

**Analysis
For
HOLD'EM MILLION\$
September 18, 2013**

**Prepared
For
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Analysis of HOLD'EM MILLION\$

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Game Description:

HOLD'EM MILLION\$ is a gambling wager based on the game of Poker known as Texas Hold'em. In order to win, the Player must BOTH attain a hand of Three of a Kind (or Two Pair depending on the payable in use) AND beat the Dealer's hand.

HOLD'EM MILLION\$ uses a novel approach to dealing, by having each Player select 2 numbers between 1 and 45, representing the Player's pocket cards. The 45 cards correspond to the cards in the deck after 7 cards have been dealt face down. These 7 cards represent the Dealer's pocket cards and the 5 community cards.

While this approach is relatively unique, mathematically, it is identical to dealing cards from a random deck, so that both Player and Dealer receive 2 pocket cards each and 5 community cards are dealt for both Player and Dealer to use. As such, the distribution of Poker hands is the same as any other random 7-card deal from a standard 52-card deck of cards where 5 of the cards are community cards.

Several paytables have been developed for HOLD'EM MILLION\$. They are shown below:

Hand	HM-01 Pays*	HM-02 Pays*	HM-03 Pays*	HM-04 Pays*
Royal Flush	1000	1000	1000	2000
Straight Flush	500	400	500	500
Four of a Kind	20	20	20	20
Full House	5	5	4	5
Flush	4	4	4	4
Straight	2	2	2	2
Three of a Kind	2	2	2	2
Two Pair	1	1	1	1
Payback	72.5144%	69.8955%	70.2588%	73.2448%
House Advantage	27.4856%	30.1045%	29.7412%	26.7552%

* Payouts are FOR 1

Hand	HM-05 Pays*	HM-06 Pays*	HM-07 Pays*	HM-08 Pays*	HM-09 Pays*	HM-10 Pays*
Royal Flush	2000	2000	1000	1000	2000	2000
Straight Flush	500	600	500	600	600	500
Four of a Kind	20	20	20	20	40	50
Full House	6	6	7	7	5	5
Flush	5	5	6	6	4	4
Straight	3	3	3	3	3	3
Three of a Kind	2	2	2	2	2	2
Payback	67.7088%	70.3277%	69.5494%	69.5973%	68.5427%	67.4446%
House Advantage	32.2912%	29.6723%	30.4506%	30.4027%	31.4573%	32.5554%

* Payouts are FOR 1

Analysis Methodology:

A computer program was created which simulated the results of HOLD'EM MILLIONS\$ by dealing a 2-card pocket hand to the Player, a 2-card pocket hand to the Dealer and 5 community cards. The program tabulated the rank of the Player's hand and the frequency the Player won or tied with that hand.

Results:

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

Player Hand Distribution				
Hand	Player Wins	Win Frequency	Ties	Tie Frequency
Royal Flush	2,986	0.002986%	183	0.000183%
Straight Flush	26,189	0.026189%	1,302	0.001302%
Four of a Kind	152,080	0.152080%	7,111	0.007111%
Full House	2,255,538	2.255538%	186,184	0.186184%
Flush	2,571,049	2.571049%	105,512	0.105512%
Straight	3,706,574	3.706574%	597,246	0.597246%
Three of a Kind	3,513,446	3.513446%	168,111	0.168111%
Two Pair	15,099,405	15.099405%	1,225,282	1.225282%
Pair or Less	20,610,788	20.610788%	1,817,479	1.817479%
Total				100.000000%

To calculate the payback of HOLD'EM MILLION\$, 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 HM-01 Payback Calculation			
Hand	Win Frequency	Payout*	Contribution
Royal Flush	0.002986%	1000	2.9860%
Straight Flush	0.026189%	500	13.0945%
Four of a Kind	0.152080%	20	3.0416%
Full House	2.255538%	5	11.2777%
Flush	2.571049%	4	10.2842%
Straight	3.706574%	2	7.4131%
Three of a Kind	3.513446%	2	7.0269%
Two Pair	15.099405%	1	15.0994%
Ties (Two Pair+)	2.290931%	1	2.2909%
Payback			72.5144%
House Advantage			27.4856%

* Original wager is NOT returned. Pays are FOR 1

Paytable HM-02 Payback Calculation			
Hand	Win Frequency	Payout*	Contribution
Royal Flush	0.002986%	1000	2.9860%
Straight Flush	0.026189%	400	10.4756%
Four of a Kind	0.152080%	20	3.0416%
Full House	2.255538%	5	11.2777%
Flush	2.571049%	4	10.2842%
Straight	3.706574%	2	7.4131%
Three of a Kind	3.513446%	2	7.0269%
Two Pair	15.099405%	1	15.0994%
Ties (Two Pair+)	2.290931%	1	2.2909%
Payback			69.8955%
House Advantage			30.1045%

* Original wager is NOT returned. Pays are FOR 1

Paytable HM-03 Payback Calculation			
Hand	Win Frequency	Payout*	Contribution
Royal Flush	0.002986%	1000	2.9860%
Straight Flush	0.026189%	500	13.0945%
Four of a Kind	0.152080%	20	3.0416%
Full House	2.255538%	4	9.0222%
Flush	2.571049%	4	10.2842%
Straight	3.706574%	2	7.4131%
Three of a Kind	3.513446%	2	7.0269%
Two Pair	15.099405%	1	15.0994%
Ties (Two Pair+)	2.290931%	1	2.2909%
Payback			70.2588%
House Advantage			29.7412%

* Original wager is NOT returned. Pays are FOR 1

Paytable HM-04 Payback Calculation			
Hand	Win Frequency	Payout*	Contribution
Royal Flush	0.002986%	1000	5.9720%
Straight Flush	0.026189%	500	13.0945%
Four of a Kind	0.152080%	20	3.0416%
Full House	2.255538%	4	9.0222%
Flush	2.571049%	4	10.2842%
Straight	3.706574%	2	7.4131%
Three of a Kind	3.513446%	2	7.0269%
Two Pair	15.099405%	1	15.0994%
Ties (Two Pair+)	2.290931%	1	2.2909%
Payback			73.2448%
House Advantage			26.7552%

* Original wager is NOT returned. Pays are FOR 1

The win frequency (including ties) for paytables of Two Pair or better is 29.6182%

Paytable HM-05 Payback Calculation			
Hand	Win Frequency	Payout*	Contribution
Royal Flush	0.002986%	2000	5.9720%
Straight Flush	0.026189%	500	13.0945%
Four of a Kind	0.152080%	20	3.0416%
Full House	2.255538%	6	13.5332%
Flush	2.571049%	5	12.8552%
Straight	3.706574%	3	11.1197%
Three of a Kind	3.513446%	2	7.0269%
Ties (Trips +)	1.065649%	1	1.0656%
Payback			67.7088%
House Advantage			32.2912%

* Original wager is NOT returned. Pays are FOR 1

Paytable HM-06 Payback Calculation			
Hand	Win Frequency	Payout*	Contribution
Royal Flush	0.002986%	2000	5.9720%
Straight Flush	0.026189%	600	15.7134%
Four of a Kind	0.152080%	20	3.0416%
Full House	2.255538%	6	13.5332%
Flush	2.571049%	5	12.8552%
Straight	3.706574%	3	11.1197%
Three of a Kind	3.513446%	2	7.0269%
Ties (Trips +)	1.065649%	1	1.0656%
Payback			70.3277%
House Advantage			29.6723%

* Original wager is NOT returned. Pays are FOR 1

Paytable HM-07 Payback Calculation			
Hand	Win Frequency	Payout*	Contribution
Royal Flush	0.002986%	1000	2.9860%
Straight Flush	0.026189%	500	13.0945%
Four of a Kind	0.152080%	20	3.0416%
Full House	2.255538%	7	15.7888%
Flush	2.571049%	6	15.4263%
Straight	3.706574%	3	11.1197%
Three of a Kind	3.513446%	2	7.0269%
Ties (Trips +)	1.065649%	1	1.0656%
Payback			69.5494%
House Advantage			30.4506%

* Original wager is NOT returned. Pays are FOR 1

Paytable HM-08 Payback Calculation			
Hand	Win Frequency	Payout*	Contribution
Royal Flush	0.002986%	1000	2.9860%
Straight Flush	0.026189%	600	15.7134%
Four of a Kind	0.152080%	20	3.0416%
Full House	2.255538%	7	15.7888%
Flush	2.571049%	5	12.8552%
Straight	3.706574%	3	11.1197%
Three of a Kind	3.513446%	2	7.0269%
Ties (Trips +)	1.065649%	1	1.0656%
Payback			69.5973%
House Advantage			30.4027%

* Original wager is NOT returned. Pays are FOR 1

Paytable HM-09 Payback Calculation			
Hand	Win Frequency	Payout*	Contribution
Royal Flush	0.002986%	2000	5.9720%
Straight Flush	0.026189%	600	15.7134%
Four of a Kind	0.152080%	40	6.0832%
Full House	2.255538%	5	11.2777%
Flush	2.571049%	4	10.2842%
Straight	3.706574%	3	11.1197%
Three of a Kind	3.513446%	2	7.0269%
Ties (Trips +)	1.065649%	1	1.0656%
Payback			68.5427%
House Advantage			31.4573%

* Original wager is NOT returned. Pays are FOR 1

Paytable HM-10 Payback Calculation			
Hand	Win Frequency	Payout*	Contribution
Royal Flush	0.002986%	2000	5.9720%
Straight Flush	0.026189%	500	13.0945%
Four of a Kind	0.152080%	50	7.6040%
Full House	2.255538%	5	11.2777%
Flush	2.571049%	4	10.2842%
Straight	3.706574%	3	11.1197%
Three of a Kind	3.513446%	2	7.0269%
Ties (Trips +)	1.065649%	1	1.0656%
Payback			67.4446%
House Advantage			32.5554%

* Original wager is NOT returned. Pays are FOR 1

The win frequency (including ties) for paytables of Three of a Kind or better is 13.2935%