

(WILD) DEALER PUSH SIDE BET

MATHEMATICAL ANALYSIS PREPARED FOR LUBIN-JONES, LLC.

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An analysis of the mathematics and statistics inherent to a proposed new casino side bet.

(WILD) DEALER PUSH SIDE BET MATHEMATICAL ANALYSIS

Prepared by Charles Mousseau, B.Sc. on 7 April, 2009.

Introduction and general procedure:

1. The "Dealer Push Wager" is a side bet for use with the "Queen High Push, Full Wild" version of the EZ Pai Gow game.
2. Before the cards are dealt, each player will have the opportunity to place the Dealer Push Wager.
3. Play proceeds as normal during the hand, and the Dealer Push Wager is resolved after the dealer reveals his hand:
 - a. If the dealer pushes all bets by virtue of getting a Queen-high pai gow, the player's Dealer Push Wager will win at a rate of 45:1
 - b. Otherwise, the player's Dealer Push Wager will lose.

Methodologies:

1. A computer program was written in C# to iterate through each possible seven-card hand that could be dealt to the dealer from a standard 53-card pai gow deck.
2. Each hand was evaluated to determine whether the hand would make a qualifying pai gow, and that iteration logged by a counter to ultimately determine the probability of all possible outcomes.
3. The probability of each outcome was multiplied by its value to determine the house advantage for the wager.
4. A full breakdown of these results is included in the Appendix.

Results:

1. The house will win, on average, an amount equal to 18.84% of the amount wagered on the Dealer Push Wager.

Report completed on 22 February 2009 by Charles Mousseau, B.Sc.

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Results are deemed reliable.

DEALER PUSH SIDE BET: APPENDIX OF TABLES

Table #1: Full breakdown of probabilities.

Hand	Combinations	P(Hand)	Payout	Value
Non-Pai Gow	130,848,620	0.848878	-1	-0.84888
A High Pai Gow	12,944,820	0.083979	-1	-0.08398
K High Pai Gow	6,386,940	0.041435	-1	-0.04144
Q High Pai Gow	2,719,500	0.017643	45	0.793921
J High Pai Gow	963,480	0.006251	-1	-0.00625
T High Pai Gow	248,640	0.001613	-1	-0.00161
9 High Pai Gow	31,080	0.000202	-1	-0.0002
Total:	154,143,080	1		-18.84%