) are identical to the “Net Income Targets” as defined in the Northstar Service Contract which are the values in each contract year against which a portion of the Incentive Compensation is determined. This means that deviations in future Net Income will be buffered, during the term of the Northstar Service Contract, from the effects of deviations in the future Lottery sales. This further supports the conclusion that the projections of future Net Income (discussed below) are reasonable to rely upon.

The Northstar Service Contract has a scheduled Termination Date (notwithstanding various provisions for convenience termination and termination for cause) of June 30, 2029. There are no extension options by either party under the contract.

### *Discussion of Lottery Enterprise Financial Projections*

Acacia has been provided by the DSL with estimated financial projections (attached as Exhibit A) of the Lottery Enterprise for the period of State fiscal years 2018 through 2029 (the “Front-End Projection Period”). Northstar first provided financial projections in connection with the submission of its bid to provide services to the DSL as enumerated above, with the exception for the inclusion of projected revenues and expenses (mostly payout) associated with the forthcoming Quick Draw game.

Northstar’s initial financial projections were revised by Amendments 1 and 2 to the Northstar Services Contract due to changed circumstances. The financial projections in Exhibit A are consistent with those in Amendment 2.

Within Operating Revenues, these projections notably include estimates for the revenue generated by the respective existing Draw Games and Instant Games (as discussed above) and for the forthcoming Quick Draw game. It should be noted that, to provide for an anticipated effect of Quick Draw upon the existing Draw Games and Instant Games, the sales for all other Draw Games and Instant Games have been projected to be reduced, in aggregate, by an amount equal to 15% of the projected sales revenue from Quick Draw. Also included, but less significant in size, are revenues including forfeited prizes and miscellaneous revenues.

Within Operating Expenses are prize expenses (representing the largest expense component), retailer expenses, subcontractor vending and printing expenses, Northstar management fees and DSL

administrative and operating expenses. Further, Northstar's Incentive Compensation is included as a function of the formulaic requirements of the Northstar Service Contract.

The resulting projected Net Income represents the projected funds available for purposes under the Draft Contribution Act.

Listed below are a number of the particular material line items that are not simply being (a) escalated at an assumed inflation rate or (b) calculated based upon Commission directed rules (e.g. prize expense payout percentages by game) or formulaic calculations (e.g. Northstar Incentive Compensation) during the Front-End Projection Period:

- Mega Millions Ticket Sales – Mega Million sales are projected to grow from 2018E through 2029E in a non-uniform fashion by year-over-year increments ranging from zero to \$25 million. The Northstar rationale for the nature of these increases is based upon intermittent (e.g. very few years) modifications to this multi-state game which are expected to result in increased sales (similar to past practices). It should be noted that Mega Millions (and Powerball) sales amounts, as multi-state games with intermittently very large prizes can fluctuate significantly in annual revenue (i.e. years with multiple very large prize payout due to rollover of non-winning jackpots can produce significantly more revenue). This is intrinsic to the “long” jackpot winning odds (leading to rollovers) and consequentially the related increased playing demand for large jackpots.
- Powerball Ticket Sales – Powerball sales are projected to grow from 2018E through 2029E in a non-uniform fashion by year-over-year increments ranging from zero to \$25 million. Similar to the Mega Millions ticket sales, Northstar's rationale for the nature of these increases is based upon intermittent modifications to this multi-state game which results in increased sales.
- Quick Draw Sales – Northstar has provided certain projections of the revenues and expenses expected with the Quick Draw game. As noted above, this is a new game and therefore, no operating history exists. The projections estimate a fully mature game with 1,800 Quick Draw locations by early calendar 2019 yielding mature sales by 2021 of approximately \$220M. Acacia has evaluated these provided projections against other existing “keno” style games at lotteries across the country on a revenue per state population basis (attached as Exhibit B) and finds the Northstar provided projections to be within the ranges of these other state's actual results.
- Northstar Management Expenses – Northstar Management Expenses are projected to rise from \$13.9M (2016A) to \$18.0M (2017E) to \$25.5M (2018E) and then grow at 2.8% per annum thereafter. The Northstar rationale for the nature of these early year increases is a conservative assumption of the maximum amount permissible under the Northstar Service Contract. Actual Northstar Management Expenses are expected to be lower as this amount is “pass-through” amount of actual expenses and adversely impacts the Northstar Incentive Compensation.

In the provided financial projection, during the Front-End Projection Period, overall ticket sales are projected to grow at a moderate 1.7% compounded annual rate (excluding Quick Draw). This rate is significantly lower than the historic growth rate for all ticket sales in the past five years of 4.5% and below the lowest growth rate in the past five years of 2.3%. Quick Draw, once mature in 2021, is

projected to grow at an even lower 1.0% compounded annual rate during the Front-End Projection Period. For purposes of this report, Acacia has escalated the ticket sales, prize expenses and most of the other operating expenses in the period 2030 to 2047 corresponding to the final year of the Contribution (the “Back-End Projection Period”) at a 1.0% annual escalation rate.

Acacia has reviewed the historical audited results of the Lottery Enterprise’s revenues and expenses from the past 10 years and engaged in due diligence of these matters with the Director’s office and concludes that the provided financial projections and the assumptions contained therein are reasonable. It should be recognized and is noted that the actual results of the revenues and operating expenses of the Lottery Enterprise may, and likely will, differ from these projections.

### *Discussion of the Draft Lottery Enterprise Contribution Act*

Pursuant to the Draft Contribution Act, this report is anticipated to be used in connection with the contribution of the Lottery Enterprise to a common trust fund, entitled “Common Pension Fund L”, to be created and established by the Draft Contribution Act. The Common Pension Fund L shall be for the benefit of Eligible Members of the certain Retirement Systems, specifically the Teachers’ Pension and Annuity Fund, the Public Employees Retirement System and the Police and Firemen’s Retirement System. Without purporting to provide a full recitation of the Draft Contribution Act or all material issues therein, below is a description of certain aspects of the Draft Contribution Act that Acacia deems relevant to the preparation of this report:

- Under the Draft Contribution Act, the DSL “shall operate, manage, conduct and control the Lottery Enterprise with a goal of maximizing net proceeds for the benefit of the Retirement Systems, consonant with the dignity of the State and the general welfare of the people”;
- No material change shall occur to the statutory governance and management of the Lottery Enterprise by the DSL as a result of the Draft Contribution Act;
- The term of the contribution of the Lottery Enterprise shall be for a period of thirty (30) years from the Contribution Date.

### *Discussion of Federal Criminal Gambling Statutes*

Chapter 61 of Title 18 of the United States Code regulates specifically the transportation, mailing, and broadcasting of lottery tickets and lottery information in interstate commerce. It is Acacia’s understanding that the Contribution will not implicate the federal lottery statutes, provided it remains within the “conducted by a State acting under the authority of State law” exemptions. For purposes of qualifying under the “conducted by a State” exemption, it is important that the State of New Jersey maintain actual control and authority over the conduct of the Lottery Enterprise, including daily operating decisions and rights to audit/financial accountability, and that the Lottery itself be authorized by State law.

## Method of Valuation

For the purpose of determining a fair value of the Lottery Enterprise in the Contribution, a number of valuation methodologies were initially considered. These initial methodologies are discussed below.

### Audited Financial Statements Value

The most recent Audited Financial Statement (as of June 30, 2016) place the Net Position (Current Assets plus Deposit Fund Contracts less Current and Non-Current Liabilities) at \$11.4 million. Acacia does not believe that this is a reasonable proxy for the value of an enterprise, over a thirty-year term, that contributes nearly \$1 billion per year currently net to the State for its enumerated purposes.

### Market Value (by analogy to other gaming related public companies)

As another possible valuation methodology, Acacia has compared various publicly traded gaming and gaming technology related companies' "total enterprise value"<sup>3</sup> (as a proxy for valuation) to "EBITDA"<sup>4</sup> (as a proxy for Net Income for Transfer from the Lottery Enterprise because no debt, taxes or depreciation are applicable to the Lottery). For recent years, the resulting ratios of total enterprise value to EBITDA for the various shown companies range between 3.7 and 21.6 (refer to Exhibit C). Applying these ratios to the Lottery Enterprise's projected 2018E Net income for Transfer of \$1,001M results in valuation ranges between \$3.7B and \$21.6B. These values are highly disparate. Acacia believes that there is not sufficient correlation in these numbers to make this a meaningful methodology, particularly to discern a singular value.

### Potential Sale Value (analogous to an asset sale or privatization with a concession payment)

As another possible valuation methodology, Acacia has compared various lottery related acquisitions (non-domestic because no US lottery has been sold). The ratio of the transaction value to implied EBITDA is compared (refer to Exhibit D) for those where information is publicly available. Applying these ratios to the Lottery Enterprise's projected 2018E Net income for Transfer of \$1,001M results in valuation ranges between \$3.6B and \$10.3B.

Acacia has also reviewed various municipal enterprise (e.g. toll roads, parking, energy, etc.) acquisitions. Again, the ratio of the transaction value to implied EBITDA is compared (refer to Exhibit E) for those where information is publicly available. Applying these ratios to the Lottery Enterprise's projected 2018E Net income for Transfer of \$1,001M results in valuation ranges between \$1.2B and \$5.9B.

These results are very limited (based upon scarce public information) and further do not provide a sufficient degree of correlation to extract a singular value for valuation. Moreover, in most if not all of

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<sup>3</sup> Total enterprise value defined as market capitalization less cash & cash equivalents plus preferred stock plus total debt.

<sup>4</sup> EBITDA defined as earnings before interest, tax, depreciation and amortization.

the examples, the nature of the business and/or the term of the proposed transaction are not directly analogous to the Lottery Enterprise. It should also be noted that the sale of the Lottery Enterprise to a private entity would not be permissible under Federal criminal statutes, which further diminishes the applicability of this methodology.

## Discounted Cashflow Value

Given the variances in the results in the above methodologies and the simple inapplicability of the Audited Financial Statements Value, the Market Value and the Potential Sale Value methodologies, Acacia believes that a Discounted Cashflow Value methodology is the most applicable and best methodology to apply to the Lottery Enterprise. The Actuarial Standard of Practice No. 44 (ASOP-44) of the Actuarial Standards Board provides:

*Assets that are Difficult to Value – Some assets do not have a readily established market value, such as certain insurance contracts, real estate or other property. In determining the value of such assets, if audited financial statements do not provide an appropriate market value, the actuary may consider appraisal by qualified independent experts, recent sales or similar assets, **the present value of reasonably expected future cash flows**, or other appropriate methods. The value, so determined, may be treated as market value for the purposes of this standard.*

ASOP 44 enumerates that, in the absence of audited financial statements, recent sales, or similar assets providing appropriate market value, the present value of reasonably expected future cashflow may be treated as market value under this standard. Acacia believes this conclusion is further supported by:

- The historical actual and predictable future cashflow of the Lottery Enterprise yielding Net Income is more analogous to returns on a fixed income security (e.g. bonds whose value is determined by discounting the future cashflows at market rates) than they are to assets with market driven fluctuations in the value such as equities (e.g. stocks) or real estate.
- The State Constitutional mandate to “produce the maximum amount of net revenues” for “State institutions and State aid for education” (under the State Lottery Law) or “Retirement Systems” (as amended by the Draft Contribution Act) provides the statutory directive for the DSL to maximize Lottery Enterprise performance.
- The Northstar Service Contract provides (a) financial incentive to exceed, and financial disincentive to fail to achieve, the predicted financial projections and (b) a “governor” on the returns to the DSL in circumstances where actual results deviate from projections.

The resulting opinion of fair value herein has been determined by discounting the financial projections provided by the DSL for the Front-End Projection Period and year 2029E values escalated at 1.0% annually thereafter for the Back-End Projection Period at the discount factor discussed in the below section.

## Discussion on Discount Factors

The discount factor to apply in a discounted cashflow analyses is generally accepted to be a “risk-adjusted” discount rate computed by adding to a “risk free” rate, a “risk premium” commensurate with the nature of the asset or investment.

The most commonly accepted proxy for long-term risk free rates are those of US Treasuries. The current yields on the most actively traded long term US Treasuries (10-year tenor and 30-year tenor) are 2.38% and 3.02% respectively. The “shape” of the “returns” from the projected Lottery Enterprise cashflows are ascending (based largely on the assumption of inflationary growth) whereas the returns on a Treasury Bond are level (static coupon). Inasmuch, Acacia has calculated the duration of the projected Lottery Enterprise cashflows to be 21.0 years whereas the duration on the current 30-Year T-Bond (3.0% coupon maturing 2/15/2047 with current price of 100.656%) is 20.2 years. To adjust the risk free rate, Acacia has added 2.5 basis points (representing the marginal 0.8 years between the respective durations times the linearly interpolated difference<sup>5</sup> between the yield on the 10-Year T-Bond and the 30-Year T-Bond of 3.2 basis points per year) to the yield on the current 30 year US T-Bond to derive a risk free rate of 3.05%.

A commonly accepted methodology of determining a risk premium is to multiply (a) “beta” (a measure of volatility for a particular asset to the relevant market as a whole) for the nature of the asset or project by (b) market rate of return (“ROR”).

Acacia has extracted beta values for a number of significant domestic and foreign gaming/lottery related public companies (refer to Exhibit F). The results of these beta values are in the range of 0.57 to 2.41 (or 0.72 to 1.83 when excluding technology companies) with a market cap weighted average beta of 1.16.

In these circumstances, Acacia believes that the beta should be a smaller number (i.e. ~1.0) than the above market cap weighted average beta given the predictable nature of the Lottery’s characteristics:

- The Lottery is intrinsically a monopoly with a sovereign authorization and mandate;
- The Lottery’s historic net revenues have shown relatively constant net growth, even in the face of variable returns from Mega Millions and Powerball (eccentric returns due to large jackpot amounts).

To derive a risk premium, Acacia has canvassed the same publicly traded companies utilized in the above beta discussion and extracted return on assets to serve as proxy RORs for lottery related enterprises (refer to Exhibit G).

Utilizing the above described factors results in the following formula:

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<sup>5</sup> Linearly interpolated difference means the difference between the 10-Year T Bond yield and the 30-Year T-Bond yield divided by twenty (20) to derive an annual yield differential to apply for consideration of the duration difference.

Estimated Discount rate = Risk-free ROR + (beta x market ROR)

Estimated Discount rate = 3.05% + (1.0 x 4.61%) = 7.66%

Acacia has rounded this value to the nearest 5 basis points or 7.65%

## Opinion

In connection with this engagement, Acacia has conducted a review of the following documents, reports and data:

- The financial projections as provided by the DSL;
- Audits of the Lottery for the past ten years;
- The Northstar Service Contract (including amendments thereto);
- The State Lottery Law;
- The Contribution Act bill as currently drafted;
- The Memorandum of Contribution as currently drafted;

Acacia has performed due diligence with the DSL on matters including, but not limited to:

- The historic Lottery results;
- The Northstar financial projections discussed in prior sections;
- The performance and quality of work to date by Northstar in their capacity under the Northstar Service Contract;

Acacia has prepared an analysis (attached as Exhibit H) calculating the discounted or present value of (a) the provided projected Net Income of the Lottery Enterprise for the State fiscal years 2018 through and including 2029 and (b) the estimated Net Income of the Lottery Enterprise for the State fiscal years 2030 through and including 2047 (estimated by escalating the respective revenues and most expenses in fiscal year 2029 in (a) above annually by 1.0%). Acacia has employed a discount factor of 7.65% in this calculation.

It should be noted that in rendering the below opinion, Acacia has assumed that:

- The DSL, including the Commission and the Director with DSL staff, diligently pursues the State objective articulated in the State Lottery Law and as amended by the Draft Contribution Act to “operate, manage, conduct and control the Lottery Enterprise with a goal of maximizing net proceeds.”
- No existing Draw Game shall be discontinued during the term of the Lottery Enterprise.
- The DSL, and Northstar while engaged, shall create, operate and promote Instant Games consistent with current levels.

- The DSL will protect against and prosecute actions of fraud, theft, and other violations, including cyberattacks, that threaten the integrity and performance of the Lottery with not less than the current level of vigilance or that which may be appropriate in future years.

Acacia is of the opinion that the resulting present value of \$13.535 billion represents a fair value for the State to employ in connection with the Proposed Contribution as of June 30, 2017. This valuation opinion is applicable solely as of dated date herein.

This report may be relied upon by the State and its appointed professionals in connection with any actions relating to the Draft Contribution Act. No reliance on or other use of this report by any person or for any purpose other than as stated in the previous sentence is permitted.

**EXHIBIT A – FINANCIAL PROJECTIONS DURING NORTHSTAR CONTRACT TERM**

**Projected Statement of Revenue & Expenses Fisca 2017-2029 Inclusive of Quick Draw Proceeds**

	2016	2017	2018	2019	2020	2021	2022
	Actual	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
<b>Operating revenues</b>							
<b>Ticket Sales</b>							
Pick 3	\$ 439,627,708	446,000,000	448,000,000	447,500,000	446,000,000	445,500,000	440,000,000
Pick 4	275,200,494	275,000,000	275,000,000	274,500,000	273,500,000	273,500,000	270,000,000
Jersey Cash 5	151,636,143	154,450,000	160,000,000	165,000,000	170,000,000	175,000,000	175,000,000
Pick 6 Lotto	54,632,415	59,210,000	62,000,000	62,500,000	64,000,000	65,500,000	65,500,000
Cash 4 Life	45,760,158	37,024,000	40,000,000	45,000,000	45,000,000	45,000,000	45,000,000
Mega Millions	144,424,092	154,863,000	165,000,000	185,000,000	202,000,000	215,000,000	230,000,000
Powerball	286,003,472	185,657,000	200,000,000	220,000,000	240,000,000	260,000,000	280,000,000
Fastplay	48,388,770	41,652,000	50,000,000	55,000,000	57,000,000	60,000,000	60,000,000
Niche Games (5 Card Cash)	3,064,919	32,396,000	37,000,000	41,000,000	46,000,000	52,000,000	55,000,000
<b>NEW PRODUCTS</b>							
Instant	1,872,915,471	1,858,088,300	1,882,900,000	1,876,750,000	1,875,500,000	1,875,000,000	1,875,000,000
Less Sales Discounts/Tickets Provided as Prizes	(31,806,927)	(36,673,700)	(35,000,000)	(35,000,000)	(35,000,000)	(35,000,000)	(35,000,000)
<b>Total Ticket Sales</b>	<b>3,289,846,714</b>	<b>3,207,666,600</b>	<b>3,284,900,000</b>	<b>3,337,250,000</b>	<b>3,384,000,000</b>	<b>3,431,500,000</b>	<b>3,460,500,000</b>
<b>Other revenues</b>							
Forfeited Prizes	33,931,475	37,601,250	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000
Miscellaneous	1,983,565	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	2,000,000
<b>Total operating revenues</b>	<b>3,325,761,753</b>	<b>3,246,767,850</b>	<b>3,326,400,000</b>	<b>3,378,750,000</b>	<b>3,425,500,000</b>	<b>3,473,000,000</b>	<b>3,502,500,000</b>
<b>Operating expenses</b>							
Prize expenses	2,001,693,206	1,965,532,722	1,998,618,597	2,030,514,707	2,059,220,136	2,091,007,878	2,107,868,695
Retailer commissions	185,980,265	181,211,055	185,925,340	188,888,350	191,534,400	195,222,900	195,864,300
Instant ticket vendor printing fees	24,467,215	24,594,354	24,665,990	24,585,425	24,569,050	24,562,500	24,562,500
Gaming system vendor fees	35,080,631	34,160,073	35,148,430	35,708,575	36,208,800	36,717,050	37,027,350
Northstar NJ management fee	4,952,335	5,056,000	5,162,000	5,270,000	5,381,000	5,494,000	5,609,000
Northstar NJ manager expenses	13,979,117	18,048,000	25,457,000	26,159,000	26,882,000	27,627,000	28,392,000
Northstar NJ advertising & marketing expenses	24,779,320	26,157,000	27,280,000	28,371,000	29,464,000	30,565,000	31,674,000
Administration expenses	10,134,156	13,271,000	13,271,000	14,708,307	15,076,014	15,452,915	15,839,238
Multi-State fees	61,239	150,000	150,000	150,000	150,000	150,000	150,000
Drawing broadcast fees	407,093	250,000	250,000	250,000	300,000	300,000	350,000
Bad debt expense	110,000	600,000	600,000	600,000	600,000	600,000	600,000
<b>Total Operating Expenses</b>	<b>2,301,644,578</b>	<b>2,269,030,204</b>	<b>2,316,528,357</b>	<b>2,355,205,364</b>	<b>2,389,385,400</b>	<b>2,427,699,243</b>	<b>2,447,937,083</b>
<b>Operating Income (pre Quick Draw)</b>	<b>1,024,117,175</b>	<b>977,737,646</b>	<b>1,009,871,643</b>	<b>1,023,544,636</b>	<b>1,036,114,600</b>	<b>1,045,300,757</b>	<b>1,054,562,917</b>
Net Income from Quick Draw	-	-	18,722,200	45,437,000	68,396,300	73,419,100	74,153,300
<b>Operating Income Inclusive of Quick Draw</b>	<b>1,024,117,175</b>	<b>977,737,646</b>	<b>1,028,593,843</b>	<b>1,068,981,636</b>	<b>1,104,510,900</b>	<b>1,118,719,857</b>	<b>1,128,716,217</b>
<b>Non-operating revenue</b>							
Income (Loss) Before Transfers	\$ 3,155,103	200,000	200,000	200,000	200,000	200,000	200,000
Northstar NJ incentive payment Inclusive of Quick Draw*	(30,633,965)	(15,492,681)	(27,816,969)	(31,576,927)	(33,135,327)	(32,515,271)	(29,781,743)
<b>Income available for Transfer Inclusive of Quick Draw</b>	<b>996,648,314</b>	<b>962,444,965</b>	<b>1,000,976,874</b>	<b>1,037,604,709</b>	<b>1,071,575,573</b>	<b>1,086,404,586</b>	<b>1,099,134,474</b>
<b>Operating revenues</b>							
<b>Ticket Sales</b>							
Pick 3	440,000,000	440,000,000	440,000,000	436,000,000	436,000,000	436,000,000	436,000,000
Pick 4	270,000,000	269,500,000	269,000,000	265,000,000	265,000,000	265,000,000	265,000,000
Jersey Cash 5	178,000,000	180,000,000	190,000,000	200,000,000	205,000,000	210,000,000	213,000,000
Pick 6 Lotto	67,000,000	68,500,000	69,000,000	71,500,000	71,500,000	72,000,000	73,000,000
Cash 4 Life	45,000,000	45,000,000	47,000,000	50,000,000	50,000,000	50,000,000	50,000,000
Mega Millions	230,000,000	230,000,000	240,000,000	255,000,000	280,000,000	295,000,000	300,000,000
Powerball	295,000,000	302,000,000	310,000,000	310,000,000	310,000,000	310,000,000	315,000,000
Fastplay	65,000,000	68,000,000	70,000,000	74,000,000	77,000,000	80,000,000	85,000,000
Niche Games (5 Card Cash)	60,000,000	65,000,000	70,000,000	75,000,000	80,000,000	85,000,000	90,000,000
<b>NEW PRODUCTS</b>							
Instant	1,875,000,000	1,900,000,000	1,900,000,000	1,900,000,000	1,900,000,000	1,910,000,000	1,925,000,000
Less Sales Discounts/Tickets Provided as Prizes	(35,000,000)	(40,000,000)	(40,000,000)	(40,000,000)	(40,000,000)	(40,000,000)	(40,000,000)
<b>Total Ticket Sales</b>	<b>3,490,000,000</b>	<b>3,528,000,000</b>	<b>3,565,000,000</b>	<b>3,596,500,000</b>	<b>3,634,500,000</b>	<b>3,673,000,000</b>	<b>3,712,000,000</b>
<b>Other revenues</b>							
Forfeited Prizes	40,000,000	40,000,000	40,000,000	42,000,000	42,000,000	42,000,000	42,000,000
Miscellaneous	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
<b>Total operating revenues</b>	<b>3,532,000,000</b>	<b>3,570,000,000</b>	<b>3,607,000,000</b>	<b>3,640,500,000</b>	<b>3,678,500,000</b>	<b>3,717,000,000</b>	<b>3,756,000,000</b>
<b>Operating expenses</b>							
Prize expenses	2,123,574,490	2,146,759,564	2,169,266,296	2,188,466,765	2,211,585,960	2,234,983,340	2,258,653,106
Retailer commissions	197,534,000	199,684,800	201,779,000	203,561,900	205,712,700	207,891,800	210,099,200
Instant ticket vendor printing fees	24,562,500	24,890,000	24,890,000	24,890,000	24,890,000	25,021,000	25,217,500
Gaming system vendor fees	37,343,000	37,749,600	38,145,500	38,482,550	38,889,150	39,301,100	39,718,400
Northstar NJ management fee	5,727,000	5,847,000	5,970,000	6,095,000	6,223,000	6,354,000	6,488,000
Northstar NJ manager expenses	29,177,000	29,987,000	30,820,000	31,676,000	32,557,000	33,463,000	34,395,000
Northstar NJ advertising & marketing expenses	32,790,000	33,446,000	34,115,000	34,797,000	35,493,000	36,203,000	36,927,000
Administration expenses	16,235,219	16,641,099	17,057,127	17,483,555	17,920,644	18,368,660	18,827,876
Multi-State fees	150,000	150,000	150,000	200,000	200,000	200,000	200,000
Drawing broadcast fees	350,000	400,000	400,000	400,000	450,000	450,000	450,000
Bad debt expense	650,000	650,000	650,000	650,000	650,000	675,000	675,000
<b>Total Operating Expenses</b>	<b>2,468,093,209</b>	<b>2,496,205,063</b>	<b>2,523,242,923</b>	<b>2,546,702,770</b>	<b>2,574,596,454</b>	<b>2,602,910,900</b>	<b>2,631,651,082</b>
<b>Operating Income (pre Quick Draw)</b>	<b>1,063,906,791</b>	<b>1,073,794,937</b>	<b>1,083,757,077</b>	<b>1,093,797,230</b>	<b>1,103,903,546</b>	<b>1,114,089,100</b>	<b>1,124,348,918</b>
Net Income from Quick Draw	74,834,800	75,643,700	76,400,200	77,164,200	77,935,800	78,715,200	79,502,300
<b>Operating Income Inclusive of Quick Draw</b>	<b>1,138,801,591</b>	<b>1,149,438,637</b>	<b>1,160,157,277</b>	<b>1,170,961,430</b>	<b>1,181,839,346</b>	<b>1,192,804,300</b>	<b>1,203,851,218</b>
<b>Non-operating revenue</b>							
Income (Loss) Before Transfers	200,000	200,000	200,000	200,000	200,000	200,000	200,000
Northstar NJ incentive payment Inclusive of Quick Draw*	(27,066,018)	(24,211,627)	(21,207,355)	(18,137,386)	(14,915,969)	(14,312,315)	(14,489,361)
<b>Income available for Transfer Inclusive of Quick Draw</b>	<b>1,111,935,573</b>	<b>1,125,427,010</b>	<b>1,139,149,922</b>	<b>1,153,024,044</b>	<b>1,167,123,377</b>	<b>1,178,691,985</b>	<b>1,189,561,857</b>

EXHIBIT B – COMPARISON OF KENO STYLE GAMES (SALES REVENUE TO POPULATION)

Comparable U.S. States hosting Keno/Keno Style Games as of 2016				
State	Keno Sales (x000)	Population	Sales per population	
California	\$ 232,286	39,250,017	\$5.92	
Connecticut	10,600	3,576,452	\$2.96	
Delaware (2015)	7,000	952,065	\$7.35	
Georgia	192,900	10,310,371	\$18.71	
Kansas	18,155	2,907,289	\$6.24	
Kentucky	65,900	4,436,974	\$14.85	
Maryland	311,600	6,016,447	\$51.79	
Massachusetts	79,388	6,811,779	\$11.65	
Michigan	624,119	9,928,300	\$62.86	
Missouri	59,643	6,093,000	\$9.79	
New York	787,000	19,745,289	\$39.86	
Ohio	365,866	11,614,373	\$31.50	
Oregon	95,826	4,093,465	\$23.41	
Rhode Island	83,660	1,056,426	\$79.19	
Washington	5,890	7,288,000	\$0.81	
West Virginia	4,136	1,831,102	\$2.26	
Average	\$ 183,998	8,494,459	\$23.07	
<i>New Jersey (Proj. 2021 at maturity)</i>	<i>\$ 219,800</i>	<i>8,944,469</i>	<i>\$24.57</i>	

**EXHIBIT C – MARKET VALUE - ENTERPRISE VALUE TO EBITDA OF PUBLIC COMPANIES**

Company	Ticker	Company Description	2016			2015			2014		
			Enterprise Value (EV)	EBITDA	EBITDA Multiples	EV	EBITDA	EBITDA Multiples	EV	EBITDA	EBITDA Multiples
\$ M USD (unless otherwise stated)											
Boyd Gaming Corp	BYD	Domestic gaming facilities	5,804.0	456.9	12.7	5,328.6	503.8	10.6	4,656.1	615.7	7.6
Ceasars Entertainment Corp	CZR	Casino and gaming company	8,752.1	696.0	12.6	8,133.1	923.0	8.8	22,753.1	1,457.0	15.6
Las Vegas Sands Corp	LVS	Casino and gaming company	54,260.7	3,600.0	15.1	43,618.8	3,923.1	11.1	54,720.0	5,163.9	10.6
MGM Resorts International	MGM	Casino and gaming company	32,999.0	2,900.0	11.4	26,510.3	2,226.6	11.9	25,916.7	2,207.3	11.7
Penn National Gaming Inc.	PENN	Riverboat casino & racing	6,397.3	821.4	7.8	6,334.4	812.5	7.8	5,731.2	689.8	8.3
Pinnacle Entertainment Inc.	PNK	Casino, racing & entertainment	5,108.0	615.2	8.3	N/A	599.3	N/A	N/A	N/A	N/A
Wynn Resorts Ltd	WYNN	Casino and gaming company	19,706.3	926.4	21.3	14,310.3	1,069.6	13.4	20,523.9	1,621.0	12.7
Ladbrokes Coral Group Plc	LCL.LN	Bookmaker & gaming business	£3,404.4	£205.0	16.6	£1,482.9	£213.5	6.9	1,398.2	203.4	6.9
OPAP SA	OPAP.GA	Sportsbetting & lottery	€ 2,824.7	€ 326.6	8.6	€ 2,467.0	€ 376.4	6.6	€ 2,609.0	€ 338.4	7.7
International Game Technology	IGT	Gaming Equipment and software	12,525.7	1,500.0	8.4	11,295.1	1,435.1	7.9	N/A	1,284.5	N/A
Intralot S.A.	INLOT.GA	On-line lottery hardware/software	€ 722.8	€ 194.8	3.7	€ 740.9	€ 197.5	3.8	€ 654.2	€ 175.4	3.7
Scientific Games Corp	SGMS	On-line lottery hardware/software	9,978.2	869.3	11.5	8,854.2	1,149.2	7.7	9,224.4	427.7	21.6
				Hi	21.3		Hi	13.4		Hi	21.6
			Weighted (EV) Average		13.5	Weighted (EV) Average		10.5	Weighted (EV) Average		12.2
				Low	3.7		Low	3.8		Low	3.7
			Standard Deviation		4.7	Standard Deviation		2.8	Standard Deviation		5.1

**EXHIBIT D – POTENTIAL SALE VALUE – FOREIGN LOTTERY SALES**

Announced Date	Acquirer	Target	Transaction Value	In USD	Target Geography	Target EBITDA 2016	Target EBITDA 2016 (USD)	Implied TV	Notes
7/12/2016 - announced	Berjaya Assets Bhd	Meqaqat Sdn Bhd	RM 108.0 million	\$ 27,041,800	Malaysia				currency exchange as of 7/12/16
2/8/2012 - completed	Codere SA	Impulsora de Centros de Entretenimiento SA	MX 2,653,000,000	\$ 209,414,000	Mexico				currency exchange as of 2/8/12
12/29/2011	SNAI Spa	Cogemat Spa	€ 140,000,000	\$ 182,489,000	Italy				currency exchange as of 12/29/11
3/25/2010 - announced	Ontario Teachers' Pension Plan	Camelet Group plc	£ 389,000,000,000	\$ 589,366,000	United Kingdom	£ 77,500,000,000	\$ 95,337,400	6.18	currency exchange as of 7/8/10 EBITDA exchange as of 12/31/16
3/2/2010 - announced	Tatts Group	NSW Lotteries	AS 845,736,000	\$ 774,796,000	Australia				currency exchange as on 4/7/10
8/17/2007 - completed	ReXLot Financial Holdings	Shenzhen Sinodata Technology Co Ltd	HK\$235,250,000	\$ 30,089,600	China				currency exchange as of 8/17/07
12/31/2007 - announced	ReXLot Financial Holdings	Shenzhen Sinodata Technology Co Ltd	HK\$600,000,000	\$ 76,887,100	China				currency exchange as of 6/30/08
June 2008 - completed	ReXLot Financial Holdings	St. Enodoc Holdings Limited	€ 41,890,000	\$ 65,379,800,000	Gibraltar				currency exchange rate as of 4/30/08 - confirmed in company's report
4/3/2008 - announced	GTECH Corporation (Subsidiary of Lottomatica Group)	Guangzhou Latach Technology Co Ltd	RMB 806,000,000	\$ 11,491,100	China				currency exchange rate as of 4/13/08
4/13/2008 - closed	ReXLot Financial Holdings	Guangzhou Latach Technology Co Ltd	RMB 806,000,000	\$ 11,491,100	China				currency exchange rate as of 12/19/07 - confirmed in Lottomatica's 2007 Annual Report
12/19/2007 - closed	GTECH Global Services (Subsidiary of Lottomatica Group)	THK / CLS - GTECH Company Ltd.	€ 13,900,000	\$ 20,016,700	China				
7/19/2007 - announced	Scientific Games Corp.	Guard Liang		\$ 27,000,000	China				
11/15/2007 - closed	ChinaLot Synergy Holdings Ltd.	Guangzhou San Huan Yong Xin Tech. Ltd Co. & Lotnal Holdings Ltd (together the CML Group)	HK\$224,000,000	\$ 28,827,500	China				
9/10/2007	International Game Technology, Inc.	ChinaLot Synergy Holdings Ltd.	HK\$777,700,000	\$ 99,431,100	China				
4/23/2007 - announced	AGTech Holdings	Shining China Inc.		\$ 103,000,000	China				currency exchange as of 9/10/07
5/14/2007 - closed	Scientific Games Corp.	Oberthur Gaming Technologies		\$ 28,827,500	China				currency exchange as of 5/1/07
5/1/2007 - closed	Scientific Games Corp.	Shining China Inc.		\$ 103,000,000	China				currency exchange rate as of 5/14/07
11/27/2006 - 12/22/2006	Scientific Games Corp.	Games Media Ltd		\$ 25,000,000	United Kingdom				EBITDA exchange as of 6/30/15
8/13/2006 - announced	Apax Partners Worldwide / Permira Advisers	SisalSpa/ Area Giochi Holding Spa	€ 900,000,000	\$ 1,128,340,000	Italy				currency exchange as of 10/18/06
10/18/2006 - closed	Lottomatica (now IGT)	GTECH	€ 3,262,631,000	\$ 4,172,020,000	Italy	Euro 40,800,000 (2015)	\$ 44,575,600	25.31	EBITDA exchange as of 12/31/2015
8/29/2006 - closed	ChinaLot Synergy Holdings Ltd.	Cortech International Ltd.	HK\$980,000,000	\$ 126,386,000	China				currency exchange as of 8/29/06
1/16/2006 - 6/30/2006	Scientific Games Corp.	Global Draw Ltd.		\$ 183,000,000	United Kingdom				currency exchange as of 1/16/06
1/23/2006 - 4/20/2006	Scientific Games Corp.	EssNet AB / Online Lottery Assets		\$ 59,870,000	Europe, Australia				TV:EBITDA found on bloomberg M&A info
1/20/2006 - 3/22/2006	Lottomatica (now IGT)	Toobit Informatica Software E Sistemi Spa	€ 39,000,000	\$ 48,952,800	Italy				currency exchange as of 12/31/03 not sure if deal actually happened??
8/1/2003	Scientific Games Corp.	MDI Entertainment		\$ 18,500,000	US				
2/26/2002	Lottomatica (now IGT)	Global Bingo Corporation, S.A.	€ 42,100,000	\$ 38,929,900	Spain				currency exchange as of 9/18/2001

**EXHIBIT E – POTENTIAL SALE VALUE – MUNICIPAL ASSETS (CONCESSION SALES)**

Date	Acquirer	Target	Transaction Value	Transaction Value (USD)	Target EBITDA 2016	Target EBITDA 2016 (USD)	Implied TV to:	Terms of Concessions
4/7/2017 - awarded	ENGIE / Axium	OSU Energy	\$ 1,165,000,000					50 years
11/13/2015 - announced	CPPIB / OMERS / OTPP	Chicago Skyway Concession Company LLC	\$ 2,900,000,000					88
3/11/2015 - announced 5/28/2015 - completed	IFM Global Infrastructure Fund	Indian Toll Road Concession Company LLC	\$ 5,725,000,000					66 years left, inherited 75 year contract from State of Indiana started in 2006
9/1/2013	Cintra, Meridiam, Dallas Police and Fire Pension System	North Tarrant Express Managed Lane Project	\$ 1,300,000,000					52
9/21/2012	QIC Global Infrastructure / Laz Parking	The Ohio State University Parking System Neptune Regional Transmission System	\$ 483,000,000	\$	\$	\$ 397,000,000	1.22	50
Feb-2012	CalPERS	LLC	\$ 225,500,000,000					
12/7/2011	ACS / TIAA-CREF	I-595 Express LLC	€ 1,296,000,000	\$	\$	1,734,630,000		33
10/8/2010 - closed	KKR / NPS of Korea	Colonial Pipeline Company	\$ 1,100,000,000					--
5/20/2010	California State Teachers' Retirement System	Brightsource Energy	\$ 25,000,000					--
2/6/2009 - closed	AIMCO	Puget Energy	\$ 7,400,000,000	\$	\$	1,255,300,000	5.90	5
Apr-2008	Ontario Teachers Pension Plan	Noble Environmental Power	\$ 200,000,000					
1/12/2007	Ontario Teachers Pension Plan	Four Container Terminals from Orient Overseas	\$ 2,350,000,000	\$	\$	(199,667,000)	-11.77	
8/5/2005	China Huaneng Group	InterGen	\$ 1,750,000,000					
Jul-04	Ontario Teachers Pension Plan	Northern Star Generation	\$ 265,000,000					

EXHIBIT F – “BETA” VALUES

Public Company	Ticker	Description	Country	Market Cap (US Bn)	Market Cap (Fgn. Bn)	Fgn. Cur.	Beta	Beta Compared	Weighted Beta
Boyd Gaming Corp.	BYD	Domestic gaming facilities	US	2.77			1.34	SPX	3.71
Caesars Acquisition Co.	CACQ	Equity investment in Caesars	US	2.40			1.83	SPX	4.39
Caesars Entertainment Corp.	CZR	Casino and gaming company	US	1.62			1.37	SPX	2.22
Las Vegas Sands	LVS	Casino and gaming company	US	45.32			1.08	SPX	48.95
MGM Resorts International	MGM	Casino and gaming company	US	17.47			1.19	SPX	20.79
Penn National Gaming	PENN	Riverboat casino & racing	US	1.70			1.06	SPX	1.80
Pinnacle Entertainment Inc.	PNK	Casino, racing & entertainment	US	1.18			--		
Wynn Resorts	WYNN	Casino and gaming company	US	12.30			1.40	SPX	17.22
Crown Resorts	CWN.AU	Casino and gaming company	Aus.	6.72	9.07	AUD	0.93	AS51	6.25
Star Entertainment Group	SGR.AU	Casino and gaming company	Aus.	3.21	4.34	AUD	0.78	AS51	2.51
Sands China Ltd.	1928.HK	Casino and gaming company	Macau	35.69	277.69	HKD	1.08	HSI	38.55
Galaxy Entertainment Group	27.HK	Casino and gaming company	Macau	21.97	170.89	HKD	1.28	HSI	28.12
SJM Holdings Ltd	880.HK	Amusement and recreation	Macau	5.11	39.77	HKD	1.05	HSI	5.37
Wynn Macau Ltd	1128.HK	Casino and gaming company	Macau	10.63	82.71	HKD	1.30	HSI	13.82
Ladbrokes Coral Group PLC	LCL.LN	Bookmaker & gaming business	UK	3.10	2.39	GBP	0.72	UKX	2.23
OPAP SA	OPAP.GA	Sportsbetting & lottery	Greece	3.20	2.94	EUR	0.83	FTASE	2.65
International Game Technology	IGT	Gaming Equipment and software	US	4.36	4.36		1.24	SPX	5.41
Intralot S.A.	INLOT.GA	On-line lottery hardware/software	Greece	0.21	0.19	EUR	0.57	FTASE	0.12
Scientific Games Corp.	SGMS	On-line lottery hardware/software	US	2.00	2.00		2.41	SPX	4.82
Weighted Avg. Beta									1.16

Source: Bloomberg

EXHIBIT G – RATE OF RETURN (RETURN ON ASSETS)

Public Company	Ticker	Description	Country	Market Cap (US Bn)	Market Cap (Fgn. Bn)	Fgn. Cur.	Return on Assets	Weighted ROA
Boyd Gaming Corp.	BYD	Domestic gaming facilities	US	2.77			9.3%	25.76%
Caesars Acquisition Co.	CACQ	Equity investment in Caesars	US	2.40			41.8%	100.32%
Caesars Entertainment Corp.	CZR	Casino and gaming company	US	1.62			-28.3%	-45.85%
Las Vegas Sands	LVS	Casino and gaming company	US	45.32			9.1%	412.41%
MGM Resorts International	MGM	Casino and gaming company	US	17.47			4.6%	80.36%
Penn National Gaming	PENN	Riverboat casino & racing	US	1.70			1.8%	3.06%
Pinnacle Entertainment Inc.	PNK	Casino, racing & entertainment	US	1.18			-11.0%	-12.98%
Wynn Resorts	WYNN	Casino and gaming company	US	12.30			2.4%	29.52%
Crown Resorts	CWN.AU	Casino and gaming company	Aus.	6.72	9.07	AUD	12.1%	81.29%
Star Entertainment Group	SGR.AU	Casino and gaming company	Aus.	3.21	4.34	AUD	5.9%	18.97%
Sands China Ltd.	1928.HK	Casino and gaming company	Macau	35.69	277.69	HKD	11.2%	399.76%
Galaxy Entertainment Group	27.HK	Casino and gaming company	Macau	21.97	170.89	HKD	10.3%	226.24%
SJM Holdings Ltd	880.HK	Amusement and recreation	Macau	5.11	39.77	HKD	6.2%	31.69%
Wynn Macau Ltd	1128.HK	Casino and gaming company	Macau	10.63	82.71	HKD	3.4%	36.15%
Ladbrokes Coral Group PLC	LCL.LN	Bookmaker & gaming business	UK	3.10	2.39	GBP	-9.0%	-27.94%
OPAP SA	OPAP.GA	Sportsbetting & lottery	Greece	3.20	2.94	EUR	9.8%	31.32%
International Game Technology	IGT	Gaming Equipment and software	US	4.36	4.36		1.4%	6.10%
Intralot S.A.	INLOT.GA	On-line lottery hardware/software	Greece	0.21	0.19	EUR	0.1%	0.02%
Scientific Games Corp.	SGMS	On-line lottery hardware/software	US	2.00	2.00		-4.9%	-9.80%
Weighted Return on Assets								7.66%
Less Risk Free Rate								-3.05%
Risk Premium								4.61%

Source: Bloomberg

