

# SAILING SHIPS, STEAMBOATS, HORSE CARRIAGES AND BACCARAT

By Steve Karoul



What in the world do sailing ships, steamboats and horse carriages have in common? Nothing, other than the fact that they have all succumbed to new innovations and inventions. What about the Polaroid camera or, for that matter, film cameras? Again, replaced by innovation. Casino gaming has gone through an evolutionary development and has experienced its fair share of innovation, too. Just look at the relatively recent developments and success of slot machine gaming. Slots now outperform table game revenues in most markets around the world, except Asia. And even this could possibly change as the innovation process continues with machines and programs designed to attract Asian players. For now, however, good ol' fashioned table games—Baccarat, in particular—are still preferred in Asia.

Baccarat is the only table game of the traditional big four (Roulette, Craps, Blackjack and Baccarat) that does not have a built-in mechanism to produce a house advantage. It is unique in its reliance upon an external device, i.e. the collection of commission. Baccarat, especially in Asia, is the only traditional game that has forfeited the rhythm of the game (hands per hour) to the players. The thought of a customer holding a pair of dice while thinking what to bet next (or what to have for dinner) sends shivers down the spines of seasoned casino managers who have the phrase "Move the dice!" forever imprinted in their minds. Time is money and the number of hands per hour represents money to most casino operators. Yet, this is exactly what happens in Baccarat pits today. Consequently, Baccarat usually suffers from a weak overall hold. In some casinos the Baccarat hands per hour is down to 35—or lower—when Baccarat (Mini-Bac) used to clock more than 100 hands per hour. As a result of today's "squeeze" games, where players slowly squeeze open the hands, the speed—and subsequently the turnover—of the game have decreased dramatically.

In effort to compensate this low Baccarat hold percentage, operators have developed and incorporated high percentage "proposition" bets into the game. The unintended consequence of these offerings, unfortunately, is that they cause the game to slow



Players at Barona Valley Ranch Resort & Casino enjoy a hand of EZ Baccarat. EZ Baccarat isn't a new game; rather, it's a new operating system for the game. With a single rule change, EZ Baccarat increases hands per hour and eliminates the need to collect commission. (Photo courtesy of Barona Valley Ranch Resort & Casino.)

down even more, as players are faced with more options. Plus, the great majority of players are too educated to actually bet expensive "prop" bets in Baccarat on a consistent basis. (How many Craps players would bet "boxcars" on a regular basis?) Consequently, the big money for the casino lays with the low odds Banker/Player bets—period.

Upon breaking down the different components of Baccarat under actual operating conditions, one will find that commissions take up to 60 percent of the total process time. That's right, 60 percent of the time the dealer is calculating, taking, mistaking, fighting, apologizing and defending the house's unwieldy commission. (By the way, the customer is going through the same process on the other side of the table.) This is not a happy ratio for either casino management or customers.

So, how does one resolve such a bugaboo? Casino innovation. A relatively new version of Baccarat, known as EZ Baccarat, is an innovative new product that plays without the commission dilemma. This is not a new game but rather a new operating system for Baccarat. If Baccarat were running MS-DOS, EZ Baccarat would be the upgrade to Microsoft Windows. It is that innovative. This is one of the best solutions to the commission problem that Baccarat has faced for the past 100 years, ever since customers began bankrolling

Baccarat and casinos were forced to take their 5 percent commission from the pot. EZ Baccarat now puts the game on par with other table games that do not stop winners every time to ask them to fork over their cut.

The last traditional table game was superseded by an innovation that proved to be unstoppable was French Roulette (the game with tuxedos, three dealers, one or two supervisors, the same color chips, etc.), which was overcome by a brash newcomer called American Roulette. Every one of the arguments brandied about in defense of Baccarat versus EZ Baccarat have already been heard in the defense of French Roulette: *The players love it! It's tradition! They'll never change to a new style of Roulette! Well, maybe the little players will, but the VIPs will never abandon French Roulette!* You remember French Roulette—or do you?

Along the same lines, long-suffering table game managers who can fall asleep waiting for the next hand of Baccarat to be played have a new option available in EZ Baccarat. With a single rule (borrowed from Craps, where the 12 is barred on the "Don't Come/Don't Pass" bet), EZ Baccarat manages to effectively, practically and simply avoid collecting commission. Here is the trick: When the bank wins with a seven made of three cards, it is a "push" on the bank. That's it. As long as those three must-have conditions are met,

**Expected Outcomes for the Bank Bet under Barred Totals**

Barred Bank Total	% Win	E (Bank Bet)	House %	Equivalent Commission	Odds
3 card total = 7	0.022534	-0.010183	1.02%	4.91%	43.4
Barred Totals	Probability*	Equivalent Commission	True Odds	Insurance Payoff	Edge
3 card BT = 7	0.0225	4.91%	43.40%	40	7.61%

\*Total and Win

then you have what is known as a “Dragon 7” (more on this later). This little piece of casino innovation changes everything that needs to be changed—namely, no more collecting commission on winning bank bets. Everything related to commission collection magically disappears, from calculating the amounts and collecting to customers complaints and calls to security. And with all of this gone, the qualitative indicators of the game become superb. The dealers are less stressed, supervisors have time to take care of the customer’s needs without risking the integrity of the game, and satisfied customers stay and play longer at the table.

Of course, qualitative advantages for customers are often quickly dismissed by frustrated casino managers or supervisors; however, if each customer stayed at the table just for an additional 30 minutes of play time, the results will show in the revenue increase or hold percentage of the game. Remember, time is money and EZ Baccarat can result in more hands per hour as well as increased seat time. Because it enhances revenue from existing customers, it does not change the drawing rules of the game, yet can deliver 40 to 60 percent more revenue per game.

The developers of EZ Baccarat also point out some of the other benefits for the customers. First, the equivalent commission percentage in EZ Baccarat is 4.94 percent versus the traditional 5 percent. Although this is a small difference, it is still advantageous to the customer. Correspondingly, the overall house odds go from 1.058 percent to 1.018 percent, which is also in favor of the customer, albeit only slightly. Customers can make an insurance bet on the Dragon 7, which pays 40-to-1 when the three-card winning Bank hand occurs.

**Mathematical Methodology**

Here is a closer look at the mathematical methodology that allows EZ Baccarat to replace Baccarat commission with a barred hand.

**Current Baccarat Rules for Commission**

Under current Baccarat rules, which include the 5 percent commission on all bank wins, the expected outcome for a bank wager (E) is:

$$E = 0.4585974(0.95) + 0.4462466(-1) + 0.0951560(0) = -0.0105791$$

This is roughly -1.06 percent. Similar calculations for the player and tie wagers yield expectations of -1.24 percent and -14.36 percent, respectively.

**Proposed Replacement of Commission**

If the 5 percent commission is eliminated and the bank is instead barred from winning on a bank total of X, the expected outcome for the bank wager (E, where the bank is barred from winning on a total of X) becomes:

$$E = (0.4585974 - p)(1) + 0.4462466(-1) + (0.0951560 + p)(0)$$

X represents the barred Bank total and p the contribution to the overall bank winning percentage for X (i.e., p = Prob. {Bank total = X and Bank wins}).

Barring the winning three-card totals of seven, this is about 1.018 percent. This means a house edge of 4.914 percent, which is equivalent to the 5 percent commission.



The EZ Baccarat table layout. Otherwise identical to traditional Baccarat, EZ Baccarat creates a house advantage by pushing the bank when the bank wins with a seven made of three cards.

The odds stated in connection with the above specific barred situation represent the odds of the bank obtaining the given total and this total exceeding that of the player. For example, on any given hand, the odds against the bank obtaining a three-card total of seven and winning (under current unrevised rules) are 43.4-to-1.

Casino innovation for table games is fairly rare today, but EZ Baccarat appears well-poised to make regular ol’ Baccarat go the way of sailing ships, steamboats and horse carriages. It is already off to a great start, beginning to appear in casinos in Las Vegas, Macau and Indian Country. Initial response from players appears to be very positive—players now tend to track the shoe to forecast Dragon 7 hands, which adds additional excitement to the game whenever anyone wins the new 40:1 bet.



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