



LIQUID AND GRIT

Social Casino Slots Report

Competitive research and data insights for slots designers

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INTRODUCTION



Dear Slots Designers,

Voltaire, the French writer and philosopher, said, “Originality is nothing but judicious imitation. The most original writers borrowed one from another.” This Slots Report helps you make judicious imitations of the newest slots innovations.

You will find a summary of the social casino slots trends in the Market Watch section. Use this to decide whether you want to follow recent developments in reels, themes, and mechanics...or try something different.

The Market Watch section also dissects every machine released by the top 30 grossing slots games in October. Check out creative machines with multiple reel sets, unique classic machine mechanics, and new bonus games. This information allows you to spend less time playing competitors' games and more time creating the next slot machine mechanic that will delight your players.

To fully understand the newest innovations, our Deep Dive section tears down specific machines, equipping you with a summary of mechanics and powerful data on hit frequency, volatility, bonus games frequency, and RTP. The data is based on 10,000 spins, twenty hours of machine play, to provide you with the most accurate business intelligence information available.

All the best,





Brett Nowak
Editor-in-Chief

MARKET WATCH

10/1/16 - 10/31/16

CURRENT TRENDS

An average of 2.3 machines per game were released in October. Multiple reels and diamond shaped reels (categorized in ‘Other’) were popular new reel formations. Collection and fill-the-meter features were on the rise and Halloween was the most popular theme

REELS		THEMES		MECHANICS		IP	
							
Reels		Themes		Mechanics		IP	
Locked	19 (28%)	Halloween	11 (20%)	Progressive jackpot	15 (33%)	Wheel of Fortune	DoubleDown
3 x 5	18 (26%)	Other	10 (18%)	Stacked symbols	10 (22%)	Billy Jean	Hot Shot Casino
4 x 5	9 (13%)	Mythical	7 (13%)	Collection / fill-the-meter	6 (13%)	The Twilight Zone	Hit it Rich!
Other	7 (9%)	IP	7 (13%)	Sticky symbols	3 (7%)	Wizard of Oz	Hit it Rich!
4 x 6	4 (6%)	Classic	6 (11%)	Locked wilds	2 (4%)	Munsters	Black Diamond

MARKET WATCH: TOP 4 GROSSING

GAME	MACHINE	REELS	LINES	THEME	TYPE	FEATURES
DoubleDown Casino	Nighty Nightmare	3 x 5	20	Halloween	Core Video	• Progressive jackpot and free games
	Wheel of Fortune: Triple Red Hot 777	2 x 3	5	IP	Classic	• Multipliers in free spins and base game, up to 700 retrigger free spins, and wheel bonus (image 1)
	Maltese Fortune	3 x 5	30	Other	Core Video	• Mega & super progressive jackpots and collection mechanic that turns symbols to wild (image 2)
Big Fish Casino	Zombie Prom	3 x 5	9	Halloween	Core Video	• Progressive jackpot and Zombie Outbreak bonus feature (see Deep Dives)
Heart of Vegas	2Can	3 x 5	25	Other	Core Video	• During free spins, wilds substitute a random position that is not another wild
	Wonder 4	Other	40	Other	Premium	• 4 reel sets that play separately, free games and super free games on all 4 reels (image 3)
Jackpot Party	Fallen Angels	4 x 5	100	Mythical	Core Video	• Stacked symbols turn to wild during free spins
	Samurai Master	Other	20	Japanese	Premium	• 4 separate reels, stacked wilds, reveal symbol, and super multi-pay bonus (see Deep Dives)
	Pirate Queen	5 x 5	40	Pirate	Core Video	• Stacked symbols, free spins, and progressive jackpot won with gold symbols (image 4)



MARKET WATCH: TOP 5 - 8 GROSSING

GAME	MACHINE	REELS	LINES	THEME	TYPE	FEATURES
House of Fun	Hot Hot Macau	Other	20	Other	Premium	<ul style="list-style-type: none">4 reels with 10 progressive jackpots that can be won with wilds during free games (image 1)
	Fu Man Fortune	4 x 6	50	Chinese	Premium	<ul style="list-style-type: none">4 progressive jackpots. Reel 6 is wild during free spins and collection mechanic triggers bonus game (image 2)
	Sands of Time	3 x 5	30	Egyptian	Core Video	<ul style="list-style-type: none">Challenges based on spins or symbols, stacked symbols, and free spins (see Deep Dives)
	Monster Riches	5 x 5	50	Halloween	Core Video	<ul style="list-style-type: none">Fill-the-meter, progressive jackpot, expanding wilds, pick'em bonus game, and free spins (see Deep Dives)
Slotomania HD	Medusa Magic	3 x 5	50	Greek	Core Video	<ul style="list-style-type: none">All stacked symbols and center reel become Cash Zone during free games (image 3)
	Sinful Wins	4 x 6	4096 ways	Other	Premium	<ul style="list-style-type: none">Stacked symbols, 2 progressive jackpots, and free spins with sticky stacked wilds
	Wicked Fortunes	3 x 5	20	Other	Core Video	<ul style="list-style-type: none">5 jackpots, free spins, multipliers and additional free spin symbols
GSN Casino	Halloween Bash	4 x 5	40	Halloween	Core Video	<ul style="list-style-type: none">Stacked wilds and u-pick free spins
DoubleU Casino	Glory of Romans	4 x 5	50	Greek	Core Video	<ul style="list-style-type: none">Progressive jackpot, base game multipliers, and bonus game consists of multipliers and number bonus
	Piggy Jackpots 2	3 x 3	5	Other	Classic	<ul style="list-style-type: none">5 progressive jackpots and 2 re-spins: 1 with locked jackpot symbols and 1 with a locked wild (image 4)



MARKET WATCH: TOP 9 - 11 GROSSING

GAME	MACHINE	REELS	LINES	THEME	TYPE	FEATURES
Gold Fish Casino	Ruby Star	Locked	Locked	Locked	Locked	• Locked
	King of the Andes!	Locked	Locked	Locked	Locked	• Locked
Bingo Blitz	Egyptian Mysteries	4 x 5	50	Egyptian	Premium	• Stacked wilds, stacked mystery symbols, bonus wheel, and wilds nudge during free spins (image 1)
	Trick or Treat	4 x 5	40	Halloween	Core Video	• 2 guaranteed wilds during free spins, fill-the-meter to play for progressive jackpot, stacked mystery symbols, and a bonus wheel (image 2)
Wizard of Oz	Deep into the Forest	Other	30	IP	Premium	• There are 2 3 x 4 reel sets and stacked wilds will nudge and lock during free spins (images 3 and 4)
	Best of Friends	Locked	Locked	Locked	Locked	• Locked
	Leaving Kansas	Locked	Locked	Locked	Locked	• Locked
	Because Because Because	Locked	Locked	Locked	Locked	• Locked
	Faces of Emerald City	Locked	Locked	Locked	Locked	• Locked



MARKET WATCH: TOP 12 - 17 GROSSING

GAME	MACHINE	REELS	LINES	THEME	TYPE	FEATURES
Hit it Rich!	The Twilight Zone	3 x 5	250	IP	Premium	• 3 progressive jackpots, collection mechanic to trigger a u-pick; free spins with multiplier or pick'em bonus
	The Wonderful Land of Oz	4 x 5	500	IP	Core Video	• 3 progressive jackpots, u-pick for free spins with over-sized symbols or pick'em bonus (image 1)
	Silly Safari	Locked	Locked	Locked	Locked	• Locked
Quick Hit Slots	Winning Hearts	4 x 5	40	Fairy tale	Core Video	• Mystery stacked reels and free games bonus with multipliers
	Heavenly Riches	3 x 5	40	Chinese	Core Video	• Mystery jackpot, scatter pays up to x1000, stacked wilds, free spins with jackpot red envelope symbols (image 2)
Caesars Casino	Snow Empress	4 x 6	80	Other	Core Video	• Nudging stacked wilds in base game, stacked wilds may become multipliers in free spins, and bonus game
	Vampire Desires	Other	100	Mythical	Premium	• 2 reel sets: 4 x 5 and 9 x 5, shifting wild reels, fill-the-meter to trigger bonus, and free spins (image 3)
Viva Slots Las Vegas	Frankenslot's Monster	2 x 3	1	Halloween	Classic	• Progressive multiplier with each spin and spin until a loss
myKONAMI Slots	Chili Chili Fire	3 x 5	30	Other	Core Video	• Tumbling fade away mechanic, free games, and action stacked symbols (see Deep Dives)
Scatter Slots	Holy Fury	3 x 5	25	Mythical	Core Video	• 2 symbol battle mode, re-spin until no new battle symbols hit, random multipliers, and free spins wheel
	Jaguar Warrior	Other	720 ways	Mythical	Core Video	• 3, 4, 5, 4, 3 reel set, stacked wilds, 4 jackpots, pick'em bonus game, and collection-triggered free spins (image 4)



MARKET WATCH: TOP 18 - 21 GROSSING

GAME	MACHINE	REELS	LINES	THEME	TYPE	FEATURES
Infinity Slots	Lucky Candies	Locked	Locked	Other	Locked	• Locked
	Magic Lake	Locked	Locked	Mythical	Locked	• Locked
	Cleopatra	Locked	Locked	Greek	Locked	• Locked
	Trick or Treat	3 x 5	30	Halloween	Core Video	• Any symbol between 2 wilds turns into a wild, reel 5 is all wild during free spins, pick'em bonus, and fill-the-meter to get cashback (image 1)
Huuuge Casino	Classic Olympic	2 x 5	1	Classic	Classic	• Progressive jackpot with 1 payline (image 2)
	Emerald Goddess	4 x 6	50	Mythical	Core Video	• Free spins and stacked symbols expand neighboring symbols (image 3)
	Cute Horror Story	3 x 5	10	Halloween	Core Video	• 3 progressive jackpots, shifting wilds, and free spins (image 4)
Willy Wonka Slots	Slugworth	Locked	Locked	Locked	Locked	• Locked
	The Lucky Five	Locked	Locked	Locked	Locked	• Locked
myVegas Slots	Glee Little Pigs	5 x 5	768 ways	Fairy tale	Core Video	• Sticky wilds and fill the middle reel to advance 'acts' during free spins (see Deep Dives)



MARKET WATCH: TOP 22 - 25 GROSSING

GAME	MACHINE	REELS	LINES	THEME	TYPE	FEATURES
Black Diamond Casino	Double Dice	4 x 5	40	Classic	Core Video	<ul style="list-style-type: none">Stacked wilds, x2 multiplier in free spins, and collection mechanic triggers bonus game (image 1)
	Super Golden Kitty	4 x 5	50	Chinese	Core Video	<ul style="list-style-type: none">2 scatters 2x bet, 3 scatters 2x bet and triggers free spins, and hidden symbol reveals a multiplier
	Super Fluffballs	Locked	Locked	Locked	Locked	<ul style="list-style-type: none">Locked
	The Munsters: Herman's Gone Wild	Other	40	IP	Core Video	<ul style="list-style-type: none">3, 4, 4, 4, 3 reel formation, wheel bonus, free spins, fill-the-meter with consecutive wins to hit a jackpot, and full reel wilds turn other symbols into wilds
	Triple Steel	Locked	Locked	Locked	Locked	<ul style="list-style-type: none">Locked
Classic Vegas Casino	Lucky Halloween	1 x 3	1	Halloween	Classic	<ul style="list-style-type: none">2x and wild symbols lock during re-spin (image 2)
Jackpotjoy Slots	Immortal Rivals	Locked	Locked	Mythical	Locked	<ul style="list-style-type: none">Locked
	Sushi Surprise	Locked	Locked	Asian	Locked	<ul style="list-style-type: none">Locked
Hot Shot Casino	Billie Jean	3 x 5	30	IP	Premium	<ul style="list-style-type: none">3 progressive jackpots, bonus spins, and wilds randomly added by Michael Jackson during base game (image 3)
	Robin Hood and the Golden Arrow	3 x 5	50	Fairy tale	Core Video	<ul style="list-style-type: none">Progressive jackpot and free spins (image 4)



MARKET WATCH: TOP 25 - 30 GROSSING

GAME	MACHINE	REELS	LINES	THEME	TYPE	FEATURES
Slot Bonanza HD	Valor and Glory	3 x 5	35	Greek	Core Video	• Progressive jackpot, stacked wilds, mystery box, free spins, battle feature, and bonus game (image 1)
	Classroom Crush	3 x 5	50	High school	Core Video	• Progressive jackpot, mystery box, free spins, and bonus game
High 5 Casino	Rockabilly Babe	Locked	Locked	Romance	Locked	• Locked
	Flower Bride	1024 ways	N/A	Fairy tale	Core Video	• Free spins feature has a collection mechanic that increases multiple of the wild symbol
	Maggie and The Martians	Locked	Locked	Locked	Locked	• Locked
DoubleHit Casino	Lucky Halloween	1 x 3	1	Halloween	Classic	• 2x and wild symbols lock during re-spin (same in Classic Vegas Casino game)
	Ruby Deluxe	3 x 5	5	Classic	Classic	• 5x, 25x, and 1000x multipliers (image 2)
Downtown Vegas Slots	Hot Hot Triple	3 x 3	5	Classic	Classic	• 3x multipliers. Hitting 2 3x symbols pays 9x (image 3)
Classic Slots	Happy Halloween	3 x 3	7	Halloween	Classic	• Bonus wheel and free spins with locked wilds
	Election Vote	2 x 3	1	Other	Classic	• Progressive jackpots and collection mechanic triggers free spins with 3 new and locked wilds (image 4)

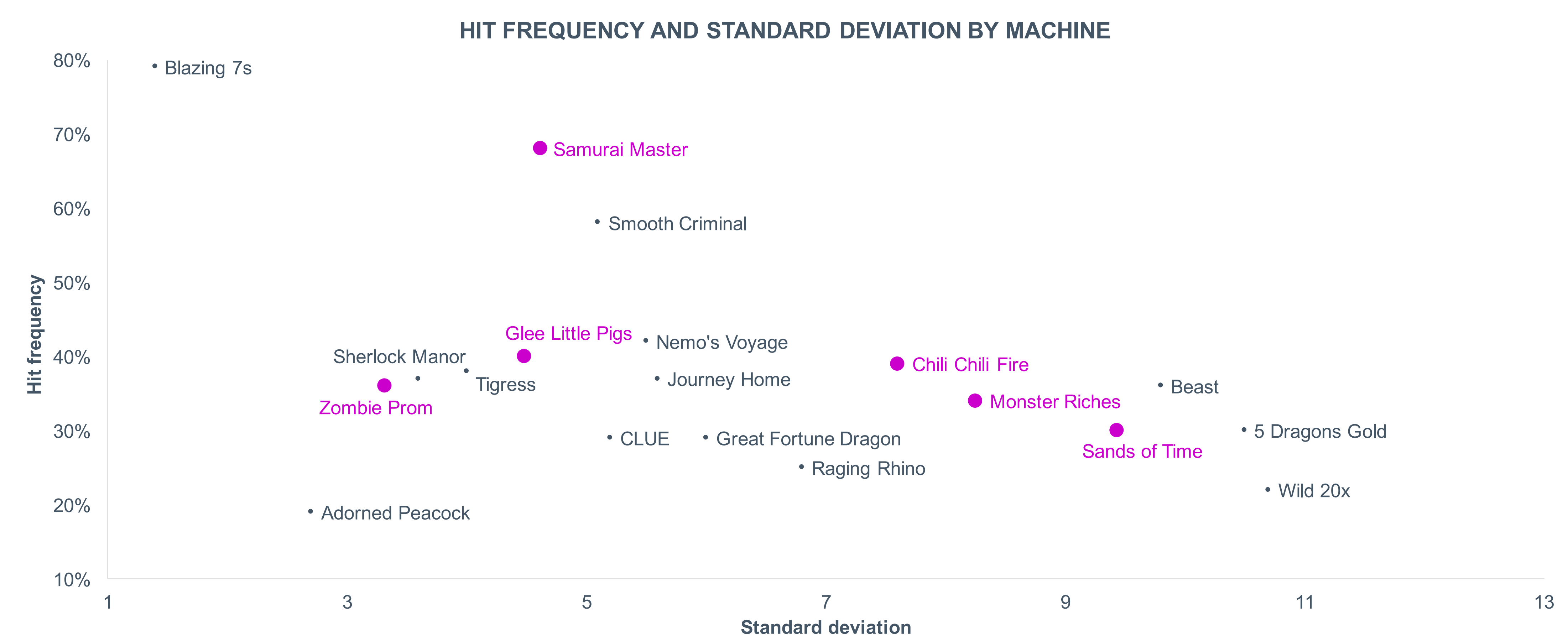


DEEP DIVES

- SAMURAI MASTER from Jackpot Party
- SANDS OF TIME from House of Fun
- ZOMBIE PROM from Big Fish Casino
- GLEE LITTLE PIGS from myVegas Slots
- MONSTER RICHES from House of Fun
- CHILI CHILI FIRE from myKONAMI Slots

MACHINE DEEP DIVE SUMMARY

Jackpot Party’s Samurai Master has an extremely high hit frequency. House of Fun’s Sands of Time has a high volatility but low hit frequency. Big Fish Casino’s Zombie Prom has a low hit frequency and low volatility



SAMURAI MASTER

Jackpot Party's Samurai Master has four reel sets, stacked wilds, reveal symbols, nudging feature, and a Samurai Master Super Multi-Pay bonus

- The machine has four 3 x 5 reel sets—one large main reel set and three smaller reel sets (image 1).
- During the base game, wild symbols substitute for all other symbols to complete winning combinations, with the exception of the bonus symbol. Bonus or Samurai symbols that land on the main reel set transfer, or nudge, over to the smaller three reels (image 2).
- During the base game, after the Samurai symbol lands on the reels, it reveals random identical symbols in every position it appears, excluding the bonus symbol (image 3).
- Three or more bonus symbols within any reel set triggers the Samurai Master Super Multi-Pay Bonus. Triggering a bonus on one reel set awards players with eight free spins; two reel sets awards eight free spins with a two times multiplier, three reel sets awards eight free spins with a three times multiplier, and finally triggering on all four reel sets awards eight free spins with a four times multiplier (images 4 and 5).
- An alternate single 3 x 5 reel set is used during all free spins, with additional wild and bonus symbols added to the reels. All active paylines and multipliers remain the same as the spin that triggered the bonus and additional free spins can be retriggered (image 6).

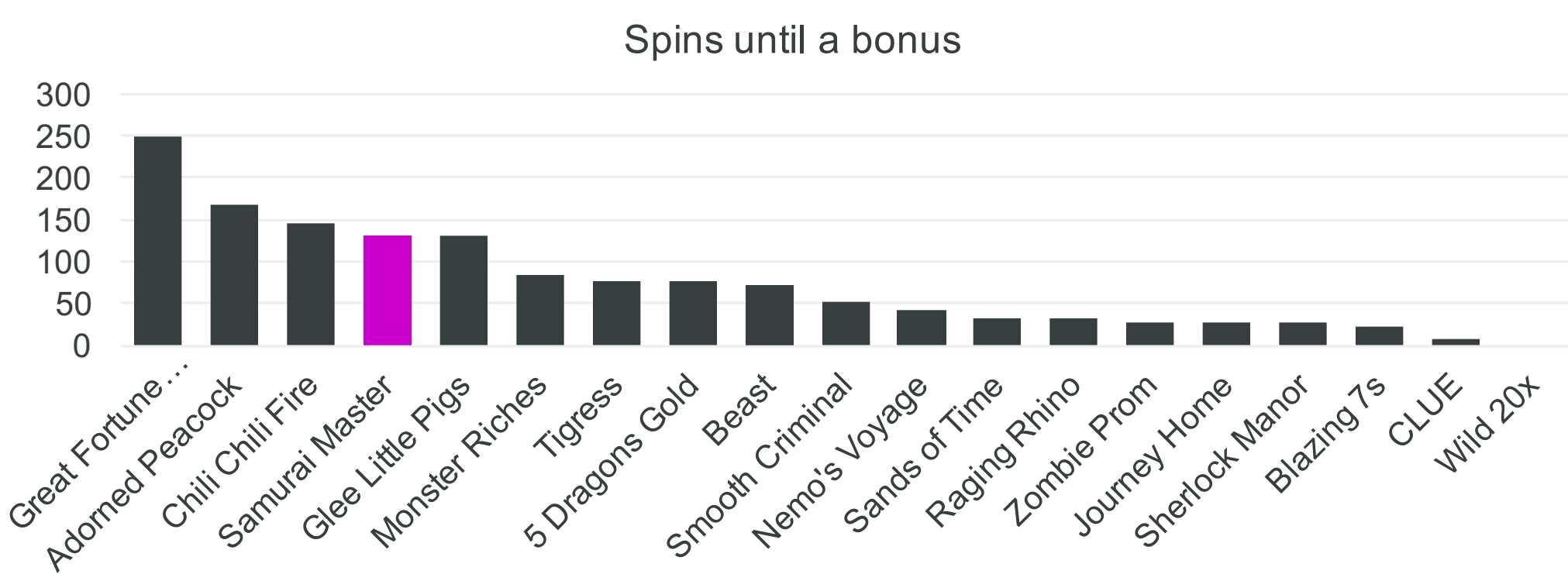
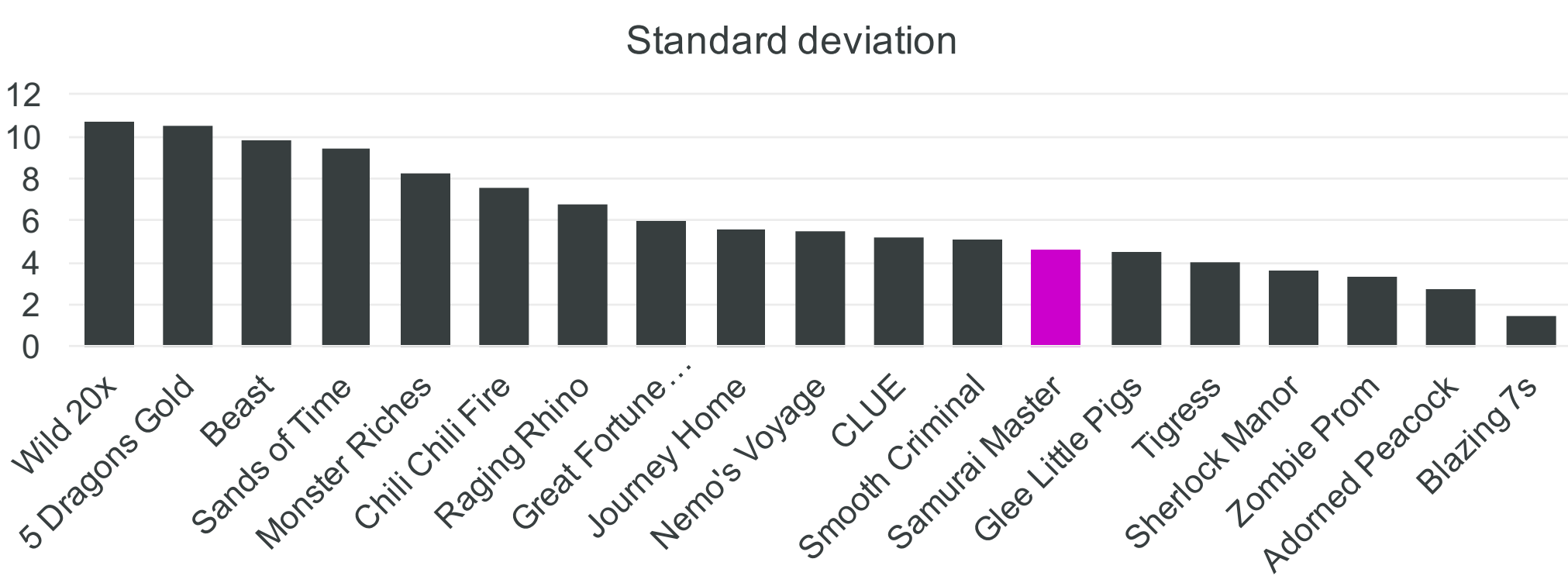
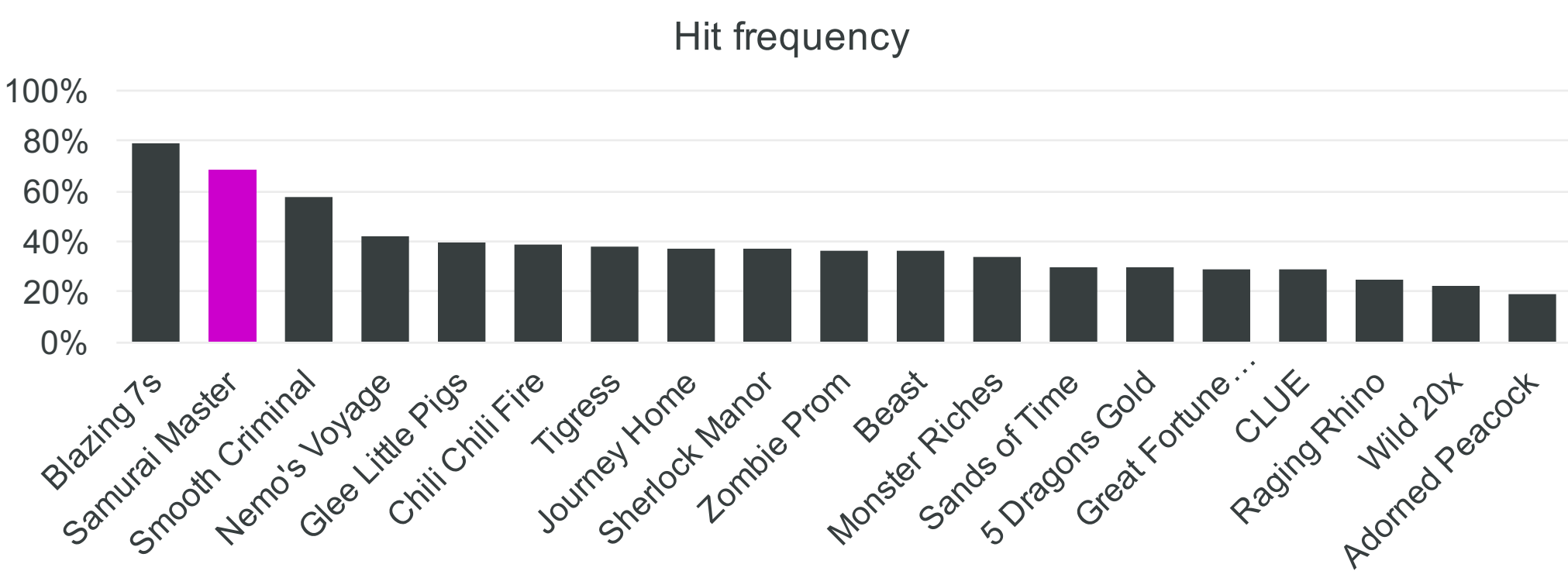


SAMURAI MASTER STATS

A high hit frequency machine with below average volatility and infrequent bonus games

Game play	
Hit frequency	68%
Standard deviation	4.6
Spins until a bonus	130
Distribution of RTP as % of total RTP*	
Base game	79%
Bonus game	21%
RTP range**	
Minimum range	94%
Median	102%
Maximum range	109%

*The distribution of RTP equals the RTP of the base or bonus game over the total RTP
**90% confidence with 10,000 spins of the machine. Numbers do not include collection system



SANDS OF TIME

House of Fun's Sands of Time offers players free spins, stacked symbols, and a fill-the-meter challenge

- There are 30 lines, a chance to trigger up to 100 free spins, and involved animation when certain symbols group together (image 1).
- A fill-the-meter bar at the top of the reel set alerts players to the machine challenge feature (image 2).
- Completing challenges awards players with credit prizes, and completing the challenges in the time allotted awards an additional credit prize (image 3).
- Challenges are based on number of spins played or collecting a number of symbols. They range from spinning the reels 100x in 20 minutes to collecting 15 five-of-a-kinds in 30 minutes (image 4).
- Free spins can be triggered when six or more sphinx symbols land anywhere on the reels. Players are awarded ten free spins for six symbols, and up to 100 free spins for 15 symbols (image 5).
- All pays during free spins are multiplied by two, and additional free spins may be triggered and won during free spins (image 6).

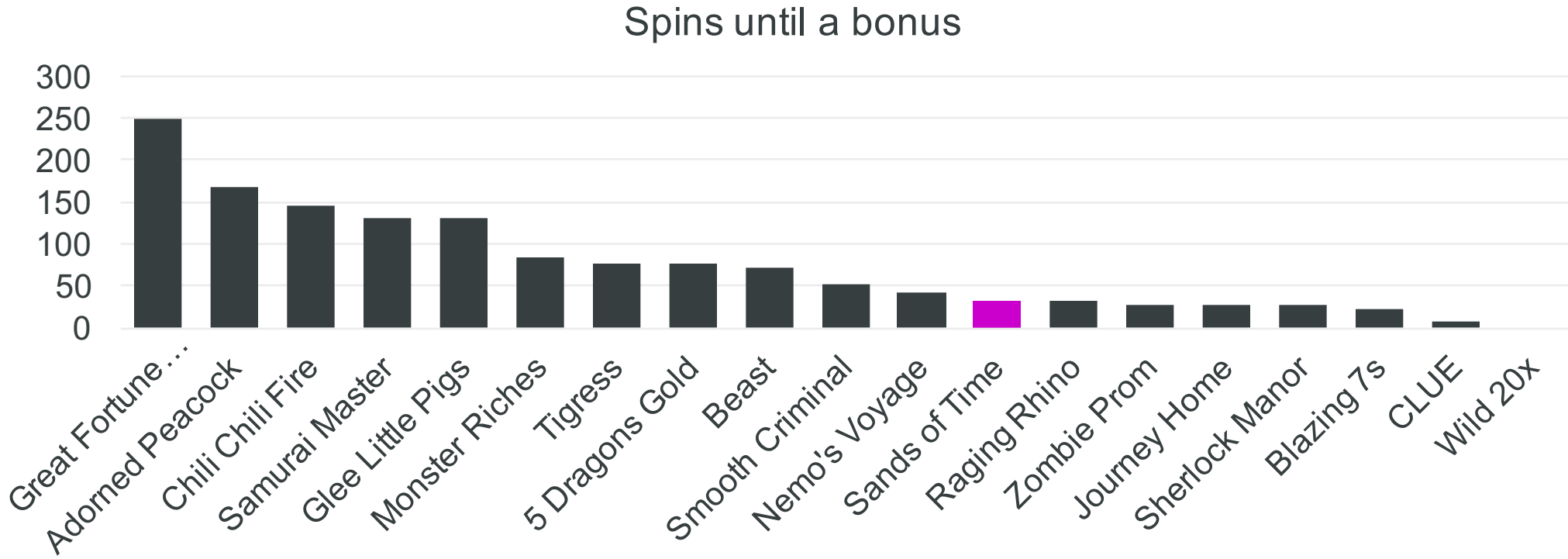
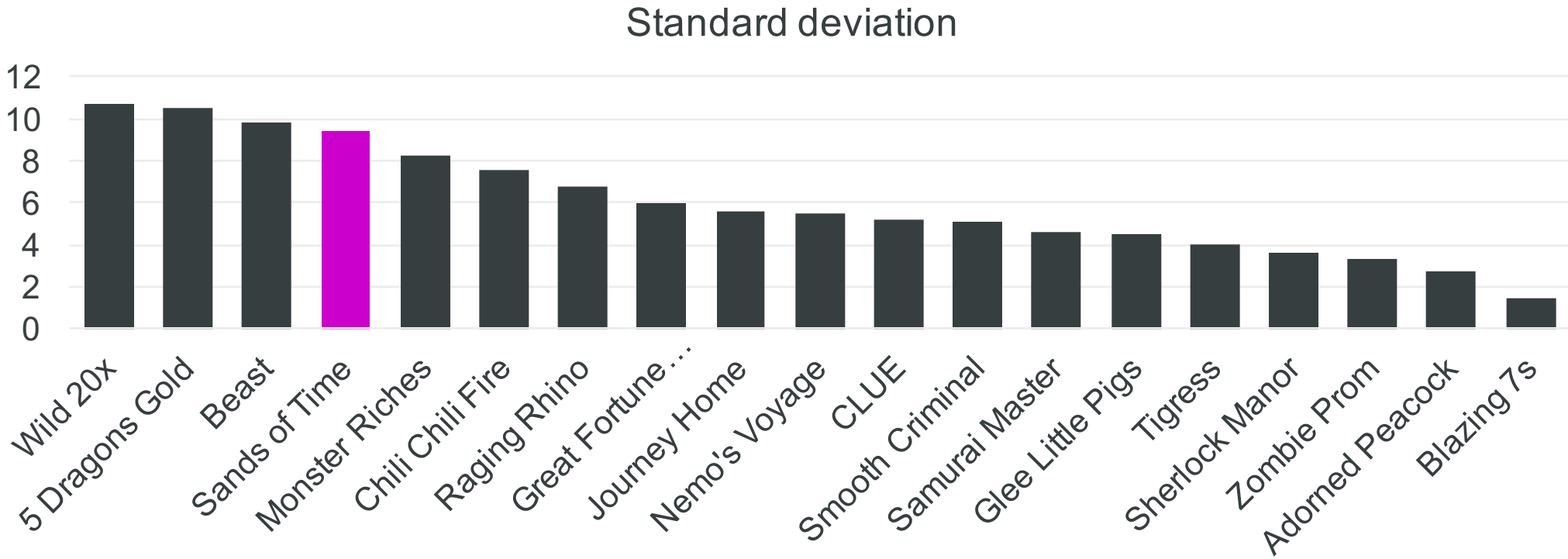
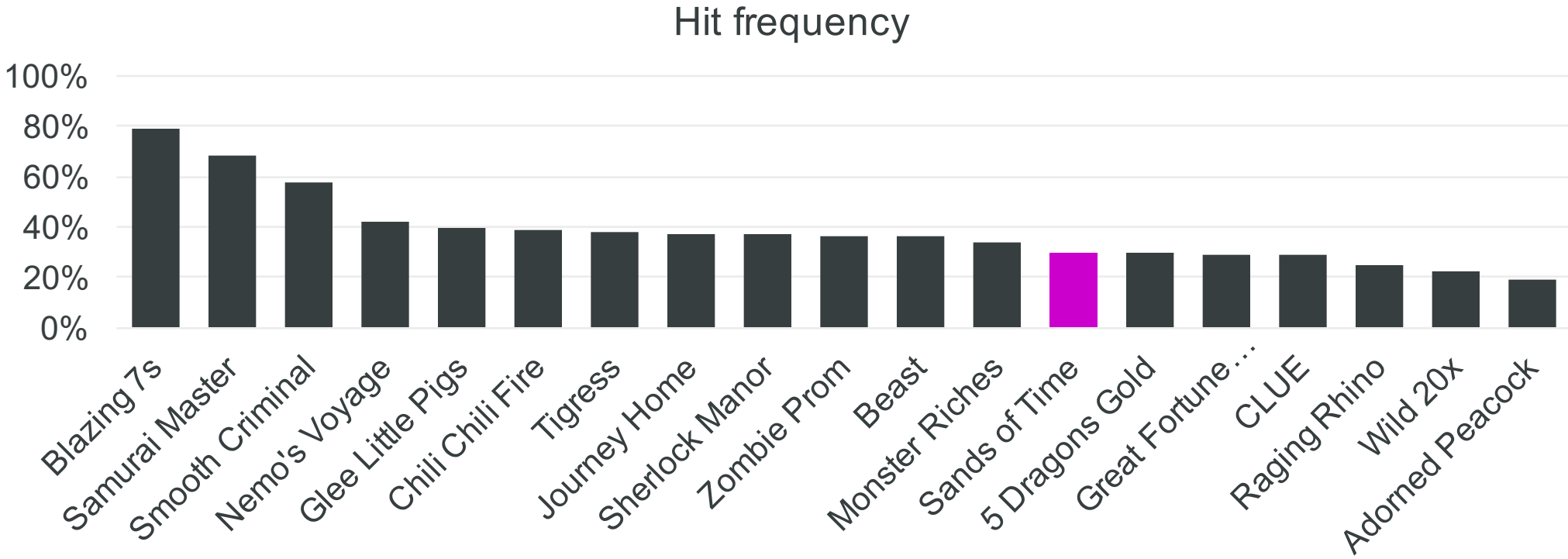


SANDS OF TIME STATS

A below average hit frequency machine with high volatility and frequent bonus games

Game play	
Hit frequency	30%
Standard deviation	9.4
Spins until a bonus	33
Distribution of RTP as % of total RTP*	
Base game	52%
Bonus game	48%
Free spins	15%
Meter bonus	33%
RTP range**	
Minimum range	93%
Median	109%
Maximum range	124%

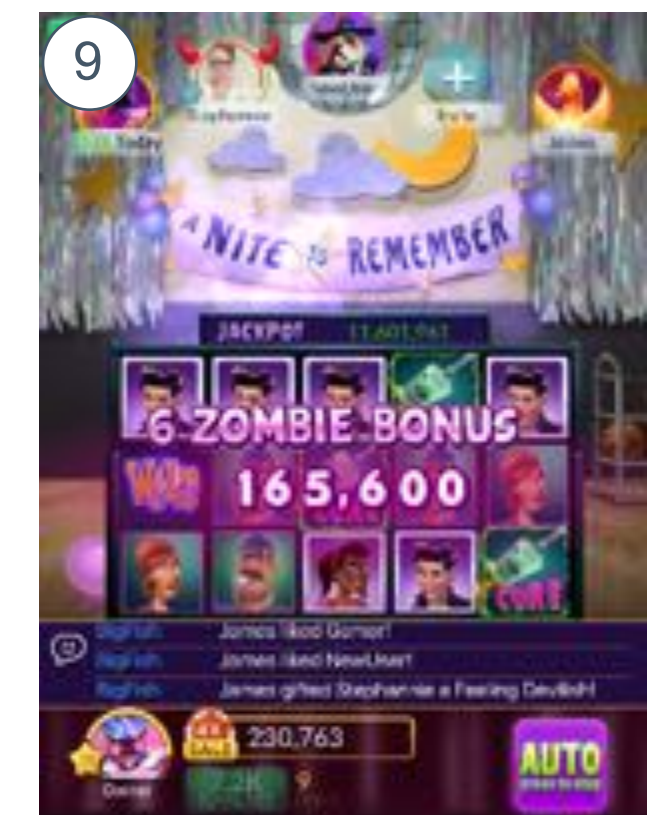
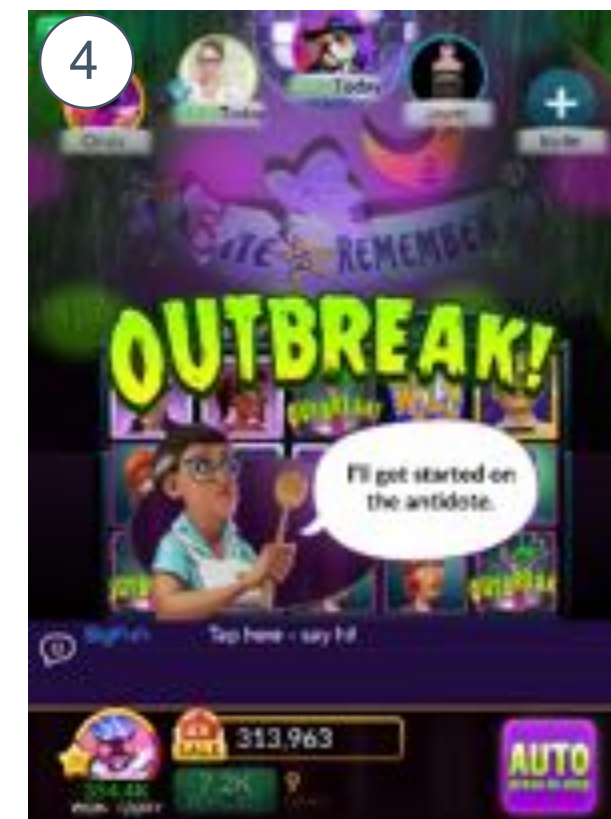
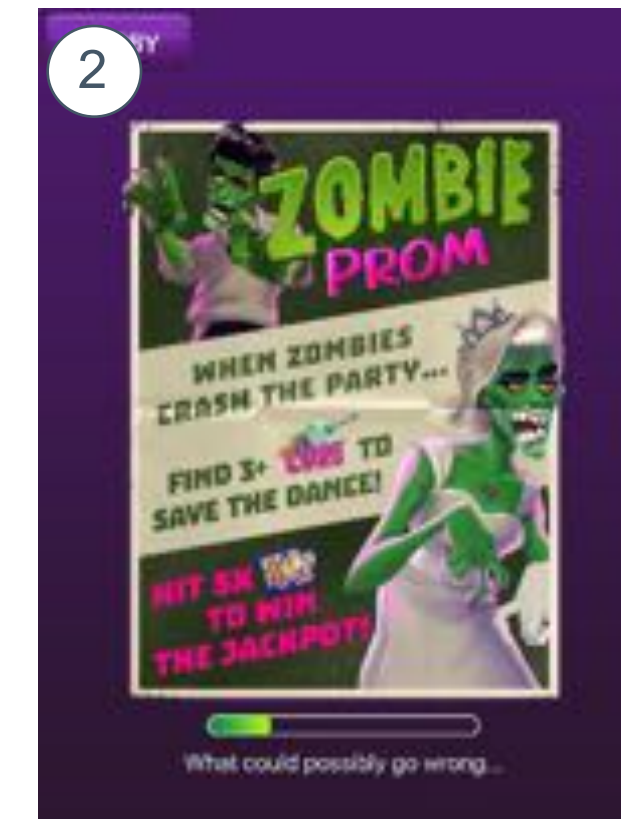
*The distribution of RTP equals the RTP of the base or bonus game over the total RTP
**90% confidence with 10,000 spins of the machine. Numbers do not include collection system



ZOMBIE PROM

Big Fish Casino's Zombie Prom is a 3 x 5 zombie-themed machine with nine paylines, a jackpot, and a Zombie Bonus feature

- In the lobby, there is a progressive jackpot counting up on the Zombie Prom lobby card (image 1).
- During machine load, players are given a preview of the machine features with the loading screen (image 2).
- The jackpot amount is shown on top of the reel set and is awarded when any five wild symbols land on an active payline (image 3).
- To trigger the Zombie Bonus feature, three or more Outbreak symbols must appear anywhere on the reels (image 4).
- After the Outbreak is triggered, players are notified with a message on the reel set. The goal of the Outbreak feature is to hit winning combinations of character symbols to turn the characters into zombies (image 5).
- When a winning combination of a character symbol has been hit, the reel symbol changes and depicts that symbol as a zombie (image 6).
- After every new winning combination of a character is hit and the reel symbol changes, a zombie appears on top of the reel set (image 7).
- Players are notified when three or more Cure symbols appear anywhere on the reels, and the Outbreak feature is over (image 8).
- Players are awarded a bonus based on the amount of characters that have been turned into zombies. The more zombies acquired during the Outbreak the higher the Zombie bonus awarded when the Cure is triggered (image 9).

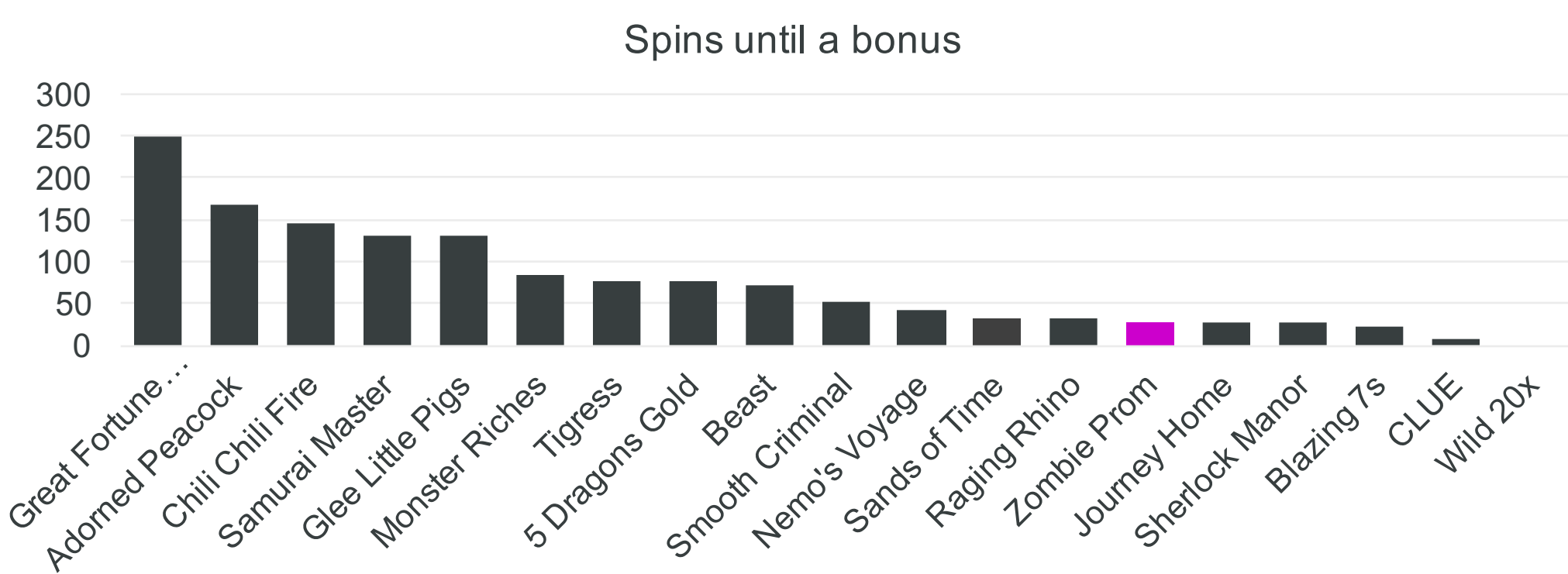
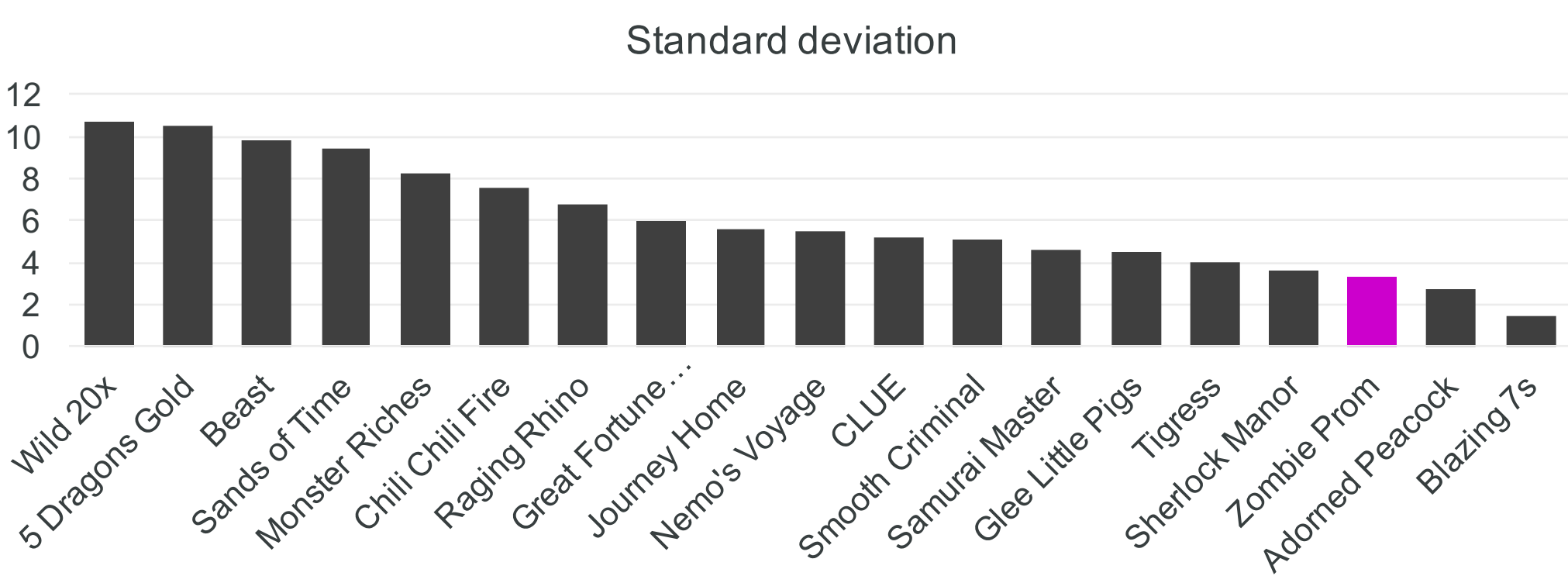
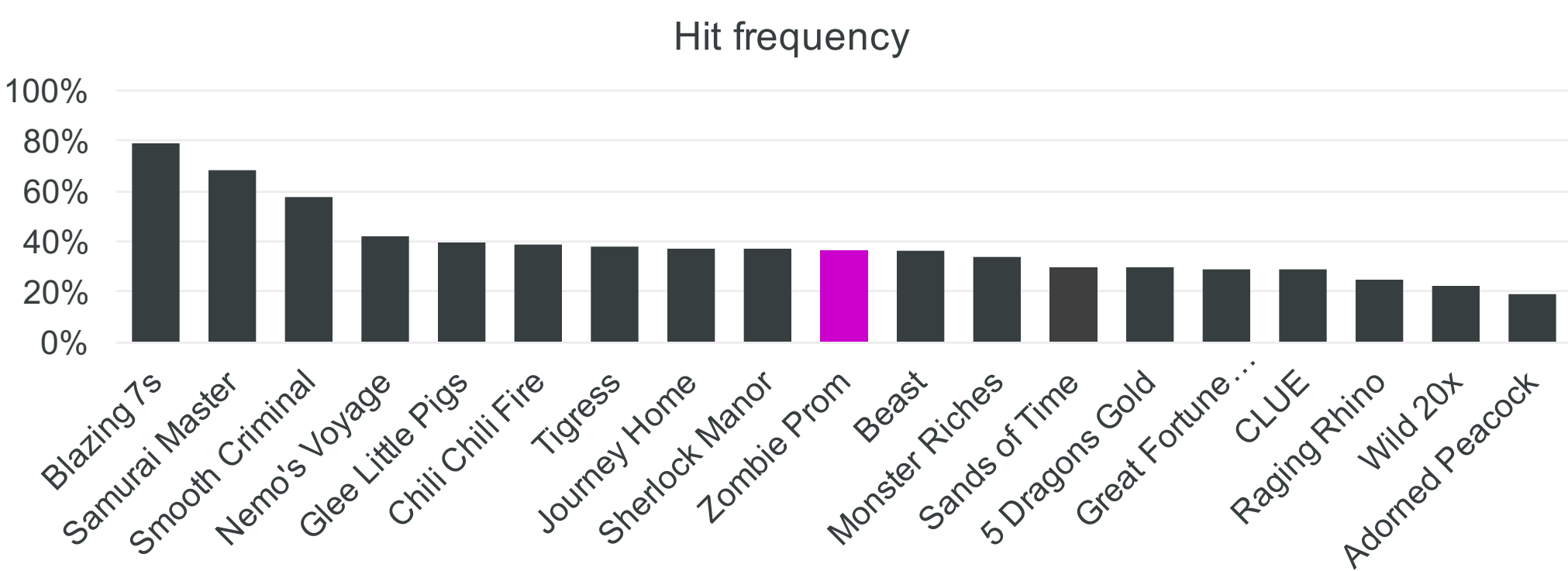


ZOMBIE PROM STATS

An average hit frequency machine with low volatility and frequent bonus games

Game play	
Hit frequency	36%
Standard deviation	3.3
Spins until a bonus	53
Distribution of RTP as % of total RTP*	
Base game	77%
Bonus game	23%
Cure bonus	22%
Outbreak initiated bonus	1%
RTP range**	
Minimum range	97%
Median	103%
Maximum range	109%

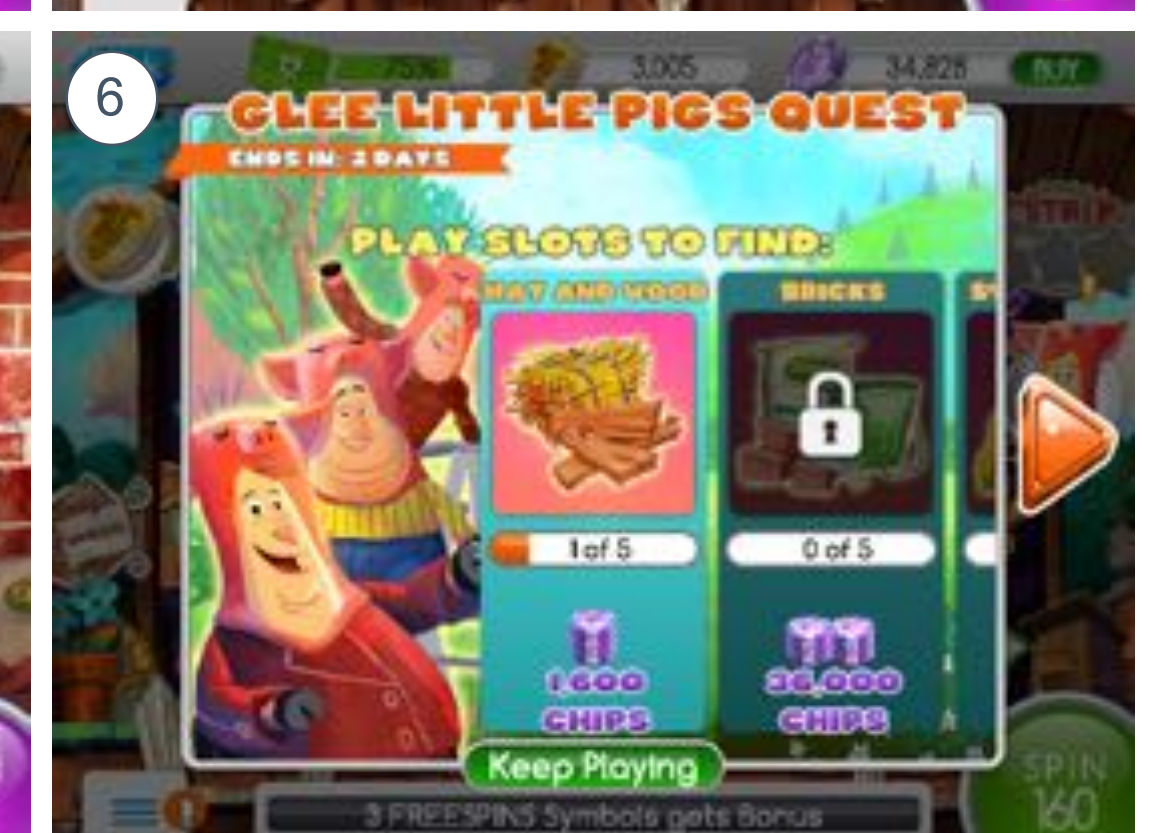
*The distribution of RTP equals the RTP of the base or bonus game over the total RTP
**90% confidence with 10,000 spins of the machine. Numbers do not include collection system



GLEE LITTLE PIGS

The Glee Little Pigs in myVegas Slots offers free spins bonuses with 'acts', sticky wilds, and expanding reels. There is also a collection system

- Upon game-entry, only 19 reels are exposed with 768 paylines on a 4 x 5 reel set. The top reel is blocked from reel three (image 1).
- Players receive ten free spins when three 'free spin' symbols land on reels two, three, and four (image 2).
- During free spins, sticky wilds appear on the third reel (image 3).
- Filling up the entire third reel set awards players with five additional spins, and progresses the players to act two (image 4).
- During free spins, players may advance through three acts. By retriggering free spins and making it all the way to act three, the entire 5 x 5 reel set is exposed (image 5).
- There is a collection system added to the machine based on symbols collected (image 6).
- myVegas Slots recently added a multi-machine jackpot. This appears at the top of the reels and is unlocked at level 26.

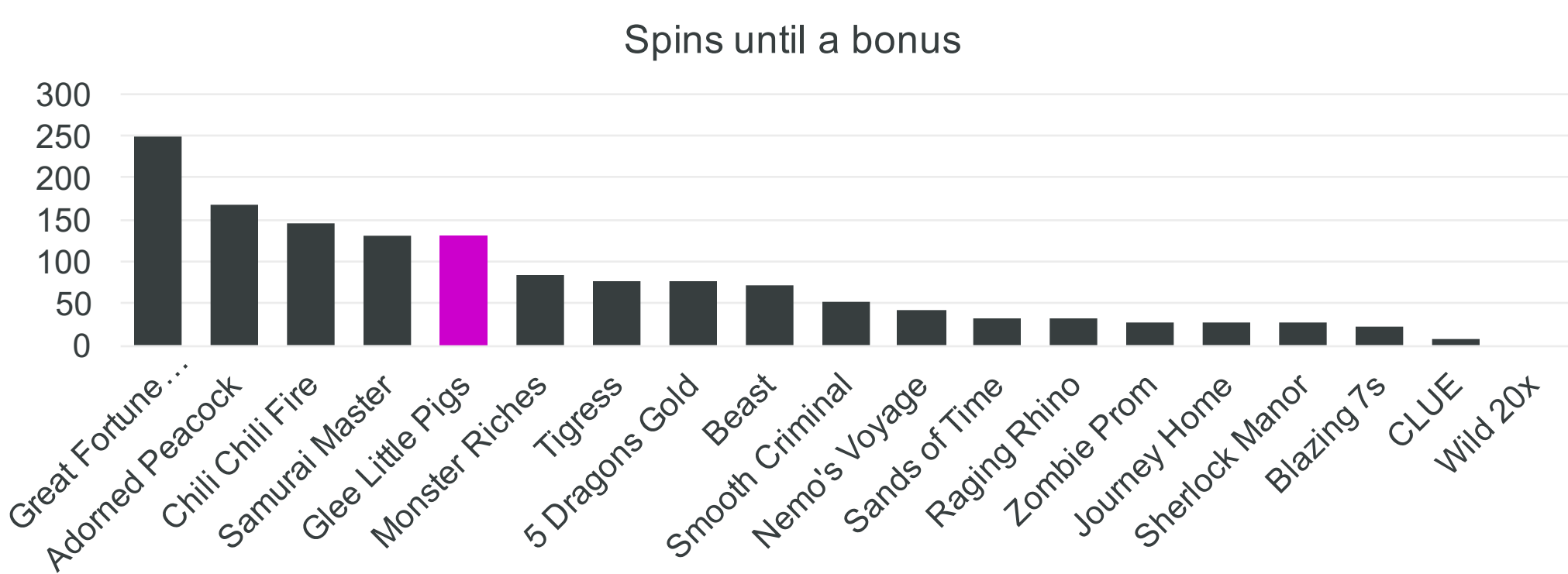
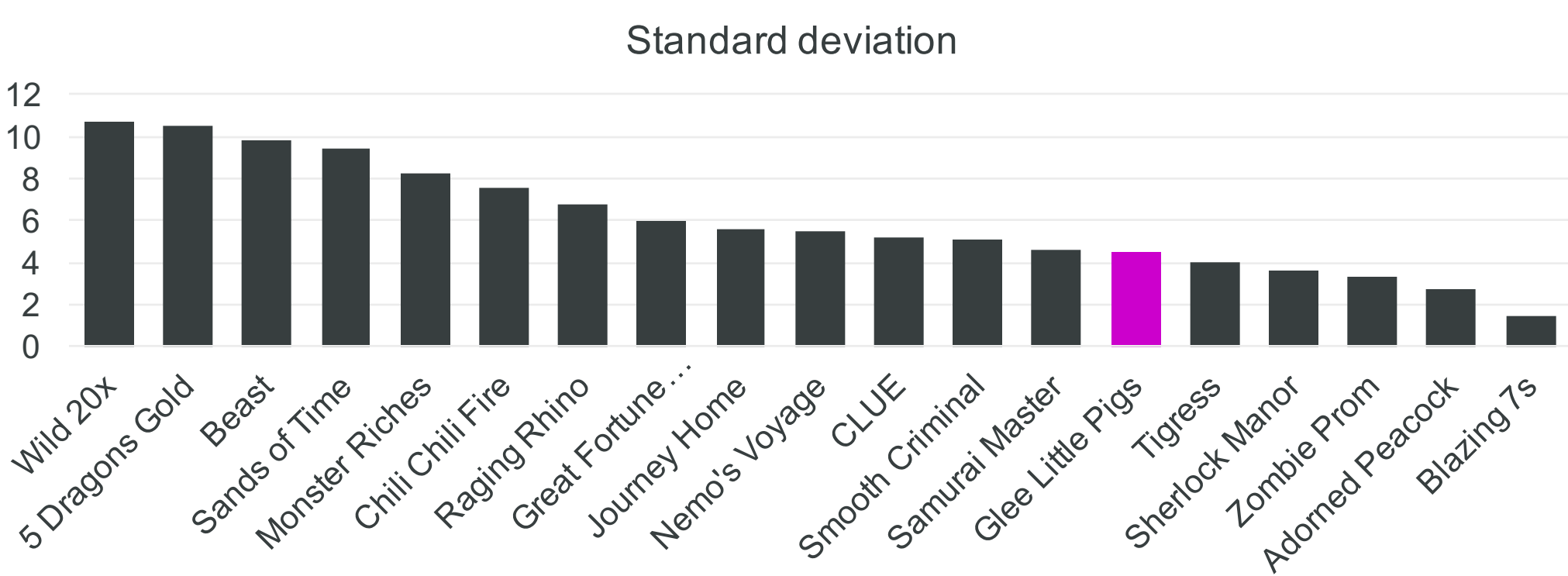
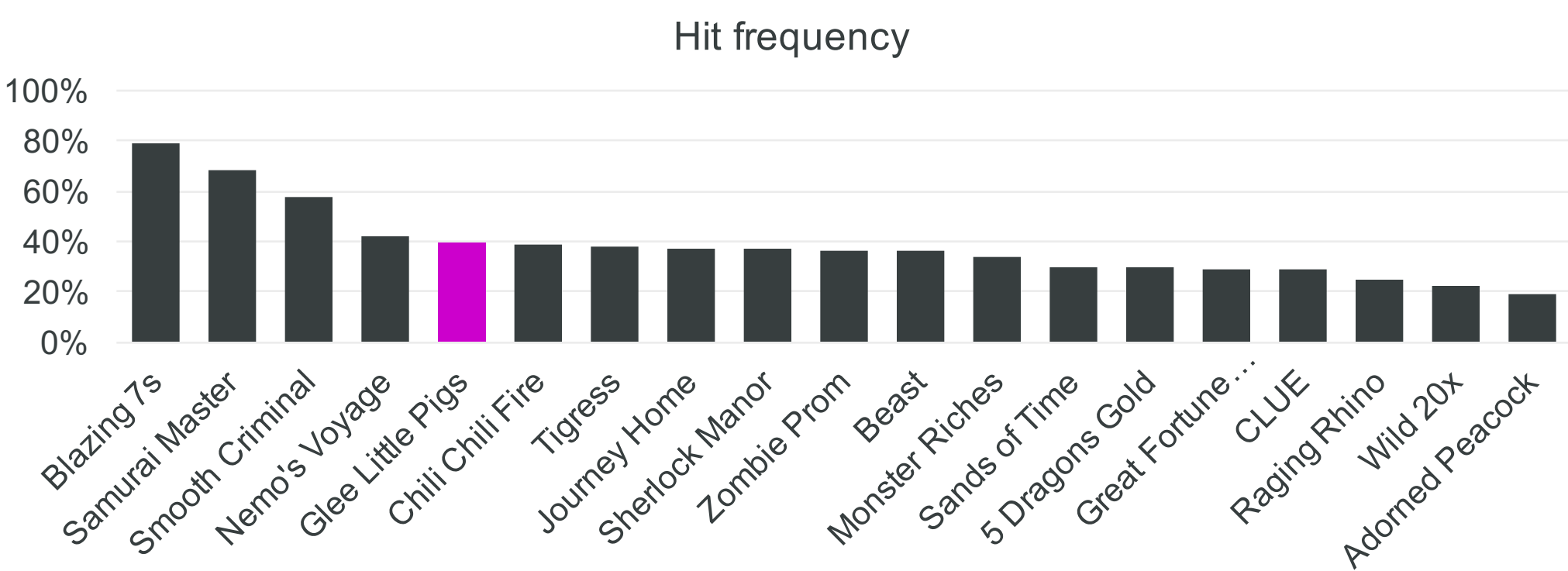


GLEE LITTLE PIGS STATS

An above average hit frequency machine with below average volatility and infrequent bonus games

Game play	
Hit frequency	40%
Standard deviation	4.5
Spins until a bonus	130
Distribution of RTP as % of total RTP*	
Base game RTP	69%
Bonus game RTP	31%
RTP range**	
Minimum range	80%
Median	88%
Maximum range	95%

*The distribution of RTP equals the RTP of the base or bonus game over the total RTP
**90% confidence with 10,000 spins of the machine. Numbers do not include collection system



MONSTER RICHES

House of Fun's Monster Riches includes Monster Wilds, free games wheel, u-pick, and a fill-the-meter to Frankenstein's Castle mini-game

- Upon machine entry, players are prompted to choose their bet to qualify for the map and fill-the-meter for the mini-game feature (image 1).
- During play, stacked skull symbols that land on the reels fill the meter (image 2).
- Filling the meter moves players one space along the map—every step awards a credit prize and every fifth step awards a monster bonus game (image 3). Players who make their way to Frankenstein's Castle are given a chance to win the progressive jackpot.
- The Monster Bonus game awarded on the map is a u-pick game. Players pick an icon from the bottom, moving up one row each pick if they avoid the skull (image 4).
- Anytime during spinning, the Monster Wild feature may trigger and randomly place one to five full wilds on the reels (image 5).
- To trigger the Monster Free Games, three or more moon symbols must appear anywhere on the reels. When the free games feature is triggered, a bonus wheel appears and players press the Spin button to win five to 25 free games (image 6).
- At the beginning of each free game, players are prompted to pick a character to reveal a modifier for that spin (image 7).
- Modifiers can be two, three, five, and ten times the win, or single or multiple full reel wilds. If two or more moon symbols land anywhere on the reels during a free game, additional games and another spin of the bonus wheel is awarded. All additional spins awarded use the same modifier as the triggering spin (image 8).

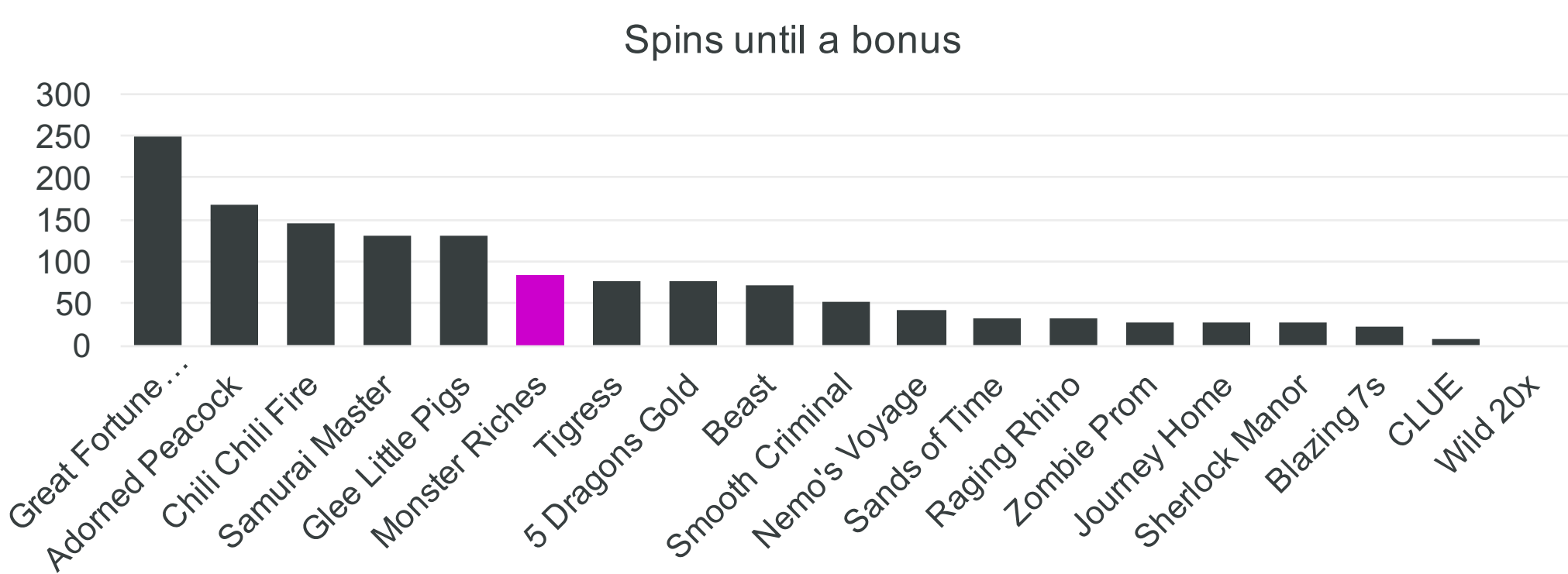
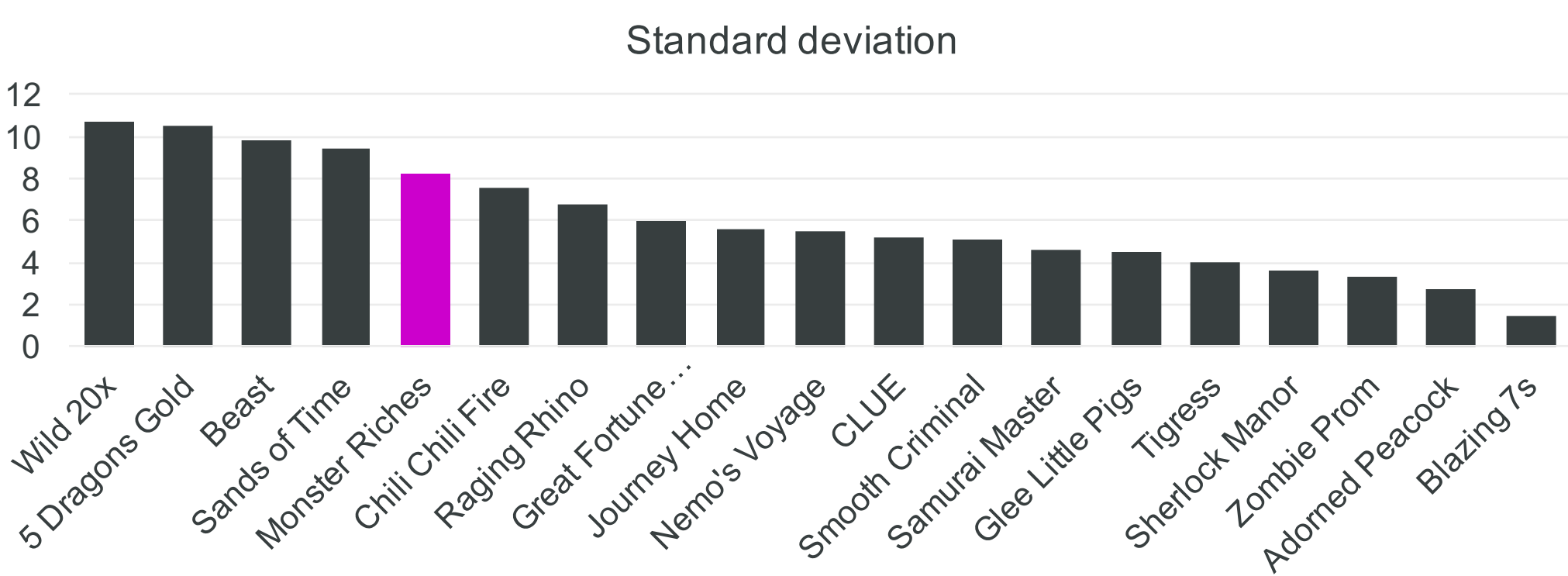
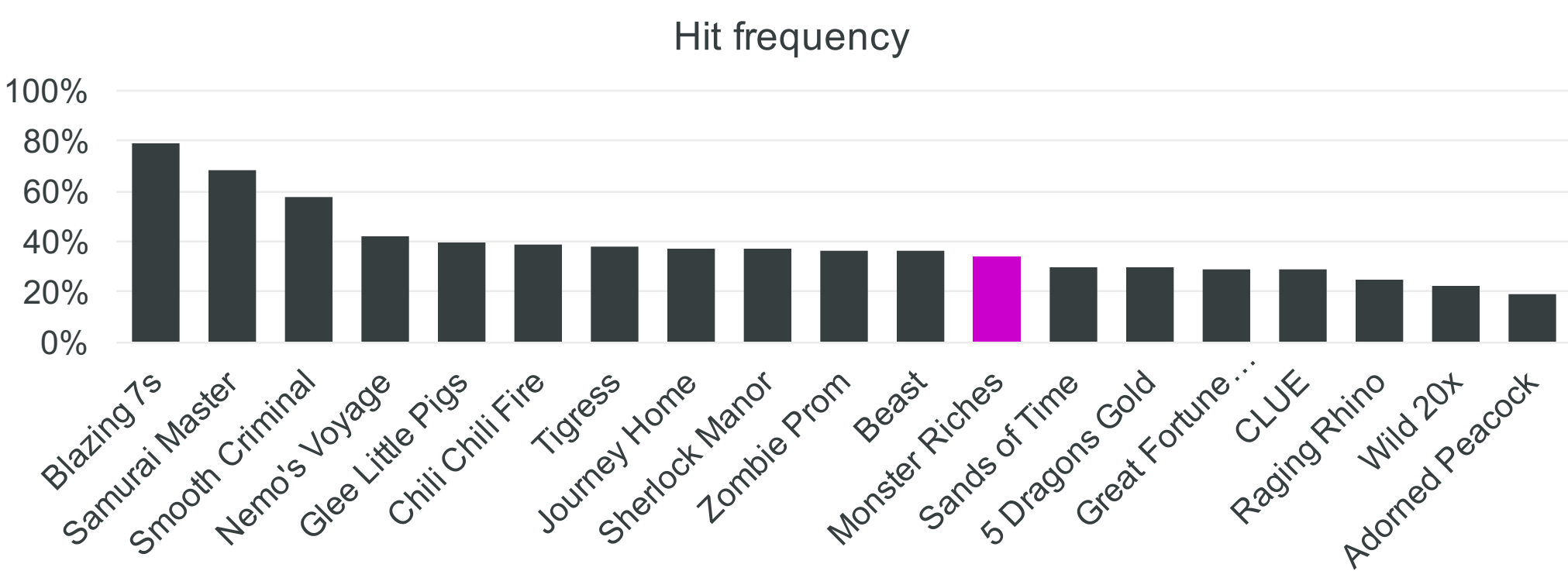


MONSTER RICHES STATS

An average hit frequency machine with above average volatility and average frequency bonus games

Game play	
Hit frequency	34%
Standard deviation	8.3
Spins until a bonus	85
Distribution of RTP as % of total RTP*	
Base game	52%
Bonus game	48%
Free games	40%
Challenges & map	4%
U-pick bonus	4%
RTP range**	
Minimum range	84%
Median	97%
Maximum range	111%

*The distribution of RTP equals the RTP of the base or bonus game over the total RTP
**90% confidence with 10,000 spins of the machine. Numbers do not include collection system



CHILI CHILI FIRE

myKONAMI Slots released a 3 x 5 machine that offers players action stacked symbols, stacked wilds, a free games feature, and a fade away feature

- During base game play, there are 30 lines and wild symbols appear on reels 2, 3, 4 & 5 (image 1).
- All regular symbols are Action Stacked Symbols, with the exception of the wild and chili pepper symbols. Randomly, before each spin is initiated, adjacent card symbols on the reels are replaced with the picture symbols (image 2).
- Players trigger the free games feature with three or more chili pepper symbols appearing anywhere on the reels (image 3).
- Three chili pepper symbols award players ten free games, four chili peppers award 12, and five chili peppers award 25 (image 4).
- Players are able to earn additional free games within the free games feature.
- After all wins are paid from a spin, a random fade away feature may initiate. During the fade away feature, all A, K, Q, J, 10, and 9 symbols present on the screen flame up and fade away (image 5).
- New symbols appear and the elimination of symbols continues until no A, K, Q, J, 10, or 9 remain on the reels (image 6).

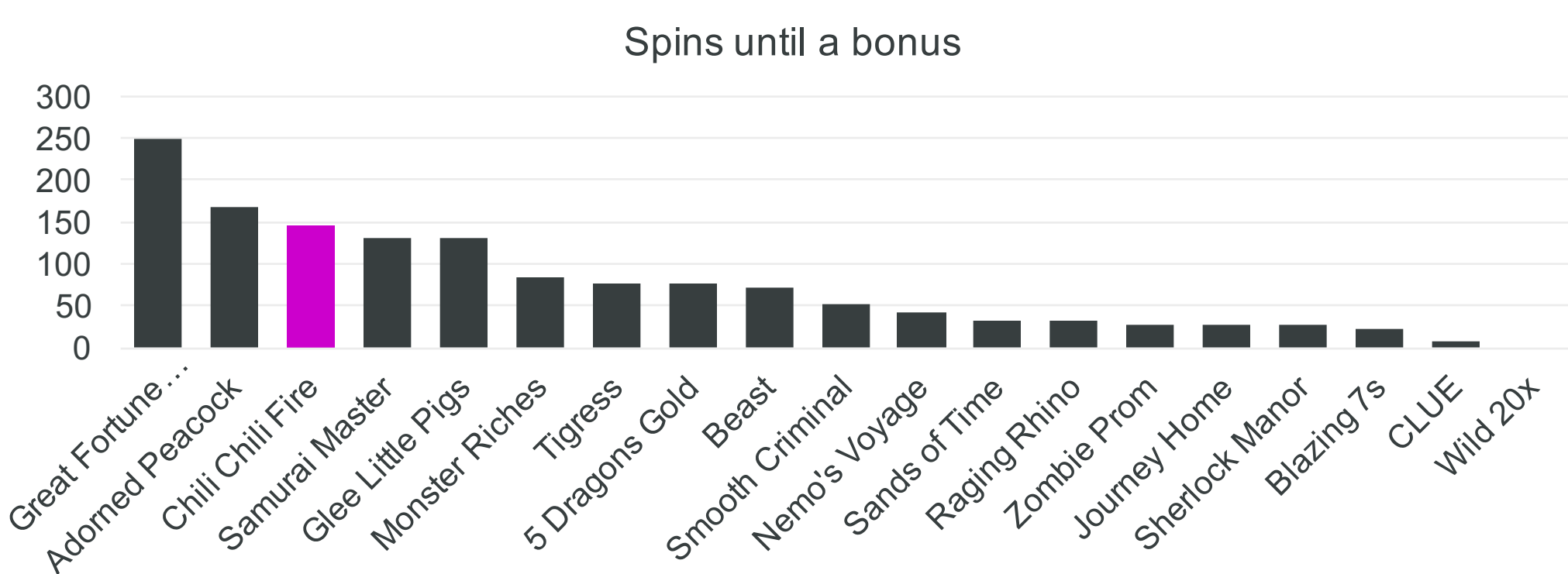
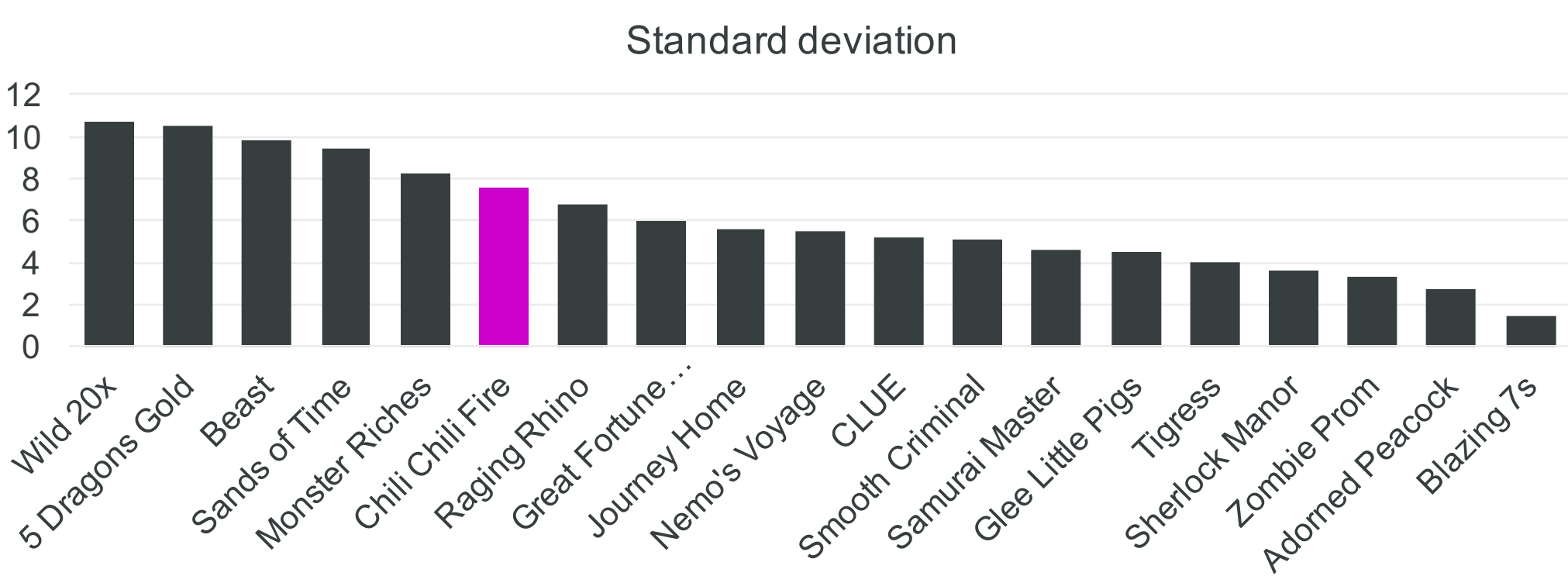
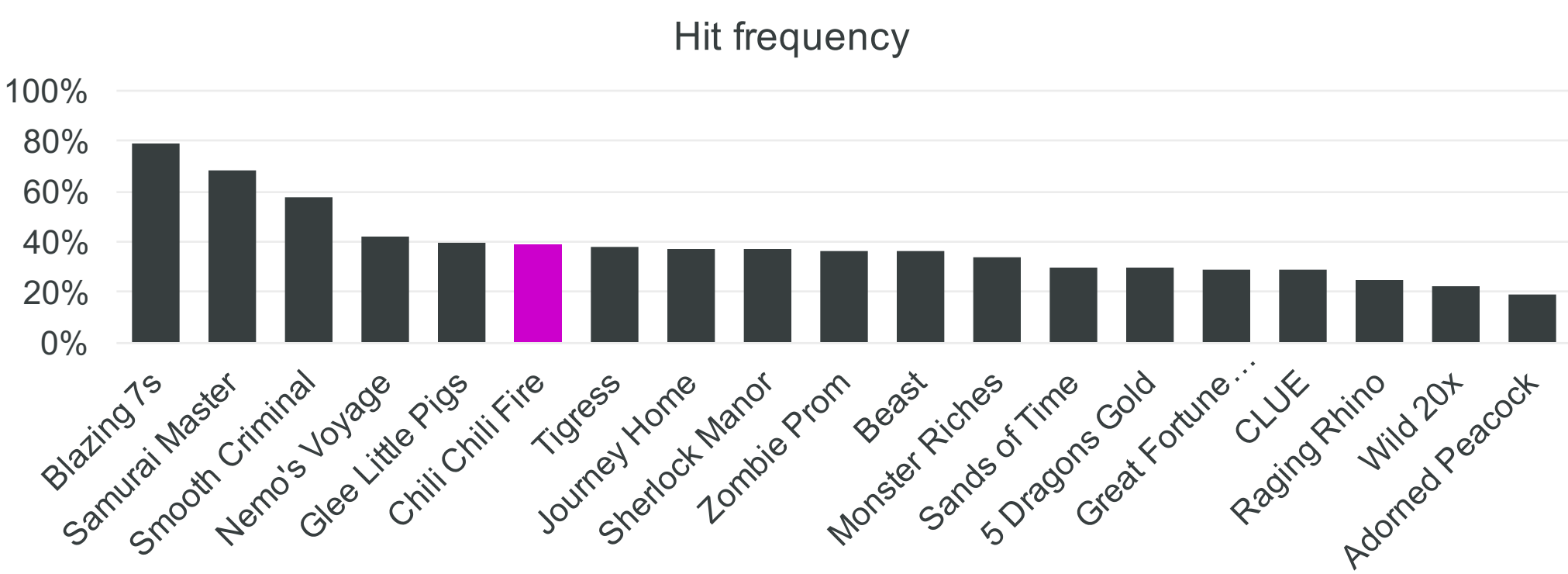


CHILI CHILI FIRE STATS

An above average hit frequency machine with above average volatility and infrequent bonus games

Game play	
Hit frequency	39%
Standard deviation	7.6
Spins until a bonus	145
Distribution of RTP as % of total RTP*	
Base game RTP	65%
Bonus game RTP	35%
RTP range**	
Minimum range	85%
Median	98%
Maximum range	110%

*The distribution of RTP equals the RTP of the base or bonus game over the total RTP
**90% confidence with 10,000 spins of the machine. Numbers do not include collection system



APPENDIX

DATA COLLECTION PROCESS

Machine observations are from 10,000 spins and a RMG-process to determine 90% confidence levels of a machine's play. Recommendations, information, and data comes from market research, app intelligence tools, and deep analysis of the games

Machine information	Market research
<ul style="list-style-type: none">• The Volatility Index is based upon the standard deviation of the spins, with a 90% confidence level.• The machines are spun 10,000 times.• The median output and standard deviation of the 10,000 spins are determined.• The standard deviation is then multiplied by 1.65 to find the Volatility Index, which is one deviation from the median.• The Volatility Index is then added and subtracted from the median to find the RTP range with a 90% confidence.• For example, if after 10,000 spins we found a median output of .86 and a Volatility Index of 6.0, the RTP range would be 80% - 92% for 90% of games played for 10,000 spins.	<ul style="list-style-type: none">• 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 wizardofodds.• Trending revenue, downloads, and package-rank data come from Priori Data, a Liquid and Grit partner.

Immature poets imitate; mature poets steal; bad poets deface what they take, and good poets make it into something better, or at least something different

– T.S. Elliot

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