

## PS 109: More on Can You Guess Who Controls Slot Machine Odds? Live | Virginia Slots in 2020

### Opening

Hello! Today's episode #109 of the Professor Slots podcast discusses More on Can You Guess Who Controls Slot Machine Odds. Plus, in this episode I'll be covering the current state of slot machine casino gambling in the great U.S. state of Virginia.

Thank you for joining me for the Professor Slots podcast show. I'm Jon Friedl and this is the podcast about slot machine casino gambling. It is where I provide knowledge, insights, and tools for helping you improve your slot machine gambling performance.

### On Last Week's Episode...

In case you missed it, on my last episode I went over More on my Winning Slots Strategy #7: Win, Walk Away, Return Later from my weekly live stream Q&A session on YouTube.

Further, I reviewed Vermont slot machine casino gambling in 2020.

I hope you enjoyed listening to my last episode as much as I enjoyed making it for you.

### Call to Action (add sound effect afterward)

Remember to visit [professorslots.com/subscribe](https://professorslots.com/subscribe) to get my Free Report Revealing ... The top 7 online resources for improving your gambling performance, including the one I've used as a top-tier slot machine casino gambler.

### YouTube Q&A Session from Saturday, September 19, 2020

Here's the audio recording of my latest live stream Q&A session.

#### OPENING

Hello, slots enthusiasts! How are you? My name is Jon Friedl. Welcome to Professor Slots, a channel that helps you master casino slots so you can win your way to success!

It's great to see you all here again for another Professor Slots podcast episode and live stream. If you're with us live, be sure to say hello and ask your slots-related questions! I'll get to those later in the show.

Today we're going to be diving into More on Can You Guess Who Controls Slot Machine Odds.

## BODY

Who controls slot machine odds of winning is a popular question among slots enthusiasts to which I thought you would appreciate an answer.

My last encounter with this general question was during the Q&A segment of recreational gambling podcast, episode #634 from Five Hundy By Midnight. They had a question from David which was, "When a new themed penny slot debuts, what is the typical hold percentage? Does it vary by machine, casino, or both?"

Tim and Michelle, co-hosts of this long-lasting podcast that's all about Las Vegas, answered the question well, if somewhat briefly.

I'm sure my own audience would like the answer too, so I'm providing a few more details as well as a more general answer with a bit of the why of it all.

If you've seen my 20-minute video on this topic from early this year, as usual you'll discovery more content here during this live Q&A session. If you've been following my live streams, you'll also start to see how everything we've been talking about here starts to come together because of this question. Its answers establishes the underpinnings for why my slots winning strategies work.

## A BIT OF BACKGROUND ON LEGAL REQUIREMENTS

To answer today's question, I'll need to delve into a bit of recent history to explain how odds are set in older-style standalone slot machines using a random number generator (RNG). This way is how many people incorrectly believe the odds are currently set on ALL slot machines. We'll come back to that in a moment.

However, starting around 2008, a lot changed with setting slot machine odds. These changes are due to the emergence of new gaming technologies, not only in slot machines but also with the development of casino operating software. Both provide casinos with an increased operating efficiency and therefore low operating costs.

With so many more people visiting casinos in the last decade, and with their profit margins getting smaller every year, casino operators find they cannot afford to ignore the savings opportunities of new technologies.

The second driver for this change to how slot machines are controlled is due to ongoing developments in statutory regulations for gaming jurisdictions. In the U.S., these gaming jurisdictions are the states, territories, or federal district that legally allow gaming.

In essence, casino operators have to follow the gaming regulations for the jurisdiction wherein they are located. These gaming jurisdictions often include laws which place an upper and lower limit on the pay back return for slot machines.

To not lose their gaming license, or to otherwise get in big trouble with gaming control authorities, casino operators must remain in compliance with these legal gaming requirements.

Note that commercial casinos have to be comply to gaming regulations as set by the U.S. state, territory, or federal district they are located in. Native American tribal casinos also have to comply with their own set of gaming requirements, which are usually not based on state law.

Rather, these are defined by negotiation between a federally-recognized tribe and the state within which they are located by carefully crafting a state-tribal compact ultimately approved by the U.S. Department of the Interior.

Within this overall context, who controls slot machine odds? At a high level, gaming regulators determine the legal limits, if any, for payout returns on slot machines accomplished via state law or negotiated compacts, and usually not changed for a decade, if that often.

Casinos operators are, often but not always, required to provide weekly or monthly reports on actual payout returns to show their gaming authority they are compliant. Sometimes, depending on each gaming jurisdiction, the state gaming commission shares these statistical reports with the public.

Going further, these regular reports sometimes break down these actual payout returns by casino, table games, slot machines, gaming machines, by the denomination of slot machines within a specific casino, or even if the machine has a progressive jackpot. What is done is very specific to the gaming jurisdiction where the casino is located.

Given all these variability of what is or is not done within a U.S. gaming jurisdiction, I've created an online series of posts for my audience of slots enthusiasts. It's meant to help them navigate this dynamic environment of state-specific gaming regulations.

For more information on your specific state, territory, or federal district of interest, see my online resource at [ProfessorSlots.com/online-resource](http://ProfessorSlots.com/online-resource). I'll put that link in the description for this video as well as the podcast show notes.

At a high level, gaming regulators control the odds of winning of slot machines using the legal requirements for payout return percentages. Sometimes, however, these state-specific gaming regulators do not set limits on theoretical payouts. Put another way, they have deliberately chosen to not set legal limits.

When this happens, somewhat obviously, casino operators do not have a legal requirement for setting payout returns. However, to remain open and not close due to lack of customers, they must still be careful to not set their payout returns too low.

It's worth noting that most gaming regulations set a low limit on payout returns to which casino operators deliberately stay well above. To do so is just using good business sense.

#### A BIT OF HISTORY ON PHYSICALLY SETTING ODDS

The random number generator (RNG) was developed for slot machines by Bally Technologies in 1984. About a decade later, most slot machines had this RNG, which allowed for easily adjustable odds of winning.

Beforehand, the odds of winning were set in an entirely mechanical manner. This worked well for decades, until the technical development of slot machines began to cause difficulties. Basically, as credits to bet and number of pay lines increased, the physical mechanisms for determining odds began to reach certain physical limits.

Slot enthusiasts loved having a choice of how many credits to bet, as well as playing a slot machine with more than one pay line. Increased credits and pay lines also led to much higher jackpots.

All these developments led to odds of winning being needed for many more possible outcomes, which mechanical devices for determining the odds of winning began to not be able to handle. In fact, these mechanical devices began to fall behind and actually became less and less random in nature.

As an aside, the topic of randomness is quite interesting. True randomness is very difficult, if not literally impossible, to generate. Often, when randomness is needed in either a mechanical or electronic device, various methods are used which are "random enough."

Technically speaking, there is no such thing as an existing perfectly random number generator. At best, there are only pseudo random number generators, one variant of which was patented by Bally Technologies in 1984.

Moving away from our brief sortie into the philosophy of randomness, the invention of the RNG solved for slot machine manufacturers this limitation of mechanical devices for determining randomness in slot machines. But it created another problem: With adjustable odds of winning via electronic RNGs, casinos would need to have a large workforce to do that adjusting.

And so, that is what casinos did. They built and trained a workforce of slot mechanics to adjust the odds of winning on their new slot machines to meet their desired performance metrics.

However, the size of that workforce would increase tremendously depending on how often those odds of winning were adjusted. For older style slot machines, which for the most part only riverboat casinos still use, this is at least 7 days and may be as much as 2 weeks. I've gone into detail on this topic back in podcast episode #21: Winning at Slots on Older Casinos.

Since 2012 or so, newer casinos have been able to reduce this costly workforce thanks to new casino operating systems. These systems not only help casinos manage large promotional events with less overall issues, but also allow them to remotely adjust the odds of winning on slot machines connected to the casino's central computer system.

Of course, this connection to the casino's central computer system is limited to a wired connection due to potential security concerns as well as WIFI bandwidth limits. As a result, using a central computer in this manner is only possible if all the slot machines are physically "wired up."

Doing so requires sufficient building infrastructure, such as clearance beneath floors and behind walls, to allow for these many, many cable connections. This is only practically possible in all new casinos being built as well as older casinos being heavily renovated. That is to say, renovated to have far more than simply new carpeting and wallpaper.

With wired connections from slot machines to a central computer, the reduced cost of a smaller workforce of slot mechanics, much faster adjustment of casino performance metrics to daily or even hourly updates, and more satisfied customers due to efficiently run events, the question remains. Who controls slot machine odds?

To get closer to the answer to this question, we'll next discuss how the legal limits of payout returns are set on actual slot machines. Why? Because slot machines can be categorized by how their odds are set. And, how those odds are physically set will tell us who really controls them.

#### SLOT MACHINE TYPES BASED ON HOW ODDS ARE SET

Slot machines can be divided up into methods by which their odds of winning are set. These slot machine types include:

- Standalone
- Casino-Specific Progressives
- Multi-Casino Progressives
- State-Wide Progressives

- Remotely Controlled Onsite by Casino
- Remotely Controlled Offsite by Gaming Regulators

Standalone slot machines are those which are now most often found in riverboat casinos but are technically slot machines including within their cabinets the ability to set and provide odds of winning with a random number generator. A workforce of slot mechanics adjust the odds of winning periodically as directed by the casino operator.

In general, there is a limited number of settings available for these slot machines. YouTube videos are available from individuals who have personally purchased an older style, standalone slot machine showing exactly how these odds are set.

For those videos I have viewed, there were six possible settings which could be entered after opening the slot machine door. These settings were based on codes from a booklet provided by the slot machine manufacturer. For more recently manufactured slot machines, say from ten years ago, the ticket-in, ticket-out reader is used along with a special plastic card to switch the slot machine into a programmable mode. I've seen this myself, as my home state allows us to own slot machines privately without restriction as to their date of manufacture.

Keep in mind that videos such as these are the general source of knowledge most people have about the internal workings of slot machines. Employees of slot machine manufacturers and casinos with access to these payout settings simply aren't sharing this information due to non-disclosure agreements and other legal restrictions.

Besides which, accessing the control for changing the odds of a slot machine is quite problematic. The slot machine is alarmed so any tampering without official access (employee card key, entry code, physical key) are required to successfully open a slot machine door without setting off all kinds of alarms. Not to mention, the casino surveillance system sees all.

Discussing the three types of Progressive Slot Machines was the dedicated topic of another time. There, I discussed how the ownership of these Progressive slot machines matters with regards to how the odds of winning are set. Briefly, the amount of the Progressive jackpot is primarily based on how many slot machines are in its network.

For instance, these can be a carousel of slot machines in a certain area of a casino, it can be a larger number of slot machines located throughout a casino, or a large group of Progressive slot machines located at multiple casinos.

These large group could actually be of two types: multiple properties of the same casino operator, or multiple casino operators, within a single gaming jurisdiction, i.e., state.

Already discussed are slot machines remotely controlled onsite at a casino through the use of a central computer operating system. Only new or heavily renovated casinos have the facility infrastructure to handle the sheer number of cables necessary. Today, these are now most casinos in the U.S. with the exception of riverboat casinos.

If they are controlled onsite, these slot machines have their odds of winning adjusted daily or hourly by remote access. How often these adjustments are made is, rather unfortunately at this time, a matter of debate.

I'm currently trying to track down state legal requirements of which I'd heard rumors. The rumor I heard was that a slot machine must be idle for at least 15 minutes without a player's card being inserted before the casino is allowed, if desired, to remotely adjust its odds of winning. Further, the rumor stated that this practice was typical and originally based on Nevada gaming regulations.

However, this rumor doesn't pass the so-called smell test. By now, I've reviewed state gaming regulations for all U.S. states, territories, or the federal district. I've yet to find any substantiation for this rumor. There's no such gaming regulation. Alternatively, it's instead an accepted business practice built-in to the advanced casino operating systems.

Why do I feel strongly that slots players are protected from having their odds of winnings reduced while playing? It's simple - the state control board controls the odds of winning on slot machines, and everything I've seen, read, and studied tells me they work for you.

I just can't imagine state gaming commissions would allow something this untoward, this nefarious even, to occur. They have careful casino operating system approval processes in place to prevent it, they watch casino operations like hawks (often from within the casino), and any casino that decides not to be fully compliant is in for a world of hurt if/when caught. This applies just as much to tribal casinos.

Finally, there are slot machines having their odds controlled off-site by state gaming regulators. These are most or all video lottery terminals (VLT) style slot machines.

Video lottery terminals are, as their name implies, instant lottery machines. That means they are controlled by the state lottery, which is set up to remotely handle many, many such terminals at any given moment.

## IDENTIFYING WHO CONTROLS SLOT MACHINE ODDS

Who controls slot machine odds at a casino you are considering whether to visit? Who controls slot machine odds on the slot machine you're sitting at?



Finally, there are video slot machines. It can be difficult, if not impossible, to tell the difference between a video slot machine and a video lottery terminal. A video slot machine is controlled onsite by the central computer at the casino. A video lottery terminal is controlled offsite by the state lottery.

The only sure way to tell the difference between these two slot machine types is to look at what the state gaming commission says they are at that casino.

For instance, in Ohio, there are four commercial casino resorts and seven pari-mutual racinos, which are racetracks with slot machines. The four casinos have traditional reel and video slot machines all controlled by a central computer located onsite.

However, Ohio's seven racinos have a mix of traditional reel and video lottery terminals slot machines, all lottery terminals controlled offsite by the state lottery's central computer systems.

This morning, audience member Joe sent me an email asking about this. He asked, "Do you think that VLT lottery commissions use some of these similar tactics that casino's use?" My answer was yes, for many states that have their slot machines controlled by the lottery.

Certainly, I learned that's true in Ohio through my own slot machine gambling experiences. Casinos work very closely with lottery authorities, closely enough that I've been able to take advantage of standard casino business practices whose slots are controlled offsite by the lottery. However, having examined the state gaming regulations of every state, I'm not entirely sure about the state of Washington. That state is unique in the way the lottery controls casino slot machines.

## INTERLUDE

Let's take a break and check in with the Live Chat to briefly say hello...

That was excellent!

Visit [professorslots.com/subscribe](https://professorslots.com/subscribe) to get my Free Report Revealing ... The top 7 online resources for improving your gambling performance, including the one I've used as a top-tier slot machine casino gambler.

## DOES IT REALLY MATTER WHO CONTROLS SLOT MACHINE ODDS? YES!!

With this improved understanding of how casinos work, let's consider these two facts. First, that there are types of slot machines, specifically those that are standalone or remotely controlled by casino operator or state. Second, that there are the several ways

slot machines can have their odds of winning set on an ongoing basis, depending on their specific type.

So yes, actually, it does matter who controls slot machine odds. Why? Because this is where patterns of winning are found. When slot machines are set up to be as random as possible, and that assigned level of randomness is unchanged over days and weeks, then long-term statistical principles rule.

Meaning, on average over the long haul, people will always loss money playing slots. Put another way, profits are only possible in the short term.. This specifically applies to all slot machines controlled by the state, such as video lottery terminals.

However, when the odds are changed hourly or set over 100% for promotional purposes, then there are better times to play a slot machine - and all that slot enthusiasts need do is figure out when that better time is in order to win more and, potentially, make some level of profit. That's what I did: I made a profit at slots by looking for and finding winning patterns, when I won 90 taxable jackpots in 9 months.

Only casino operators change their odds hourly or deliberately adjust them for promotional purposes. The state has no need or desire to do so, getting their money no matter what, while the casino is a business, with stockholders and a board of directors, obligated to try to succeed financially.

The casino puts in the time and energy to hit their financial performance metrics. The casinos hire the best general manager who themselves hire the best possible team.

Put another way, the casino has a business need to adjust the odds of winning on their slot machines to eke out a living while the state only needs to be patient. Businesses are not patient - they try things in their ongoing quest for success.

And, really, that struggle is what has changed since around 2012 with the technology behind the winning odds of slot machines. Casinos are always trying new things. And, when they have control over setting the odds on slot machines, they adjust them to try to succeed.

Before 2012, this amounted to increasing the odds of winning to be over 100% on a single slot machine near a busy area in their casino, as a promotional tool with its own limited budget.

With the new casino operating technologies, casinos have been given a finer control over setting those odds. This has allowed them to try new things, which they very much like to do. These new things are to adjust the odds on slot machines more often than ever before.

In financial terms, they're trying to tune their financial performance metrics on a daily or even hourly basis, something that was never before possible.

I've never worked for a casino, so have never been pitched a new casino operating system by a slot machine manufacturer's sales team. But, it's obvious that this "tuning" is part of the pitch being made to casino operators. Without having seen it, how can I believe this? Simple. I've won a lot at slots through pattern recognition.

What's happened is that, and it matters not at all how it came about, casinos have obviously bought into the idea of finely tuning their financial performance metrics.

In the case of slot machines, which is the only game as casino offers that I'm interested in, they've broken the long-term constant randomness of the odds of winning on a slot machine. Therefore, as all statisticians know, patterns emerge.

So, again, yes it does matter who controls slot machine odds, because those controlled by the casino have had their randomness broken. It matters because slots enthusiasts can look for emerging patterns on these casino-controlled machines, then use them to win more.

Over the last seven weeks, I've talked about the winning patterns I've found using this understanding. With this live stream, I hope I've made it clear how and why those winning patterns exist.

These patterns make it possible for a savvy slots enthusiast to improve their gambling performance.

BODY

Let's switch over to the Live Chat again and see what other questions they might have...

CLOSING

Watch more of my videos to improve your slots gambling performance.

Have fun, be safe, and make good choices! Bye!

Call to Action (add sound effect afterward)

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## Introduction

This is the next segment of the show on slot machine casino gambling. Here, I provide a brief overview of the current state of gambling in a U.S. state, territory, or the federal district emphasizing, by far, anything of interest to slot machine casino gamblers.

Up next is Virginia slot machine casino gambling in 2020. Here goes!

Virginia slot machine casino gambling does not exist ... yet. Last year, the state legislature and Governor approved three new casinos, but each awaits approval by voters in their local municipalities.

## Relevant Legal Statutes on Gambling in Virginia

The minimum legal gambling age in Virginia depends upon the gambling activity:

- Land-Based Casinos: 21 (expected)
- Poker Rooms: Not Available
- Bingo: 18
- Lottery: 18
- Pari-Mutuel Wagering: 18

On March 22, 2019, Virginia Governor Ralph Northam signed State Bill 1126 into law. This state law does not authorize casinos in Virginia. However, in effect, it establishes:

- A Commission to study casino gaming regulations
- A framework for the Lottery Board to oversee gaming
- How eligible cities conduct a local casino approval referendum

Details of the state bill suggest eligible cities are Danville, Bristol, and Portsmouth. Regarding timing, the city of Bristol has scheduled their referendum for November 2020.

## Slot Machine Private Ownership in Virginia

Next up is a usually short statement about slot machine private ownership, which I have included in case you live in this U.S. state and are considering owning a slot machine. Here it is:

In Virginia, it is legal to own a slot machine privately.

## Gaming Control Board in Virginia

The framework included in the 2019 passing of Virginia state bill 1126 includes giving oversight of sports betting regulations to the Virginia Racing Commission. This expansion of its responsibilities is in addition to its current responsibilities overseeing horserace pari-mutuel wagering.

The Virginia Lottery Board will obtain responsibility for casino gambling, but specific gaming regulations are not yet available. Establishing these gaming regulations is currently underway by Virginia's Joint Legislative and Review Commission.

## Casinos in Virginia

In this section, I'll discuss Virginia gambling establishments.

There are currently no casinos with slot machines in Virginia.

## Non-Tribal Casinos in Virginia

There are currently no commercial casinos in Virginia. However, three eligible cities may have casinos after approval by voters. The Bristol referendum occurs first in November 2020.

These three potential casino locations include the cities of:

- Danville located 144 miles southwest of Richmond near North Carolina
- Bristol located 113 miles northeast of Knoxville near Tennessee
- Portsmouth located 97 miles southeast of Richmond near Chesapeake

## American Indian Casinos in Virginia

The Pamunkey Indian Tribe gained federal recognition in 2015 and is pursuing establishing a tribal casino. They intend to have improved educational and employment opportunities to ensure the long-term success of the tribe.

At this time, the tribe is searching for a suitable site for a casino resort located within Virginia. Potential sites for a tribal casino now include Richmond and Norfolk.

Continual and effective opposition of tribal casinos in Virginia comes from the casino operator of MGM National Harbor in nearby Maryland.

## Other Gambling Establishments

As an alternative to enjoying Virginia slot machine casino gambling, consider exploring casino options in a nearby state. Bordering Virginia is:

- North: Maryland and District of Columbia
- East: The Atlantic Ocean
- South: North Carolina and Tennessee
- West: Kentucky and West Virginia

To visit any of my articles on these U.S. states, simply visit ProfessorSlots.com followed by its two-letter postal designation. For example, my Maryland slots article is available at ProfessorSlots.com/MD.

Colonial Downs Racetrack offers slot-like historical horse racing (HHR) electronic gaming machines. This horseracing facility is in the eastern part of Virginia located 30 miles east of Richmond.

## Our Virginia Slots Community Facebook Group

Are you interested in sharing and learning with other slots enthusiasts in Virginia? If so, join our Virginia slots community on Facebook at [professorslots.com/FBVA](https://www.facebook.com/professorslots.com/FBVA). All you'll need is a Facebook profile to join this private Facebook Group freely.

There, you'll be able to privately share your slots experiences as well as chat with players about slots gambling in or near Virginia. Again, use this convenient link I've created to go directly to our Group on Facebook: [professorslots.com/FBVA](https://www.facebook.com/professorslots.com/FBVA). Join us!

## Payout Returns in Virginia

As Virginia casinos await voter approvals, the state legislature is working to establish slot machine gaming regulations. Therefore, it is not yet known if Virginia will offer theoretical payout limits or return statistics.

## Summary of Virginia Slots in 2020

In summary, Virginia slot machine casino gambling does exist but is now on the horizon. Commercial casinos are awaiting approval by voters in Bristol, Danville, and Portsmouth.

## Annual Progress in Virginia Slot Machine Casino Gambling

Over the last year, there has been no change to the slots gaming industry in Virginia. However, potential changes are imminent.

### Call to Action (add sound effect afterward)

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### On the Next Episode of Professor Slots

Part I of the next episode of the Professor Slots podcast will include a live stream Q&A session on YouTube.

Remember, my weekly Q&A session on YouTube is on Saturdays from Noon until 1 p.m. Eastern Time. Bring whatever slots questions you have, and I'll do my best to answer them.

An easy-to-remember link to my YouTube channel is [YouTube.com/ProfessorSlots](https://YouTube.com/ProfessorSlots). Feel free to stop by anytime during my hour-long live Q&A session.

Part II of the next episode of the Professor Slots podcast is another brief overview of the current state of gambling in a U.S. state, territory, or the federal district. Next time, I'll be talking to you about the great U.S. state of Washington.

### Closing (closing music)

That's the end of another great episode of the Professor Slots podcast. Thanks so much for listening!

Show notes for this episode are on my website at [professorslots.com/episode109](https://professorslots.com/episode109).

I plan to have the next episode come out very soon for you, where I'll have more amazing content for the show.

Until the next episode: Have fun, be safe, and make good choices! Bye.