# **Poker and Finance**

### Poker Theory and Analytics Aaron Brown AQR Capital Management

Civil War officers playing cards. Image is in the public domain. Source: Library of Congress http://www.loc.gov/pictures/collection/civwar/item/cwp200300012612/PP/.



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AL FLUSH id contains five cards in sequence, all of e suit.	A ♥	K ♥	Q	J ♥	<b>10</b> ♥	
IGHT FLUSH Id contains five cards in sequence, all of e suit.	8	7	6 •	5	4	
A KIND Id contains all four cards of one rank and r unmatched card.	<b>5</b>	5 ♠	5	5	3 ♥	
HOUSE Ind contains three matching cards of one It two matching cards of another rank	<b>K</b> ♥	K ♦	K ∳	5 •	5	
H d contains all five cards are of the same not in sequence.	K ♠	J ♠	9 •	7 •	3 ♠	
JGHT Id contains five cards of sequential rank in wo different suits	Q	J ♦	10 •	9 •	8	
A KIND d contains three cards of the same rank, with s not of this rank nor the same as each other.	Q	Q	Q	5 ♠	9 ♠	
${f R}$ d contains two cards of the same rank, plus s of another rank.	K ♥	K ♠	J ♠	J ♦	9 ♦	
<b>R</b> d contains two cards of one rank, plus three nich are not of this rank nor the same.	A	A ♦	9 ♥	6 •	4	
H CARD any five cards not meeting any of the above nents.	A ♦	7	5	3 ♦	2 ✿	

13 20 45 30 30 30		
	High card	Low card
А	502,860	
К	335,580	
Q	213,180	
J	127,500	
10	70,380	
9	34,680	4,080
8	14,280	14,280
7	4,080	34,680
6		70,380
5		127,500
4		213,180
3		335,580
2		502,860
Total	1,302,540	1,302,540
Contract of the second second	and the second states where the second states is the second states and the second states and the second states is the second states and the second states	The second s

[T]he ante turns Poker into a lottery, with the addition of a condition which the lottery system lacks, namely that all players *must* buy tickets.

> John Blackbridge *The Complete Poker Player* (1875)

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[T]he scientific players brought their troubles on themselves by driving their less cautious opponents [to antes and limits]. Most people like to play, whether they hold court cards or not; and sitting out hand after hand, waiting for court cards, is not amusing, even if it has a percentage of two-elevenths in its favor financially. . . . The conservative players of the old days, who never came in on anything less than court cards, were continually throwing up their hands without putting up a chip, and the liberal players had no one to bet against."

R. F. Foster (Practical Poker, 1904)

# The guy who invented poker was bright, but the guy who invented the chip was a genius.

## **Big Julie Weintraub**

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Image of Chicago Board of Trade in session is in the public domain. Source: Library of Congress. http://www.loc.gov/pictures/item/20076631260/.

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### Which are poker games?

## • Buffalo

Chicago

Cincinnati

## • Omaha



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15.S50 Poker Theory and Analytics January IAP 2015

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