



LIQUID AND GRIT

Product Report

Competitive research and actionable product recommendations

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DECEMBER

2016

INTRODUCTION



Dear Product Owner,

The Greek historian Thucydides professed, “The Nation that makes a great distinction between its scholars and its warriors will have its thinking done by cowards and its fighting done by fools.”

Zynga Poker launched in 2007. At the time, most wouldn’t have believed that Zynga Poker would remain a top 50 grossing casino game nearly ten years later. In Zynga’s early days, product teams were predominantly warriors who aggressively released features to drive sharing, clicking and massive growth.

Today's leading product teams, including those at Zynga, are made of both scholars and warriors ... a combination that could put your game at the top of the casino grossing charts on the eve of 2027.

To help you achieve this longevity, we delve deep into Huuuge Casino. This game entered the top 20 grossing in September 2016 and is now eclipsing the coveted top 10 list.

The Quick Wins includes a slot machine feature highlighting the innovative mechanics in core game play. We discuss similar features in our Slots Report. You will also find an updated Economy Teardown detailing the top grossing games to help you accurately tune your own economy.

Combine strength with intelligence to take the lead in 2017 and beyond.

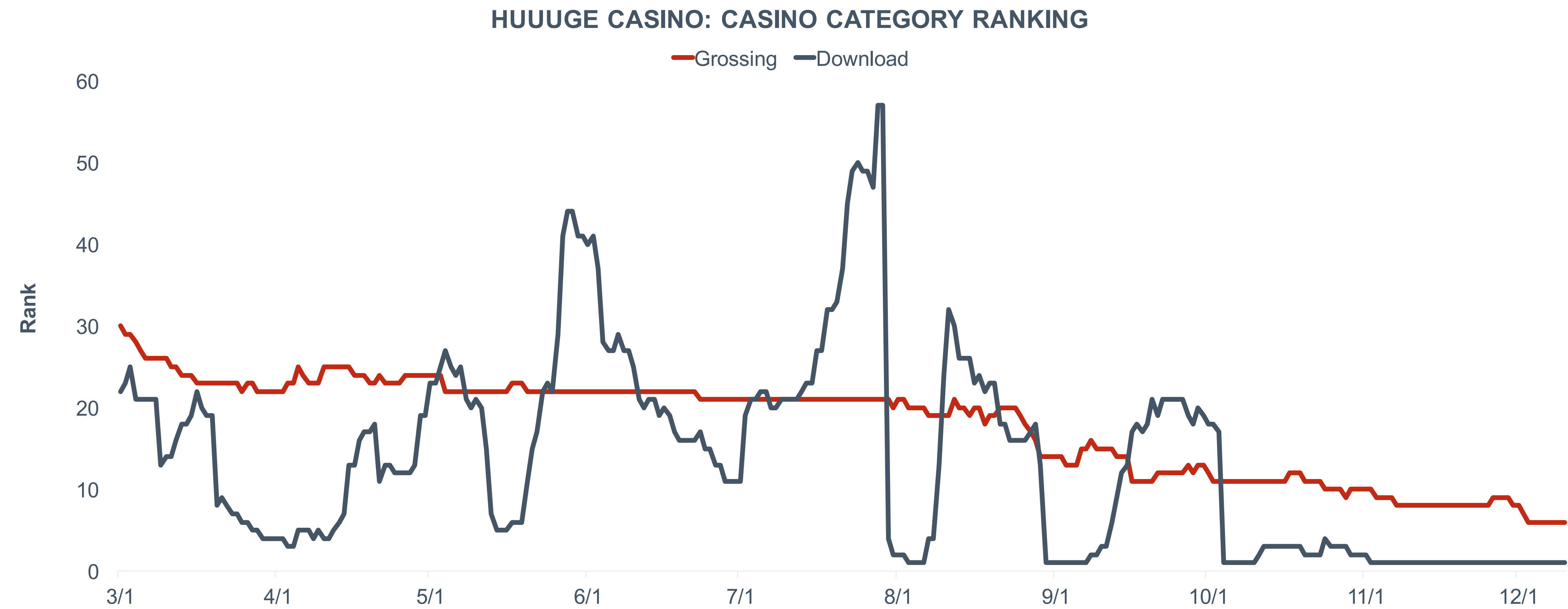
All the best,

Brett Nowak
Editor-in-Chief

GAME DEEP DIVE: HUUUGE CASINO

RANKING

Huuuge Casino broke into the top 10 grossing social casino games, a monumental achievement since our last deep dive of the game. In this section, we tear down this game’s features, investments and recent modifications



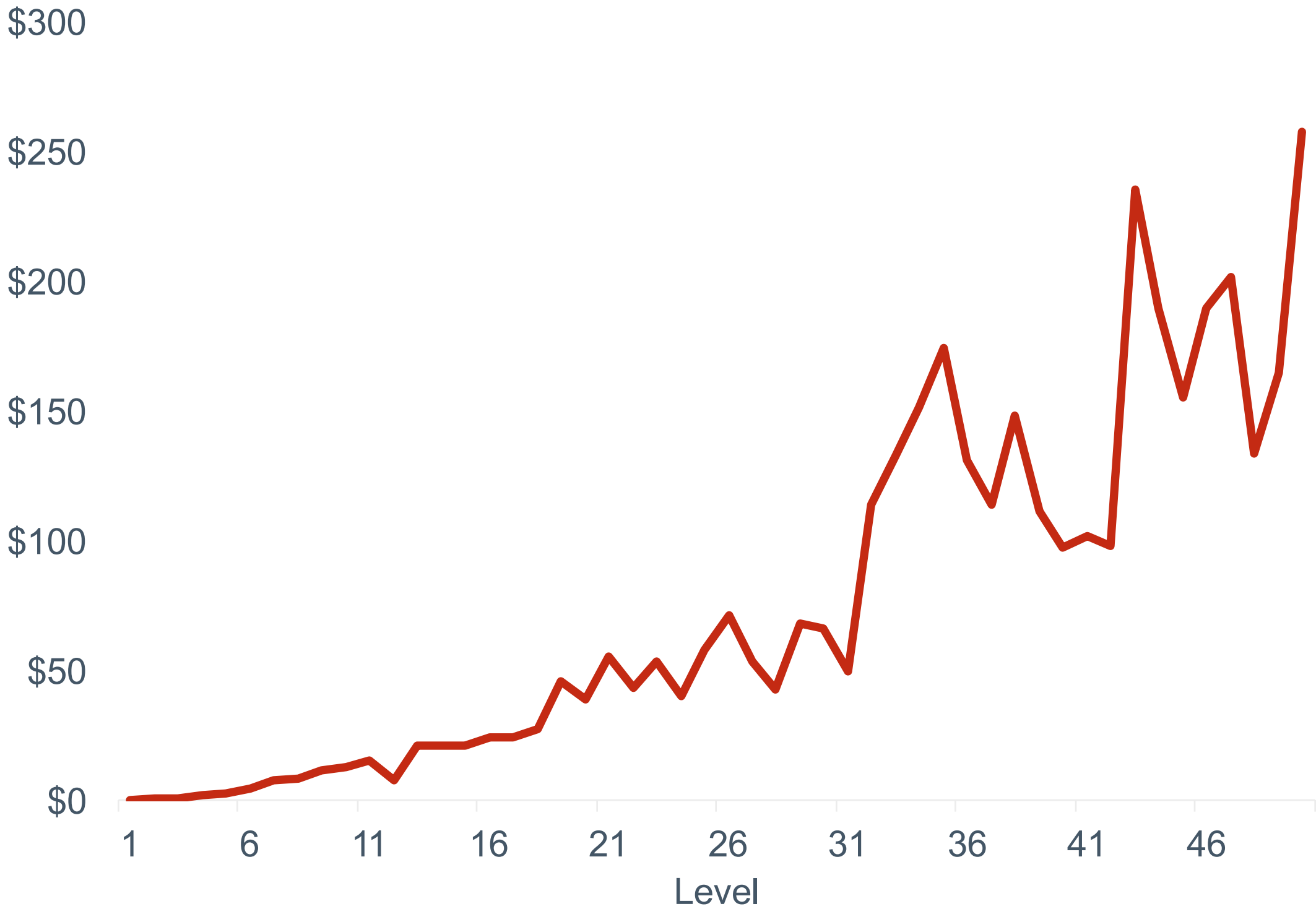
SUMMARY

Feature	Highlights
Leveling	<ul style="list-style-type: none">Leveling up in Huuuge Casino is fairly costly (but players receive a healthy amount of coins upon app-download)The level reward is a 1 x 3 slot machine that primarily pays out tickets (43%) and XP x2 (35%)
Player activities	<ul style="list-style-type: none">67% of players are playing slot machines and 4% are playing poker (Texas Hold’Em or Sit and Go)23% of players are not playing a game but are in the lobby, socializing or in clubs
Product investments	<ul style="list-style-type: none">Leagues, economy, social, Sit and Go, VIP and collectionsA new app called Texas Poker that is a skinned version of Huuuge Casino
Recent releases	<ul style="list-style-type: none">Huuuge Casino added two new non-club based events, avatar country flags and the addition of VIP levelsClub filter changes let members sort messages and bonuses on the club wall and participate in multiple events
New user experience	<ul style="list-style-type: none">NUX focuses on social aspects of localizing the language, setting up a profile and sharing a drink
Poker app	<ul style="list-style-type: none">Huuuge Games released a new app in October called Texas Poker – Hold’em Poker & Slots by HuuuugeTexas Poker is the same game, people and economy as Huuuge Casino
Economy teardown	<ul style="list-style-type: none">Huuuge Casino made a major 15.5x change in the new user coins amountThe total daily coin payout increased 1.8x, when including changes to the value of purchasable coinsTo sink coins, the default bet was increased by 30x

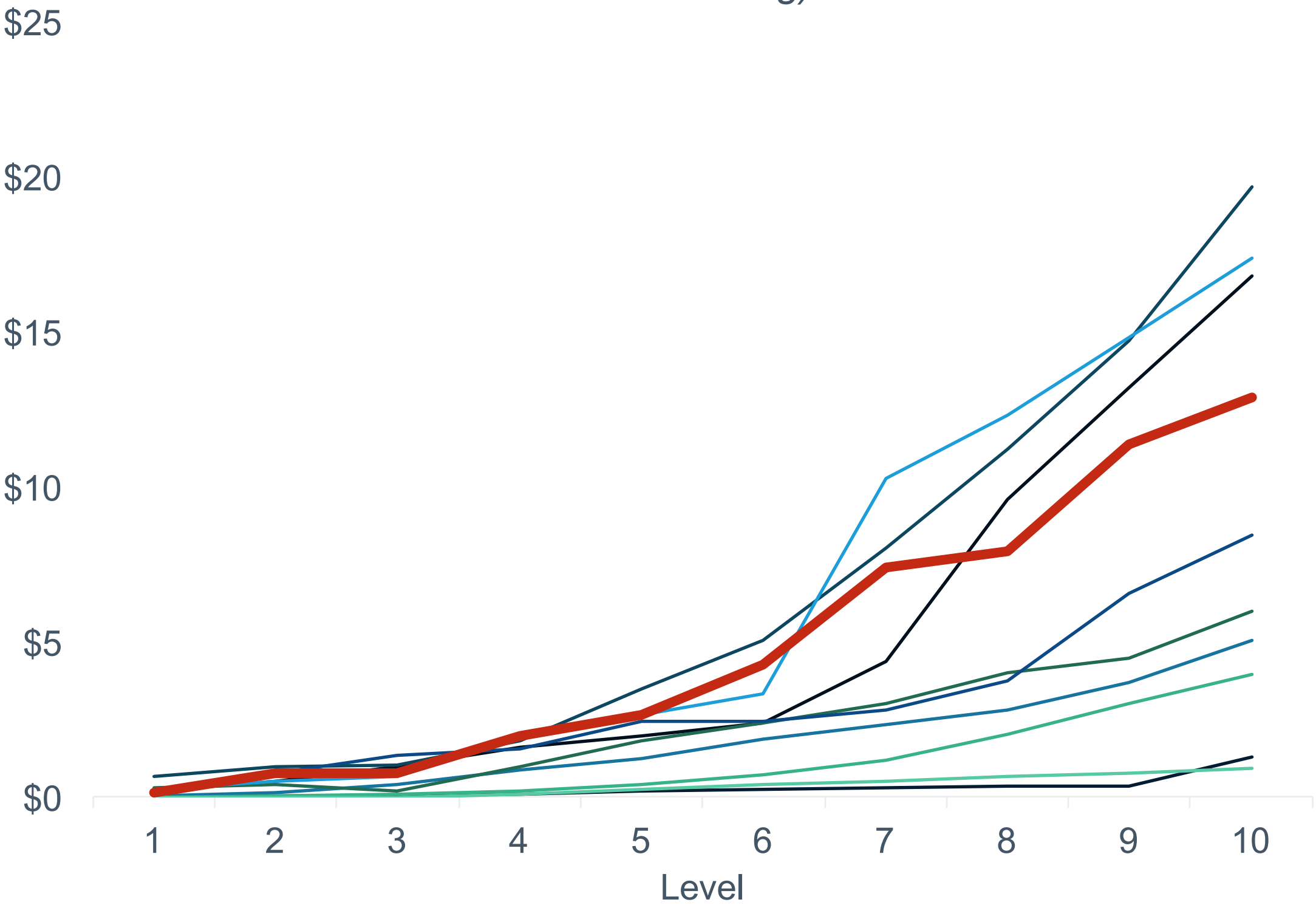
COST PER LEVEL

Leveling up in Huuuge Casino is fairly costly (but players receive a healthy amount of coins upon app-download). Players must spend \$3.8K worth of coins to advance to level 50 and the first 10 levels are expensive compared to the top grossing games

COST TO UNLOCK HUUUGE CASINO LEVELS
(first 50 levels)



COST TO UNLOCK TOP GROSSING LEVELS
*(Huuuge Casino compared to top grossing games with content unlocking)**



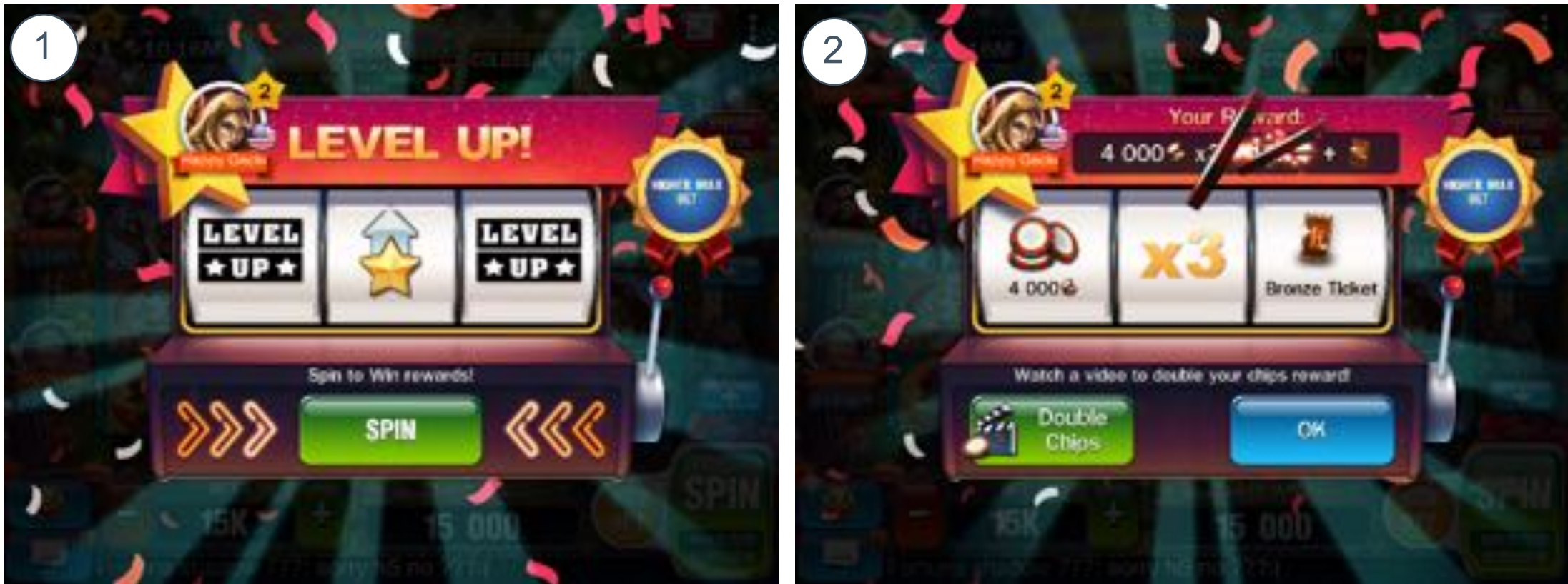
*Big Fish Casino, House of Fun, Slotomania HD, Jackpot Party, Gold Fish Casino, Wizard of Oz, Quick Hit Slots, Hit it Rich! and Caesars Slots

LEVEL REWARD

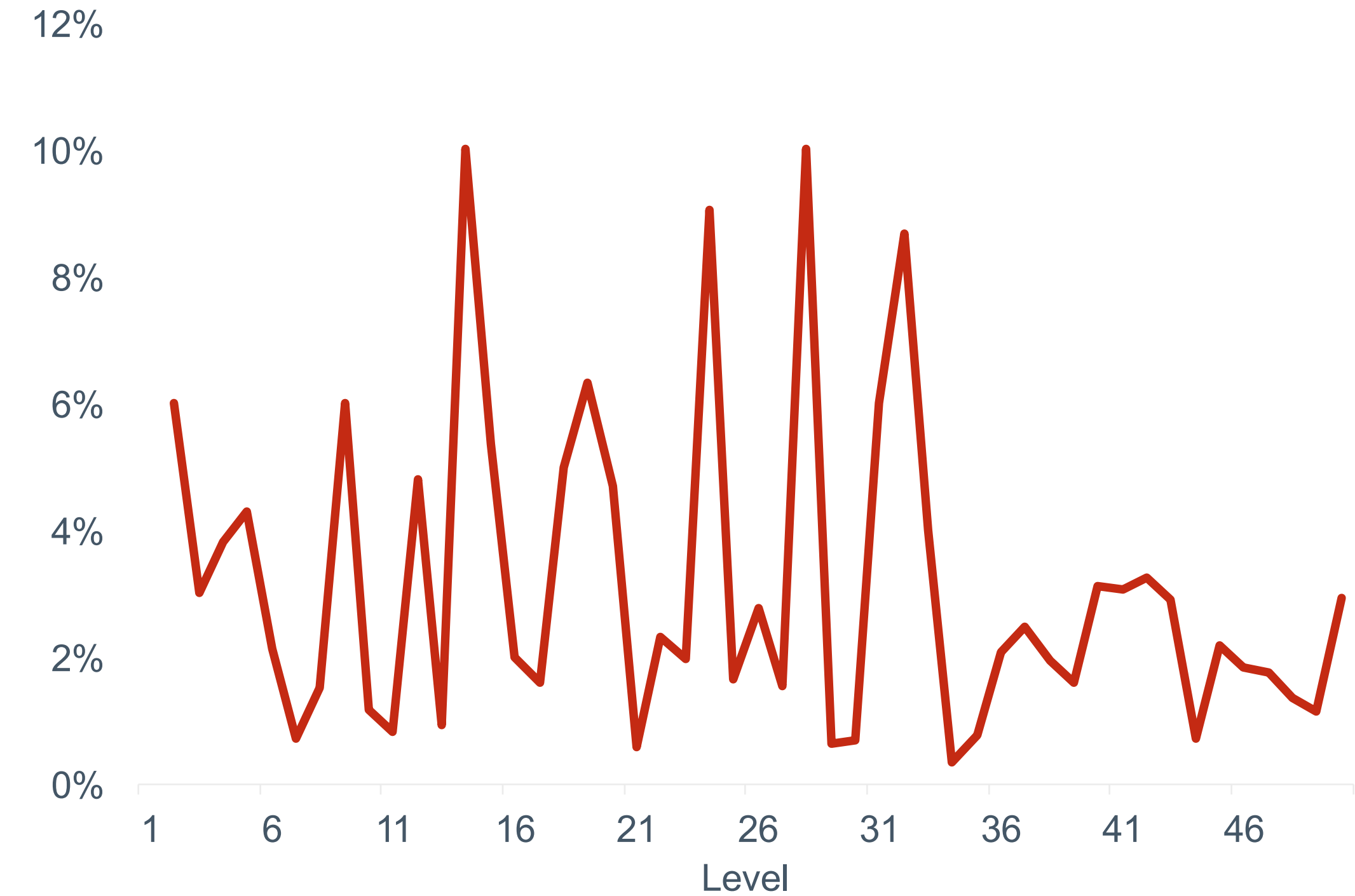
The level reward is a 1 x 3 slot machine that primarily pays out tickets (43%) and XP x2 (35%)

- Upon completion of a level, players receive the 1 x 3 reel level up machine (image 1).
- Players spin the machine and are awarded coins, lottery tickets, diamonds, mystery rewards and XP multipliers. Leveling up also increases the maximum bet. Players have the option to double their chips by watching an advertisement (image 2).
- The average level up coin payout is 3% for the first 50 levels but varies by level (image 3).

LEVEL UP REWARD	% OF PAYOUT
Tickets	43%
XP x2	35%
XP x2, mystery reward and tickets	14%
Tickets and mystery reward	6%
XP x2, mystery reward, tickets, boost and diamonds	2%



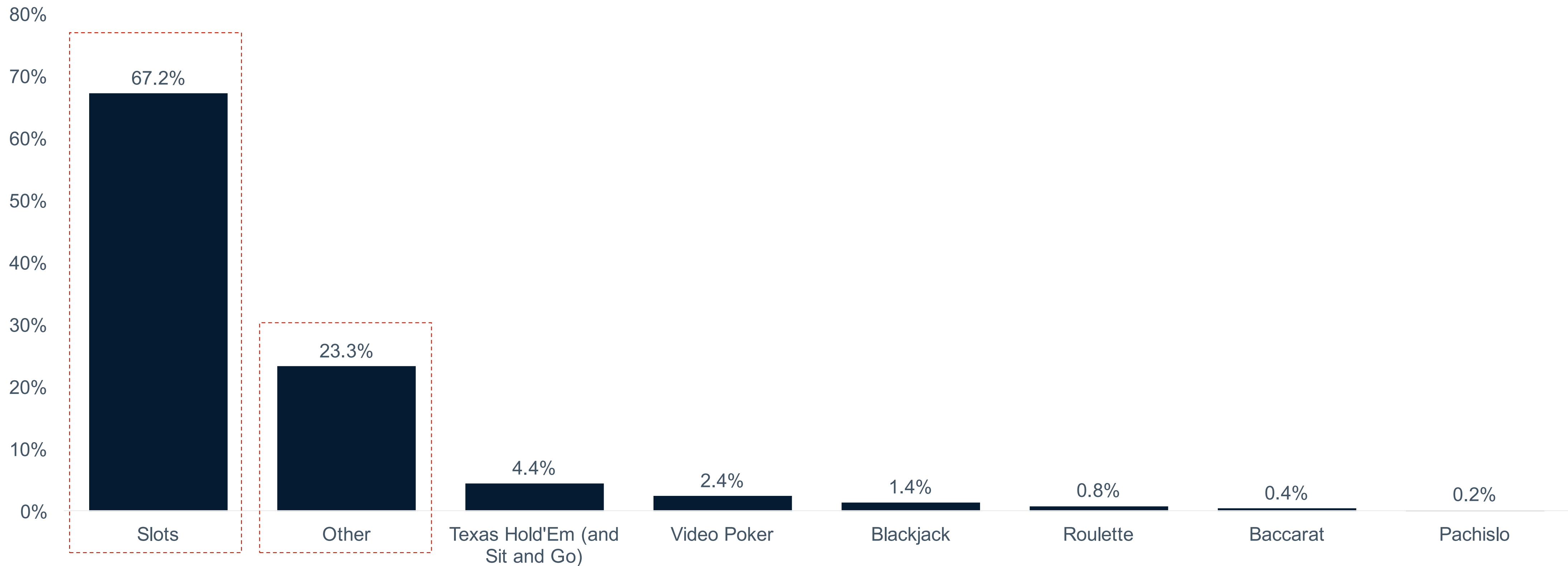
3 LEVEL UP COIN REWARD
(% of cost to achieve the level)



PLAYER ACTIVITY

67% of Huuuge Casino players are playing slots machines and 23% are choosing not to play a game, but to spend time in the lobby collecting chips, socializing or in club rooms. The game averages 18.9K concurrent players*

PLAYER DISTRIBUTION BY GAME TYPE
(data collected using a feature in Huuuge Casino)



*This data was collected using a feature in the game that shows how many active players are in each type of game (i.e. slots). Concurrent player average is for December 17th, 18th and 19th

FEATURE INVESTMENTS

Huuuge Casino invested in leagues, economy, social, Sit and Go, VIP and collections

FEATURE RELEASES

9/27: A checkbox notifies players of friends online or invitations to play (image 1)

10/2: New “Become a Millionaire” (image 2)

10/6: Doubled reward amounts in league season (image 3)

10/18: New main lobby icons (image 4)

All machines “upgradable” (image 5)

Sit and Go tournaments (image 6)

Drop down of players: slots and other game room

11/10: Increases to free awards (see Economy Teardown)

11/16: New non-club based events (see Recent Changes)

11/30: Player avatar changes and country flag (see Recent Changes)

New VIP rewards levels (see Recent Changes)

Christmas advent calendar (see Recent Changes)

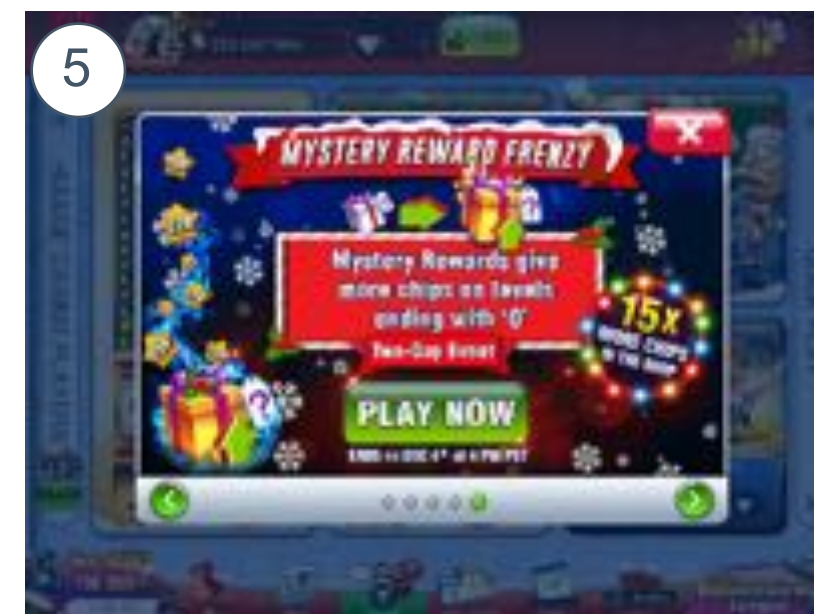
12/15: App-update with two new machines released



RECENT CHANGES

Huuuge Casino added two new non-club based events, avatar country flags and the addition of VIP levels

- Upon app-launch, a country flag dialogue box appears with a drop down country list (image 1). A similar country question is in the new user flow.
- The chosen country flag is then displayed on the profile avatar (image 2).
- The addition of VIP levels, tailored rewards and purchase options is announced by a dialogue box and featured in the 'news' inbox in the main lobby (image 3).
- Five VIP levels are available for purchase in the store under the VIP tab. Depending on the level purchased, players receive additional daily chips and diamonds for 30 to 90 days (image 4).
- The first non-club based event released this month was the Mystery Rewards Frenzy. The amount of chips received for leveling in this feature was increased for levels ending in zero (image 5).
- During the Mystery Rewards Frenzy, players are reminded of the feature with a pop-up notice that appears at the top of the lobby screen (image 6).
- A collect daily XMAS Gifts advent calendar is the second non-club based event released this month (image 7).
- During the first 15 days of the event, \$3.03 worth of chips, \$2.43 worth of diamonds and \$14.39 worth of tickets were available for collection (image 8).



RECENT CHANGES CONTINUED

Club filter changes let members sort messages and bonuses on the club wall and participate in multiple events

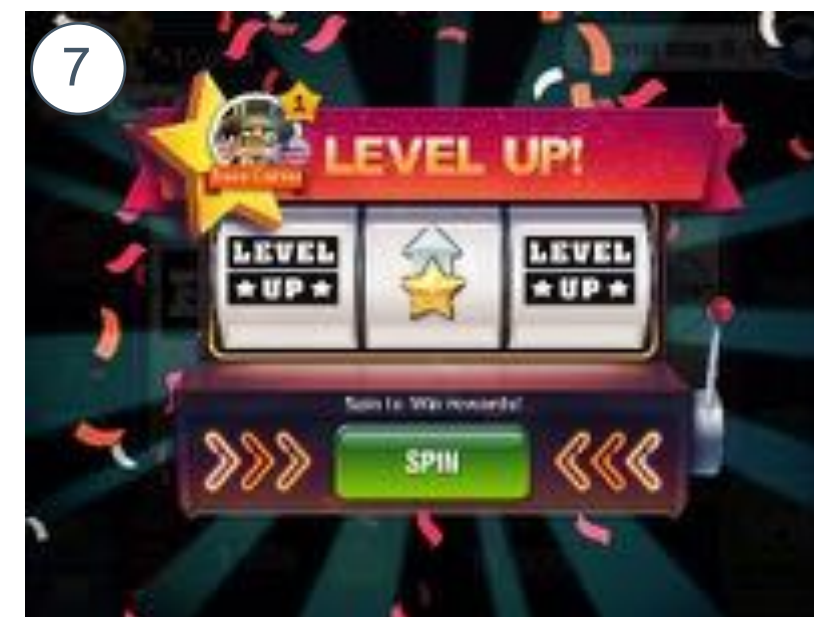
- Upon app-entry, players may join or create a club by clicking the Billionaires' League button (image 1). [see the September 2016 Product Report for more details on Clubs and Leagues]
- At the top of the page in the club there are two tabs: 'members' and 'club wall' (image 2).
- On the 'club wall,' a checkbox allows players to change how they view items posted on the wall (image 3).
- In 'club events,' players see current and upcoming events (image 4).
- Club members are now able to view status and participate in multiple events at once. Clicking the 'show info' arrow gives further details (image 5).
- An event timer, progress meter and various flags and checkmarks depict the current progress for the selected event. In this example, each club member was awarded \$0.57 worth of chips for reaching the first goal. An additional \$7.09 worth of chips will be awarded to each member if all goals are completed in time (image 6).
- Event leaders and club members' contribution list may be seen by clicking the 'leaders' tab at the top of the event info screen (image 7).
- When all currently running events are completed, each event will appear with a checkmark. Future 'upcoming events' are listed at the bottom (image 8).



NEW USER EXPERIENCE

Huuuge Casino NUX focuses on social aspects including localizing language, profile set-up and sharing a drink

- Upon app-download, players are asked to pick a country to localize the game and create chat rooms of people from the same location and language (image 1).
- The loading screen boasts, “Huuuge Casino offers the best multiplayer casino and slots game” before bringing players to the profile page (image 2).
- Players are then introduced to the game with a six-step tutorial (images 3 & 4). During this tutorial, new players see other players in the left and right background winning chips.
- All new players hit a Huuuge Win (image 5).
- They are then prompted to share a free round of drinks, continuing to introduce players to the social aspects of the game (image 6).
- Players are able to level up on step five and receive the 1 x 3 reel level up machine (image 7).
- Players are dumped into the lobby and a massive bonus is offered of 7.9M coins for \$5 (image 8).



POKER APP

Huuuge Games released Texas Poker in October. This game has the same people and economy as Huuuge Casino

- In Texas Poker – Holdem Poker & Slots by Huuuge, the players in the social bar at the top are the same in both Huuuge Casino (image 1) and Texas Poker (image 2).
- There is also the same amount of concurrent players in both games, illustrating the shared backend (image 3).
- Huuuge Casino players who sign up have their coins, levels and club events carried over to Texas Poker (image 4).
- The lobby is also the same as Huuuge Casino with various options for play (image 5).
- In addition to slots machines, Texas Poker offers Blackjack, Video Poker, Pachislo, Baccarat, Roulette, Texas Hold'Em games and Sit and Go tournaments, just like in Huuuge Casino (image 6).



HUUUGE CASINO: ECONOMY TEARDOWN

ECONOMY CHANGES

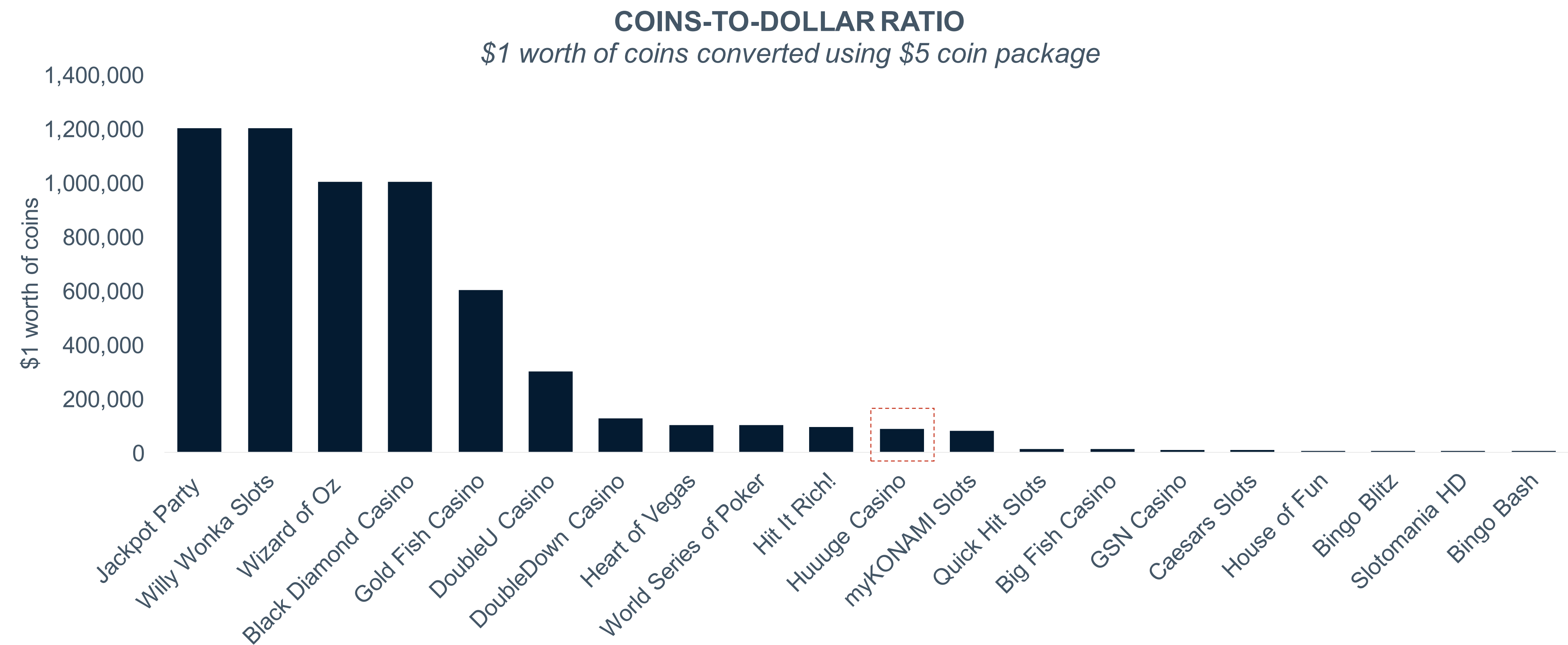
Huuuge Casino made a major 15.5x change in the new user coins amount. The total daily coin payout increased 1.8x, when including changes to the value of purchasable coins. To sink coins, the default bet was increased by 30x

ECONOMY CHANGES			
CATEGORY	OCTOBER	DECEMBER	CHANGE
New user coins	\$7.93	\$114.60	14.5x
Primary coin bonus daily payout*	\$3.28	\$6.85	2.1x
Secondary coin bonus daily payout*	\$1.88	\$3.41	1.8x
Tertiary coin bonus daily payout*	\$30.00	\$54.55	1.8x
Total daily coin payout	\$35.16	\$64.81	1.8x
\$5 worth of non-sale coins	400,000 coins	484,000 coins	1.2x
Default bet	500	15,000	30.0x
Minimum bet	500	500	-

*The primary coin bonus is the daily wheel, the secondary coin bonus is the coin award given on the buy page and the tertiary coin bonus is the button in the bottom left of the lobby

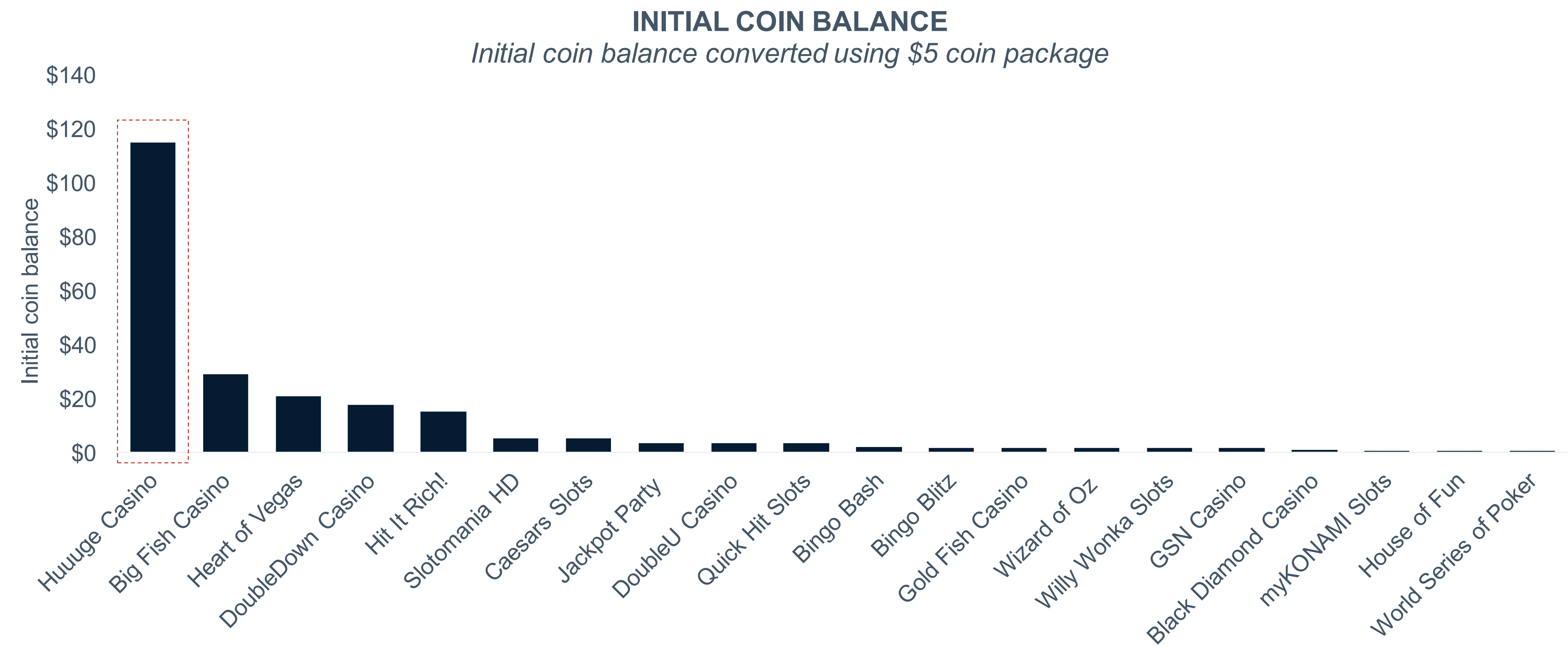
COINS-TO-DOLLAR RATIO

Huuuge Casino has an average coins-to-dollar ratio relative to the top 20 grossing games and a similar ratio to Heart of Vegas, WSOP, Hit It Rich! and myKONAMI Slots



INITIAL COIN BALANCE

Huuuge Casino gives a massive amount of initial coins compared to the top grossing—likely due to their desire to retain players based on social interactions

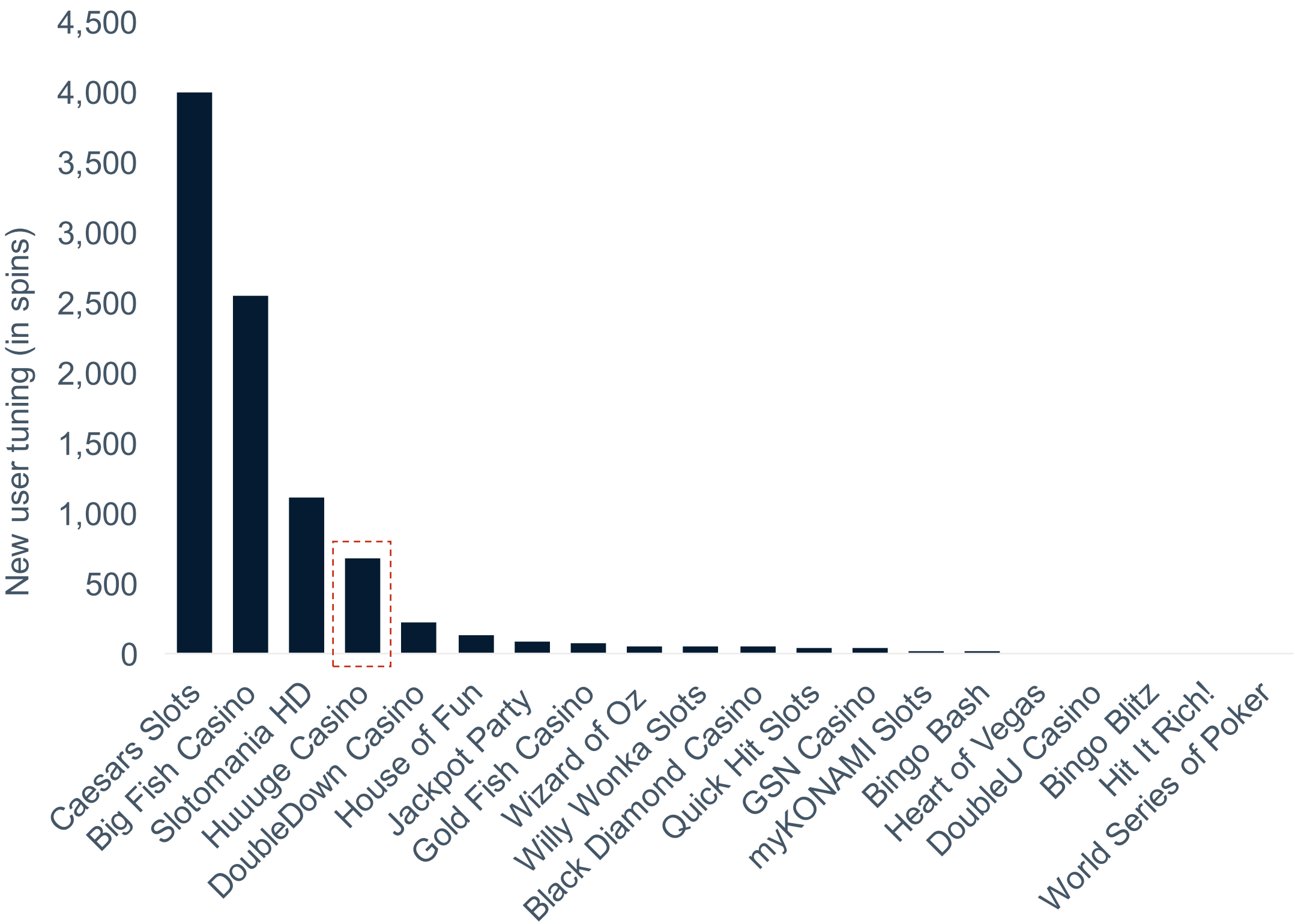


NEW USER TUNING

Huuuge Casino's new user tuning is fairly tight, with 672 spins for the default bet. With 20.1K spins for the minimum bet, new users are able to play the game for a long time at the minimum bet level

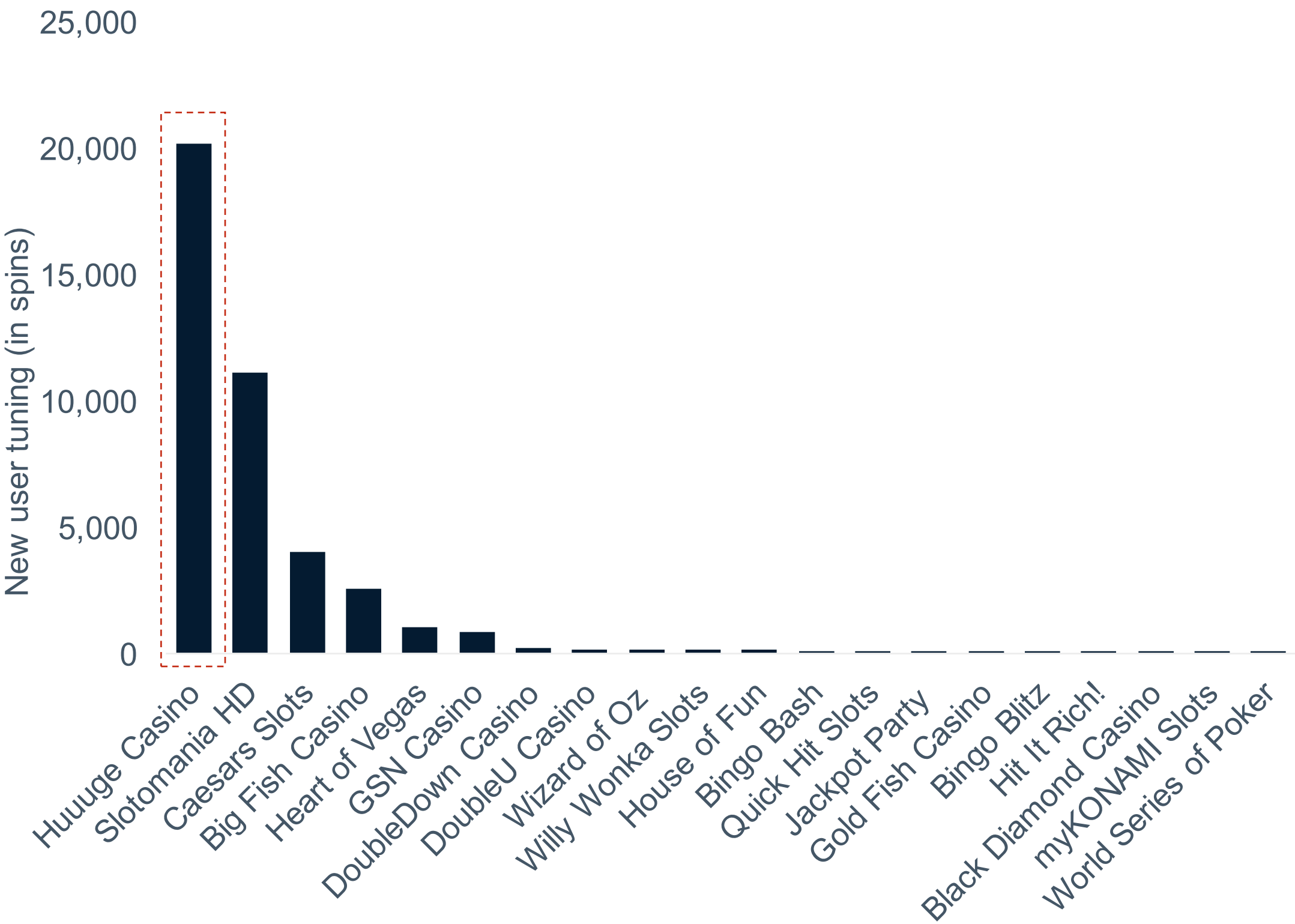
DEFAULT BET TUNING

Initial coin balance divided by default bet



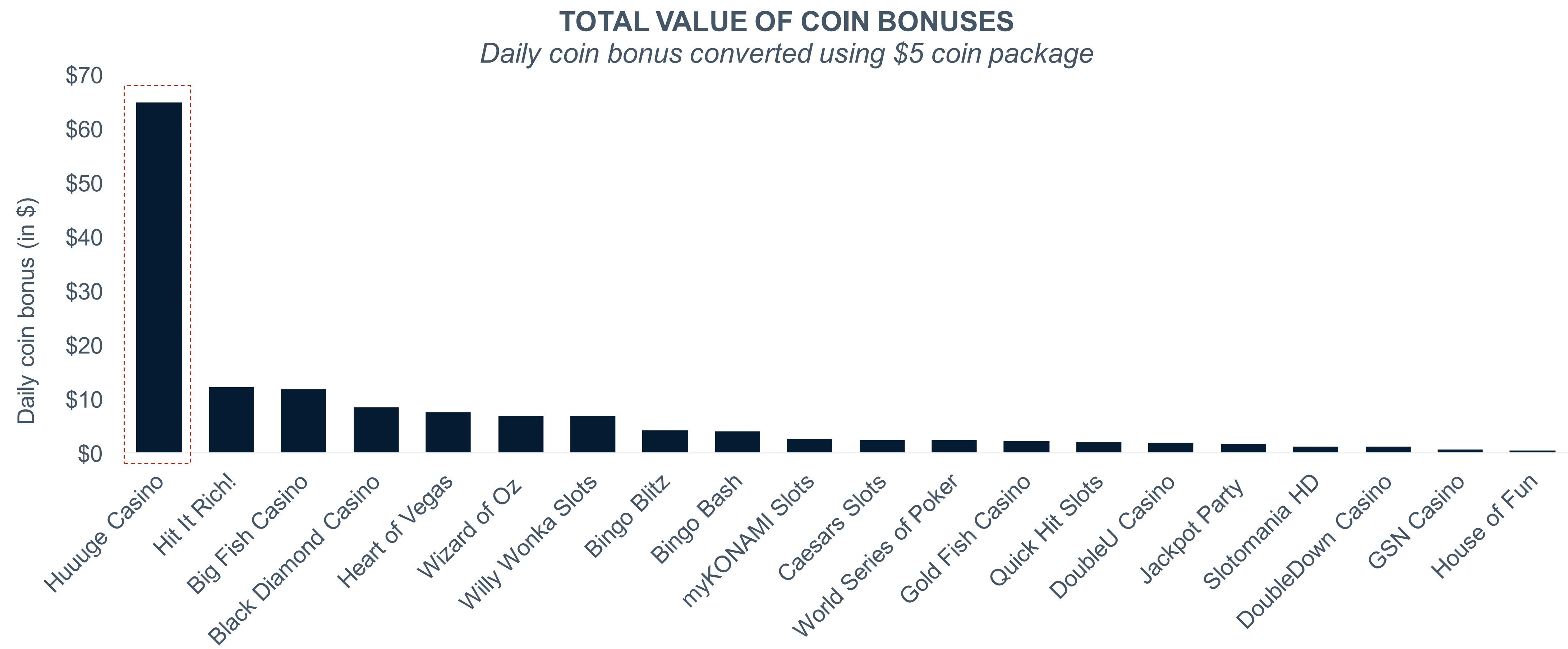
MINIMUM BET TUNING

Initial coin balance divided by minimum bet



TOTAL VALUE OF COIN BONUSES

Huuuge Casino gives out a ton of free coins daily and 84% of the coins come from the tertiary coin bonus that awards \$0.57 worth of coins every 15 minutes



NEW INNOVATIONS

NEW INNOVATIONS



Feature	KPIs	Recommendations
Hidden objects games	<ul style="list-style-type: none">Increase retention	<ul style="list-style-type: none">Consider incorporating a hidden objects mini-gameThere is a large overlap between hidden objects and social casino players
Power jump jackpots	<ul style="list-style-type: none">Increase engagement	<ul style="list-style-type: none">Innovate core slots machines with a feature that enables players to power jump to the jackpot bonus game
Live ops	<ul style="list-style-type: none">Drive short-term revenue	<ul style="list-style-type: none">Try live ops events with trade mechanicsGive players a % of coins back based on tasks completedTarget whales with jackpot-winning events
Retention polish	<ul style="list-style-type: none">Increase retention	<ul style="list-style-type: none">Add a nonprofit benefit to increase new buyer conversionLocalize your players for better social interactionsAdd a dialogue upon buy page drop-off

HIDDEN OBJECTS GAMES

Consider incorporating a hidden objects mini-game. There is a large overlap between hidden objects and social casino players

- In Bingo Bash, a dialogue box appears upon app-entry detailing the new Hidden Objects Challenge (image 1).
- To be eligible for the challenge, players must play four bingo cards each round within the Bake My Day or Rock Paper Zombie rooms. To participate in the Hidden Objects Challenge, players must win a bingo on at least one of the four cards (image 2).
- After the bingo winnings payout, a Hidden Objects Challenge box appears. Players must find the object(s) listed at the bottom within the allotted time displayed at the top right (image 3).
- A checkmark appears when players locate an item (image 4).
- The challenge is complete when time is up or players locate all the items. Players must successfully complete 18 Hidden Objects Challenges to finish the level and earn a reward (image 5).
- The number of objects available to find within the Hidden Objects Challenge is based on bingo game buy-in options. Selecting the regular option gives one object, double up gives two objects, and triple up gives three objects (image 6).



POWER JUMP JACKPOTS

Innovate core slots machines with a feature that enables players to power jump to the jackpot bonus game

- A new Game Mania feature “Power Jump” is marketed to players in a dialogue box upon app-entry (image 1).
- The Game Mania Power Jump is first promoted in the main lobby and players are able to try the new feature in the Jackpot Jones machine (image 2).
- A dialogue box appears upon machine-entry explaining the main features of Jackpot Jones. In this machine, players must collect five green and gold arrow symbols to trigger the Inca Temple Bonus (image 3).
- The Game Mania Power Jump feature immediately takes players to the Inca Temple Bonus where a blue and gold arrow symbol lands on the third reel (image 4).
- When the Game Mania Power Jump is triggered, players receive a dialogue box notifying them of the Power Jump (image 5).
- The Inca Temple Bonus is a series of three pick'em mini-games that potentially lead to an instant jackpot (image 6).

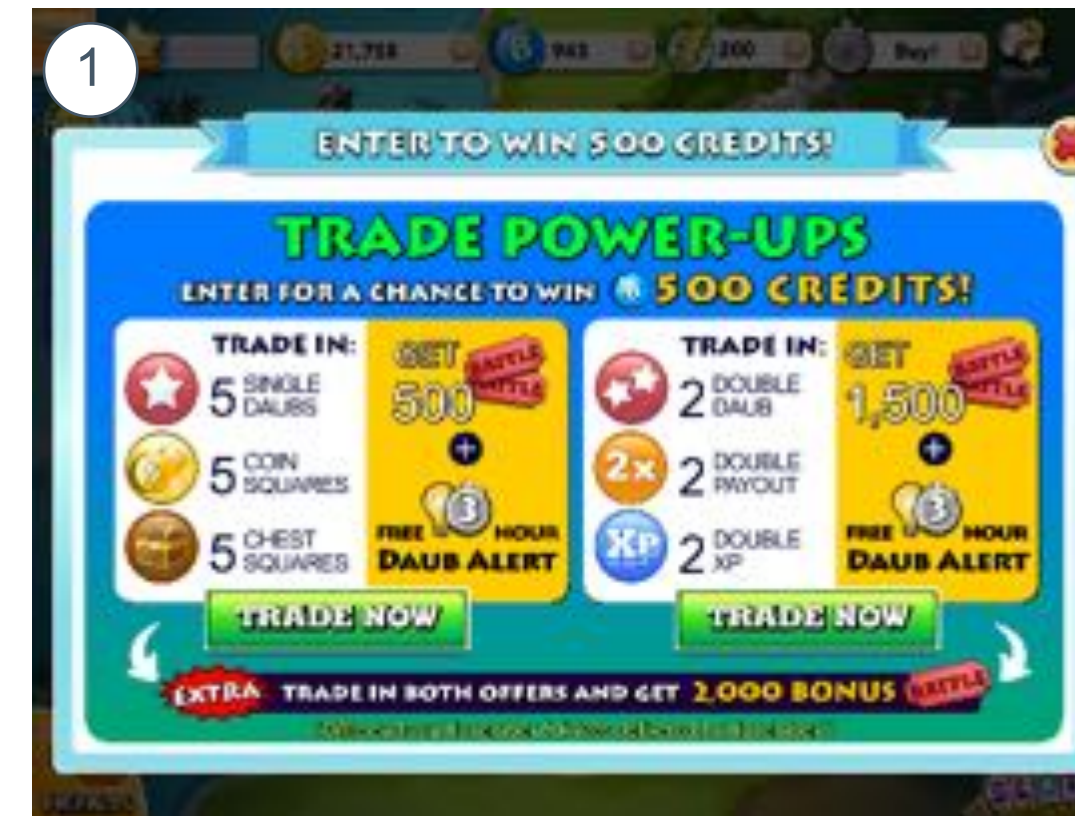
Our monthly Slots Report highlights and breaks down similar machine mechanics. Contact us to receive a sample of the latest Slots Report



LIVE OPS

Try events with trade mechanics. Give players a % of coins back based on tasks completed. Target whales with jackpot-winning events

- **Test a trade mechanic with a gotcha prize:** In Bingo Blitz, players can trade in daubs, coins and chests for raffle tickets and three hours of daub alerts (image 1).
- **Give back a % of coins back if players complete different tasks:** In Bingo Blitz, the Blitz Giving live ops event gives players 5% back during the event and 10% back if players complete all six questions (image 2).
- **Test a week-long live ops event with progression:** Zynga Poker added a week long progression mechanic with each live ops event. (image 3). Heart of Vegas also released a week-long live ops event with the Amazing Race IP.
- **Market the newest machines by awarding players every 15 minutes:** In Big Fish Casino, the Spotlight Millionaire live ops feature awards players every 15 minutes when they hit a wild. Higher bets increase a player's odds of winning (image 4).
- **Consider live ops for whales that are triggered with a purchase and won with a jackpot:** In House of Fun, the Christmas Jackpot Surprise costs \$1.99 and awards players a mystery prize every jackpot they hit (image 5).
- **Award players more XP when they lose:** In Pharaoh's Way, players win more XP on lost wins during one of their "amazing events" (image 6).



RETENTION POLISH

Add a nonprofit benefit for new buyer conversion.
Localize players for better social interactions.
Add a dialogue upon buy page drop-off

- **Add a nonprofit icon to your sales page to convert new payers:** In Jackpot Party, upon opening the buy page, players are notified that Jackpot Party supports Toys for Tots (image 1).
- **Localize your players for better social interactions:** In Huuuge Casino, players are asked to select their country upon app-entry to localize the game and pair people with the same language and location in chat rooms (image 2).
- **Add an “Are You Sure?” dialogue after buy page close:** When a player closes the buy page in Downtown Vegas Slots, an “Are You Sure?” dialogue appears with a lower-priced package for only \$2.99. This is less expensive and nearly a 10x a better deal than the lowest-priced package on the buy page (image 3).
- **Add a dance-a-thon mechanic:** Bingo Blitz released a Dance Fever Challenge rewarding players for playing the most consecutive hours. A dance-a-thon would be a similar feature to drive engagement (image 4).
- **Add a daily bonus second wheel with multipliers available for purchase:** In Pharaoh's Way, a new daily bonus wheel was added with a coin wheel and a second multiplier wheel. Players may purchase a spin of the multiplier wheel (image 5).
- **Add easily unlockable player jackpots:** In DoubleU, players unlock their jackpots with frequently triggered jackpots in jackpot tournaments (image 6).



MARKET WATCH

11/15/16 – 12/14/16

NOTABLE FEATURES OF THE 60 TOP GROSSING

Advent calendars were trending in several top grossing games. Quests and progression mechanics remain popular and myKONAMI Slots is now available on Facebook

Game	Notable features released
GSN Casino	12 Days of Christmas feature released to award free tokens
Heart of Vegas	Amazing Race Log-In Challenge to receive daily rewards
Bingo Bash	New Turkey Tales room and Hidden Objects Challenge (see Quick Wins)
Slotomania HD	New two-part SlotoQuest and Game Mania Power Jump released in a new machine (see Quick Wins)
Bingo Blitz	Playtika Kickstarter bonus to carry over points into 2017 and new seasonal rooms
World Series of Poker	WSOP Holiday Calendar to unwrap daily gifts
Caesars Casino	Additional daily wheel added and Santa's Amazing Adventures with daily quests (see Detailed Slide)
Willy Wonka Slots	Three mini-games with guaranteed prizes (see Detailed Slide) and Wonka's Candycopia map challenge
Huuuge Casino	Multiple club events (see Detailed Slide) and different VIP levels with tailored rewards
myKONAMI Slots	Now available to play on Facebook
Classic Vegas Casino	New feature to complete a challenge to unlock machine
Pharaoh's Way	New daily Lucky Spin to receive more bonus coins
myVegas Slots	New Mystic Adventure map challenge released with machine
Hot Shot Casino	Daily quests feature includes collection items that may be redeemed for weekly prizes (see Detailed Slide)

WILLY WONKA SLOTS

Willy Wonka Slots added four new mini-games that are available to purchase and provide players guaranteed wins

- Willy Wonka Slots announced the release of Marvelous Minigames with a dialogue box upon app-entry (image 1).
- The three new mini-games are Goose Goose Gold, Waterfall Wins, and WonkaMatch. Players receive one free play of Goose Goose Gold at feature launch. Each mini-game is available for a minimum purchase of \$1.99 (image 2).
- In Goose Goose Gold, players tap Veruca to make the geese lay golden eggs, collecting as many eggs as possible (image 3).
- The mini-game ends when a nest column fills to the top. In this example, the player won \$0.78 worth of coins (image 4).
- Waterfall Wins is a pick'em game that presents players with a marshmallow pyramid. Players choose one marshmallow from the bottom row. The choice will offer a coin prize or reveal an arrow that advances to the row above (image 5).
- The mini-game ends when players reach the pyramid top. In this example, the player was awarded \$1.47 worth of coins (image 6).
- WonkaMatch is a pick'em match game. Players are given the option to pick eight candies from the 4 x 5 board or select the autopick button. Once the players select the candy, the "Let's Play" button activates and pieces drop into the column next to the board (image 7).
- The mini-game ends when the column is full. Players are paid based on matches made. In this example, the player won \$1.76 worth of coins (image 8).



CAESARS CASINO

Caesars Casino added a daily challenges feature to their four new Christmas machines. Challenge system includes spins, single spin wins and collecting reel hits

- In addition to some app-entry marketing, players may enter the new and old Christmas rooms from the main lobby page (image 1).
- Santa's Amazing Adventures offers four new games: Christmas is Coming, More Santa!, Power Shot Christmas and Evergreen Gifts (images 2 and 3).
- Along with the release of Santa's Amazing Adventures is a daily challenge system linked to each new machine called Santa's Gift Bag Hunt (image 4).
- Santa's Gift Bag Hunt daily challenge for the, "Christmas is Coming" machine may be seen by clicking the icon at the top of the dialogue box. Completing the four challenges that include spin, win, and collection challenges in the allotted time will award players a gift bag and \$1.33 worth of coins (image 5).
- The details of all four challenges are included below (images 5, 6, 7 and 8).

CHALLENGE	1 st	2 nd	3 rd	4 th	AWARD
Christmas is Coming	Spin 1,250	Collect 4,500 reindeer	Collect 3,400 cookies	27.6M in total spin wins	825K coins: \$1.33 worth
More Santa!	Collect 925 elves	Spin 3,100	Collect 1,500 reindeer	27.6M in total spin wins	1.03M coins: \$1.66 worth
Power Shot Christmas	4 mega wins	5.51M single spin win	32.6M in total spin wins	4,000 spins	1.65M coins: \$2.65 worth
Evergreen Gifts	2 max bet spins	Collect 15.6K stockings	3.76M single spin win	Collect 5,000 reindeer	4.125M coins: \$6.64 worth



HOT SHOT CASINO

Hot Shot Casino released a daily quests feature with collection items redeemable for weekly prizes

- Upon app-launch, a dialogue box appears explaining the start of a five-week quest. Players must complete daily quests to collect toys redeemable for weekly rewards (image 1).
- The Holiday Questmas calendar displays the current week, day of the quest, current progress and amount of time left to complete the current quest (image 2).
- Quest challenges are based on various numbers of spins or machine wins (image 3).
- Players earn collectibles by completing daily quests or making purchases (image 4).
- Players may view their Holiday Questmas progress by clicking on the teddy bear icon located on the right of the screen, in the lobby or within a machine (image 5).
- Viewing the Holiday Questmas calendar enables players to track their weekly toys. Players are incentivized to return on Sundays to check the calendar and redeem their prizes (image 6).



APPENDIX

DATA COLLECTION PROCESS



Recommendations, information, and data comes from market research, app intelligence tools, and deep analysis of the games

Market research

- Each game is reviewed weekly for updates, regardless of whether the game has been updated through the App Store.
- Transaction information comes from the iOS App Store's In-App Purchases tab. These transactions are ranked based on the number of transactions.
- Las Vegas player insights come from online sources, such as the Las Vegas Convention and Visitors Authority and the UNLV Center for Gaming Research.
- Progressive jackpot information comes from online research, specifically from Wizard of Odds.
- Trending revenue, downloads, and package-rank data come from Priori Data, a Liquid and Grit partner.

Game information

- Game information comes from a deep-dive analysis of each game.
- In the economy section and economy-related slides, the coin value is determined by converting coins into money using \$5 worth of non-sale purchasable coins in each game. For example, if the minimum bet is 1,000 coins and players can purchase 500 coins for \$5, the value of the minimum bet is \$10. For games without a \$5 package, the next closest package is used.
- The cost of each level is determined by how many coins are needed to complete it. Then, that amount is converted to a dollar amount using \$5 worth of non-sale purchasable coins, as mentioned above.

The quality of decision is like the well-timed swoop of a falcon which enables it to strike and destroy its victim.

– Sun Tzu, *The Art of War*

LiquidandGrit.com



Brett.Nowak@LiquidandGrit.com

