

**Analysis  
For  
Lotto Hold'em  
September 18, 2013**

**Prepared  
For  
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## **Analysis of Lotto Hold'em**

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### **Game Description:**

Lotto Hold'em is a gambling wager based on the game of Poker known as Texas Hold'em. In Texas Hold'em each Player receives 2 'hole' cards. There are also 5 community cards that the Player uses to make the best possible 5-card Poker hand. In order to win Lotto Hold'em, the Player must attain a hand of Three of a Kind or better.

Lotto Hold'em uses a novel approach to dealing, by having each Player select 2 numbers between 1 and 47, representing the Player's hole cards. The 47 cards correspond to the cards in the deck after 5 community cards have been dealt face down.

While the dealing method is relatively unique, it is mathematically equivalent to dealing Texas Hold'em in the traditional manner, with the Player receiving 2 hole cards and 5 community cards being dealt for any Player to use to form the best possible 5-card Poker Hand.

Several paytables have been developed for Lotto Hold'em. They are shown below:

Hand	LH-01 Pays*	LH-02 Pays*	LH-03 Pays*	LH-04 Pays*	LH-05 Pays*
Royal Flush	1000	2000	2000	1000	2000
Straight Flush	500	500	600	600	500
Four of a Kind	25	25	25	25	25
Full House	5	4	4	5	5
Flush	4	4	3	3	3
Straight	3	3	3	3	3
Three of a Kind	2	2	2	2	2
<b>Payback</b>	<b>69.9595%</b>	<b>70.5954%</b>	<b>70.3550%</b>	<b>69.5973%</b>	<b>70.1661%</b>
<b>House Advantage</b>	<b>30.0405%</b>	<b>29.4046%</b>	<b>29.6450%</b>	<b>30.4027%</b>	<b>29.8339%</b>
<b>Hit Frequency</b>	<b>15.2700%</b>	<b>15.2700%</b>	<b>15.2700%</b>	<b>15.2700%</b>	<b>15.2700%</b>

\* Payouts are FOR 1

### Analysis Methodology:

A computer program was created which tabulated the rank of hands for a 7-card deal from a standard 52-card deck. The distribution for Lotto Hold'em is the same as the distribution for any 7-card deal from a standard 52-card deck.

### Results:

The results of the program are shown in the table below:

Player Hand Distribution		
Hand	Occurrences	Win Frequency
Royal Flush	4,324	0.0032%
Straight Flush	37,260	0.0279%
Four of a Kind	224,848	0.1681%
Full House	3,473,184	2.5961%
Flush	4,047,644	3.0255%
Straight	6,180,020	4.6194%
Three of a Kind	6,461,620	4.8299%
Other	113,355,660	84.7300%
<b>Total</b>	<b>133,784,560</b>	<b>100.0000%</b>

To calculate the payback of Lotto Hold'em, the payout of each winning hand is multiplied by the frequency of that hand and the values are summed. This calculation is shown for each payable in the tables below:

Paytable LH-01 Payback Calculation			
Hand	Win Frequency	Payout*	Contribution
Royal Flush	0.0032%	1000	3.2321%
Straight Flush	0.0279%	500	13.9254%
Four of a Kind	0.1681%	25	4.2017%
Full House	2.5961%	5	12.9805%
Flush	3.0255%	4	12.1020%
Straight	4.6194%	3	13.8582%
Three of a Kind	4.8299%	2	9.6597%
<b>Payback</b>			<b>69.9595%</b>
<b>House Advantage</b>			<b>30.0405%</b>

\* Original wager is NOT returned. Pays are FOR 1

Paytable LH-02 Payback Calculation			
Hand	Win Frequency	Payout*	Contribution
Royal Flush	0.0032%	2000	6.4641%
Straight Flush	0.0279%	500	13.9254%
Four of a Kind	0.1681%	25	4.2017%
Full House	2.5961%	4	10.3844%
Flush	3.0255%	4	12.1020%
Straight	4.6194%	3	13.8582%
Three of a Kind	4.8299%	2	9.6597%
<b>Payback</b>			<b>70.5954%</b>
<b>House Advantage</b>			<b>29.4046%</b>

\* Original wager is NOT returned. Pays are FOR 1

Paytable LH-03 Payback Calculation			
Hand	Win Frequency	Payout*	Contribution
Royal Flush	0.0032%	2000	6.4641%
Straight Flush	0.0279%	600	16.7105%
Four of a Kind	0.1681%	25	4.2017%
Full House	2.5961%	4	10.3844%
Flush	3.0255%	3	9.0765%
Straight	4.6194%	3	13.8582%
Three of a Kind	4.8299%	2	9.6597%
<b>Payback</b>			<b>70.3550%</b>
<b>House Advantage</b>			<b>29.6450%</b>

\* Original wager is NOT returned. Pays are FOR 1

Paytable LH-04 Payback Calculation			
Hand	Win Frequency	Payout*	Contribution
Royal Flush	0.0032%	1000	3.2321%
Straight Flush	0.0279%	600	16.7105%
Four of a Kind	0.1681%	25	4.2017%
Full House	2.5961%	5	12.9805%
Flush	3.0255%	3	9.0765%
Straight	4.6194%	3	13.8582%
Three of a Kind	4.8299%	2	9.6597%
<b>Payback</b>			<b>70.3550%</b>
<b>House Advantage</b>			<b>29.6450%</b>

\* Original wager is NOT returned. Pays are FOR 1

Paytable LH-05 Payback Calculation			
Hand	Win Frequency	Payout*	Contribution
Royal Flush	0.0032%	2000	6.4641%
Straight Flush	0.0279%	500	13.2954%
Four of a Kind	0.1681%	25	4.2017%
Full House	2.5961%	5	12.9805%
Flush	3.0255%	3	9.0765%
Straight	4.6194%	3	13.8582%
Three of a Kind	4.8299%	2	9.6597%
<b>Payback</b>			<b>70.1661%</b>
<b>House Advantage</b>			<b>29.8339%</b>

\* Original wager is NOT returned. Pays are FOR 1

The win frequency (including ties) for paytables of Two Pair or better is 15.2700%

Lotto Hold'em  
Appendix A  
Optional Progressive Jackpot Wager

Lotto Hold'em offers an optional Progressive Jackpot. Several paytables have been developed, using a variety of top hands. These are shown in the tables below:

Hand	LHP-01 Pays*	LHP-02 Pays*	LHP-03 Pays*	LHP-04 Pays*
7-Card Royal	100% Progressive	100% Progressive	100% Progressive	100% Progressive
6-Card Royal	15,000	10,000	10% Progressive	10% Progressive
5-Card Royal	1,000	1,000	1,000	1,000
Straight Flush	600	600	600	600
Four of a Kind	25	25	25	25
Full House	5	5	5	5
Flush	3	3	3	3
Contribution Rate	22%	22%	23%	23%
Seed	\$250,000	\$250,000	\$250,000	\$100,000
Payback	70.8293%	70.1566%	69.8111%	69.3626%
House Advantage	29.1707%	29.8434%	30.1889%	30.6374%
Hit Frequency	5.8207%	5.8207%	5.8207%	5.8207%
Avg. 100% Jackpot	\$7,608,151	\$7,608,151	\$1,444,111	\$1,416,839
Avg. 10% Jackpot	NA	NA	\$144,411	\$141,684

\* Original wager is NOT returned. All payouts are X FOR 1.

Hand	LHP-05 Pays*
7-Card Royal	100% Progressive
7-Card Straight Flush	10% Progressive
5-Card Royal	1,000
Straight Flush	600
Four of a Kind	25
Full House	5
Flush	3
Contribution Rate	23%
Seed	\$250,000
Payback	69.9247%
House Advantage	30.0753%
Hit Frequency	5.8207%
Avg. 100% Jackpot	\$4,672,125
Avg. 10% Jackpot	\$467,212

Hand	LHP-06 Pays*
7-Card Straight Flush	100% Progressive
5-Card Royal	1,000
Straight Flush	600
Four of a Kind	25
Full House	5
Flush	3
Contribution Rate	23%
Seed	\$100,000
Payback	70.5692%
House Advantage	29.4308%
Hit Frequency	5.8207%
Avg. 100% Jackpot	\$1,019,769

\* Original wager is NOT returned. All payouts are X FOR 1.