**Fast Blackjack** (working title) is a Blackjack variation designed to be simpler to learn and faster to deal than other Blackjack variations. Fast Blackjack resembles Crown Blackjack except that patrons may not Double or Split in Fast Blackjack.

**Summary**

* As it stands, Fast Blackjack has a theoretical edge of 2.23% assuming perfect strategy. For comparison, the house edge on Crown Blackjack and Blackjack Plus are 0.73% and 3.31% (relative to the initial wager on 6 deck games with continuous shufflers).
* Efficiencies in the dealing cycle as a result of removing the opportunity to double and split, and automatically drawing to players hands for hard totals of less than 12 are estimated to result in a hand rate improvement of between 15% and 26%.
* Theoretical WpPH is estimated to be approximately 15% less than WpPH on Blackjack Plus for a player with equivalent average bet, playing optimal strategy on both.
* Fast Blackjack is probably best suited as an intermediary product between Blackjack Plus and Crown Blackjack. However, it can be augmented to make a more suitable offering at lower price points.

**Current Blackjack Performance**

The table below shows the breakdown of Mainstream Blackjack revenue based on the performance in the 13 weeks ending 10-12-2017.

* Mainstream Blackjack accounts for $1.06m revenue per week.
* Blackjack Plus generates 65% ($688k) of this weekly result, with Central generating more than 50% of Blackjack Plus revenue.
* 44% of Blackjack Plus revenue (29% of total Mainstream Blackjack revenue) is generated at the $15 price point ($304k).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **CENTRAL** | **LEVEL 1** | **POKER** | **WEST** | **EAST** | **TOTAL** |
|  |  |  |  |  |  |  |
| **Average Weekly** | **$678,962** | **$140,930** | **$118,683** | **$103,831** | **$17,573** | **$1,059,978** |
| *% of Mainstream* | *64%* | *13%* | *11%* | *10%* | *2%* | *100%* |
|  |  |  |  |  |  |  |
| **Blackjack Plus** | **$346,906** | **$131,286** | **$111,197** | **$92,073** | **$6,390** | **$687,853** |
| *% of Area* | *51%* | *93%* | *94%* | *89%* | *36%* | *65%* |
| $20 | $136,974 | $0 | $0 | $23,300 | $0 | $160,273 |
| $15 | $209,932 | $25,713 | $0 | $68,774 | $6,390 | $304,419 |
| $10 | $0 | $105,573 | $59,245 | $0 | $0 | $164,818 |
| $5 | $0 | $0 | $51,952 | $0 | $0 | $58,342 |
|  |  |  |  |  |  |  |
| **Crown Blackjack** | **$332,055** | **$9,644** | **$7,486** | **$11,758** | **$11,183** | **$372,125** |
| *% of Area* | *49%* | *7%* | *6%* | *11%* | *64%* | *35%* |
| $100 | $98,671 | $0 | $0 | $0 | $0 | $98,671 |
| $50 | $169,077 | $0 | $0 | $11,758 | $11,183 | $192,017 |
| $25 | $64,308 | $9,644 | $7,486 | $0 | $0 | $81,438 |

**House Edge**

Based on 1,000,000 simulations of a 6 deck game dealt from a continuous shuffler, the house edge on Fast Blackjack is 2.23% assuming perfect strategy. The table below shows this in comparison to other Blackjack variations approved at Crown Melbourne.

|  |  |  |  |
| --- | --- | --- | --- |
| **Variation** | **House Edge** | **Difference from Fast BJ** | **% Difference from Fast BJ** |
|  |  |  |  |
| **Fast Blackjack** | **2.23%** |  |  |
|  |  |  |  |
| Traditional BJ | 0.53% | -1.70% | -76% |
| Crown BJ | 0.73% | -1.50% | -67% |
| BJ Plus | 3.31% | 1.08% | 48% |

Note that Crown Blackjack has a house edge that is approximately one third the size of Fast Blackjack whilst Fast Blackjack is approximately two thirds the size of Blackjack Plus house edge.

**Actual Edge vs. Theoretical Edge**

Actual edge on BJ variants is usually higher than theoretical edge as most players are not aware of/do not play basic strategy. The most detrimental deviations from strategy occur when players double or split when they should not.

As such, the difference between actual edge of Fast Blackjack and Blackjack Plus is likely to be greater than the difference between the theoretical values.

**Additional Rule changes – Impact on Edge**

The table below estimates the impact of some other optional rule changes on the house edge of Fast Blackjack (based on 100,000 simulations). Whilst these may be used to engineer a house edge that is suitable for the business they will result in a product that is further removed from traditional Blackjack.

Whilst 6 Card Charlie is theoretically of benefit to the player, this rule has been included as it may promote poor decision making (as players may elect to “chase”).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Rule Change** | | **Edge Impact** | | **House Edge** | |
|  |  | |  | |  |
| Half pay on winning total of 13 | | 0.60% | | 2.83% | |
| Half pay on winning total of 16 | | 1.31% | | 3.54% | |
| 6 to 5 on Blackjack | | 1.37% | | 3.60% | |
| 6 Card Charlie | | -0.50% | | 1.73% | |

**Efficiency and Hand Rates**

One of the benefits of removing the opportunity to split or double in Fast Blackjack is the potential upside in hand rates.

This could be further improved by drawing cards to hard hands totalling less than 12 without prompting from the player. For a player utilising perfect strategy, 32.7% of cards taken are on hard hands totalling less than 12.

We estimate that these two initiatives could combine to improve hand rates by 15% – 26%.

**Side Wagers**

In keeping with the simplicity of Fast Blackjack, the “Any Pair” side wager would be a suitable side wager offering in lieu of Perfect Pairs. Any Pair pays a flat rate on all pair outcomes as opposed to the tiered structure offered on Perfect Pairs. In addition, Any Pair is not a licensed product resulting in a modest saving on licensing fees.

|  |  |  |
| --- | --- | --- |
|  | **Any Pairs** | **Perfect Pairs** |
|  |  |  |
| **House Edge** | 11.25% | 4.18% |
|  |  |  |
| **Payouts** | 11 to 1 | 25 to 1 |
| 13 to 1 |
| 6 to 1 |

**Revenue Projections**

The table below estimates the theoretical revenue per active patron hour for a $15 patron on Blackjack Plus and Fast Blackjack. WpPH of $42 on Fast Blackjack is 15% less than WpPH on Blackjack Plus.

As discussed above, actual edge is higher on Blackjack Plus and will likely be higher on Fast Blackjack as well. It is difficult to predict the actual edge for Fast Blackjack for comparison with Blackjack Plus.

|  |  |  |
| --- | --- | --- |
|  | **BJ Plus** | **Fast BJ** |
|  |  |  |
| Average Bet | $15 | $15 |
| PpOH | 1.0 | 1.0 |
| RpAH | 99 | 125 |
|  |  |  |
| **Turnover** | **$4,455** | **$5,625** |
|  |  |  |
| Theo Edge | 3.31% | 2.23% |
|  |  |  |
| **Theo Rev/Active PH** | **$49** | **$42** |

**Strategy and Positioning**

In terms of both House Edge and resemblance to Traditional Blackjack, Fast Blackjack sits between Blackjack Plus and Crown Blackjack.

Due to its mid-range house edge, Fast Blackjack is most likely suited as an intermediary product between Blackjack Plus and Crown Blackjack. This would place it at the $15 to $25 price point.

Additional rules (discussed above) could be introduced which would result in a higher house edge, which could make this product suitable for operation at lower price points.

**Regulatory Requirements**

**Fast Blackjack Rules**

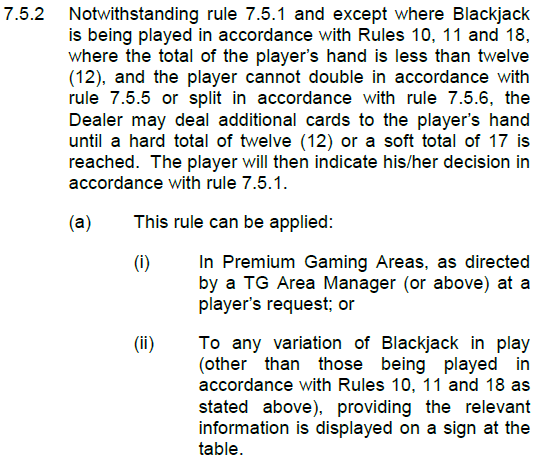
Fast Blackjack will need to be approved as a variation of Blackjack. Blackjack variants are approved in the rules relative to the standard rules of Blackjack (traditional Blackjack). The rules for Fast Blackjack are consistent with the rules for Traditional Blackjack except:

* A Player may not double on any hand (Doubling is allowable under rule 7.5.5 in the Blackjack rules).
* A Player may not split on any hand (Splitting is allowable under rule 7.5.6 in the Blackjack rules).
* The dealer will draw additional cards to their hand until a hard total of 17, 18, 19, 20, 21 or soft total of 18, 19, 20, 21 is achieved (this is different to rule 7.5.7a) for traditional blackjack but consistent with rule 14.2.2a) pertaining to Crown Blackjack.

A maths document will be required for Fast Blackjack.

**Automatic Drawing to Player Hard Totals of 11 or less**

Rule 7.5.2 (see below) in the Blackjack rules explicitly allows for this, provided it is clearly displayed on the table sign.



**Any Pairs**

Any pairs is mathematically identical to Baccarat Pairs, but is not currently approved for Blackjack. Any Pairs will require a new approval with a maths document. Alternatively, Any Pairs may be approved as an alternate pay table for Perfect Pairs (with all outcomes paid the same at 11 to 1).