



Coin and Currency

in the Casino Industry



Bright blinking lights. Flashy floor shows.

The whirring wheels of a slot machine, the click of chips on a blackjack table and the rattle of a ball as it skips round and round on a spinning roulette wheel.

The sights and sounds bring to mind the stereotypical image of an American casino – bustling, loud and exciting. And central to it all is money – the coins spilling from a slots jackpot, the chips piled up by card-players and the cash every gambler wants to walk out the door with.

But that classic picture is changing. Just as the iconic Hollywood vision of Vegas has been updated – with a new “Ocean’s Eleven” crew replacing the Rat Pack of the 1960s – the gambling industry is undergoing a remake. Casinos are no longer just a place to come to bet. They have become

big business – or parts of bigger businesses. Gambling is still the main draw, but the industry is seeking to broaden its appeal and attract more people with big-name entertainment, high-end shopping and celebrity chef restaurants. Casino operators want to bring in new customers, a younger and hipper crowd lured by vibrant nightlife. At the same time, the games are changing. Poker has emerged as a popular part of the casino experience and new electronic games are incorporating innovative technology that relies on the latest ways to manage money.

Gambling’s history in the United States dates to Colonial times and has evolved along with the country, affected by changes in political, social and geographical boundaries. Over the centuries, various forms of gaming have seen their popularity rise and fall, including lotteries, race-tracks, casinos and riverboat gambling. Once centered in the East, and later along the Mississippi River, gambling moved westward with the Gold Rush and found

an accommodating home in Las Vegas by the 1930s. Nevada has remained the nexus of gambling in the United States, but casinos have emerged in other areas across the country, notably in Atlantic City, N.J., and along the Gulf Coast of Mississippi.

Since money is the business of the Federal Reserve, what do the changes in the casino industry mean for the Fed? This report seeks to understand the use of currency and coin by the casino gaming industry. We will discuss growth in the casino industry, examine the impact of technological advances on the casino industry’s use of currency and coin and seek to understand the impact these topics will have on financial institutions and the Federal Reserve Districts that service the industry.

Change has already occurred. The coins that fed slot machines are rapidly being replaced by bills. And the winnings from hitting the jackpot are paid out first on a bar-coded slip of paper, not with the

rattling jingle of coins falling into a hopper. The money is the same, but the payout is different, both symbolically and in reality.

A rapidly growing industry.

In recent years, the gambling industry has undergone phenomenal growth in the United States. Looking back only as far as 1978, the landscape of gambling appeared lonely. The only places with legal casinos were Las Vegas and Atlantic City, which began operating its casinos that year in an effort to revitalize its seaside resorts. There was no Native American gambling and only a couple of states operated lotteries. A few states allowed pari-mutuel gaming, where the winner's share is paid from the pooled wagers.

Since that time, the industry has exploded. Commercial casinos now number more than 445 and are found in 11 states. And, Native American tribes have opened more than 400 gaming establishments in 28 states since Congress first approved tribal gaming in 1988. Five states allow "convenience gambling" in places other than casinos, such as bars, restaurants, convenience stores and racetracks. Poker is enjoying new popularity and there are more than 446 card rooms in five states that have no commercial casinos. Forty-one states operate lotteries and 43 states allow pari-mutuel wagering. Another 11 states have approved legislation to permit racinos, racetracks with electronic gaming devices. Just two states – Utah and Hawaii – do not allow any form of gambling.

A study that analyzed discretionary spending showed that, for Americans, casino gambling ranked fourth, following the amounts spent on fast food, Internet and cellular phone services, and cable television. In 2004, commercial casinos and Native American casinos generated more than \$47 billion in gambling revenue. Over the past decade, commercial casinos reported an increase in this benchmark figure – known in the industry as gross gaming revenue – from \$16 billion in 1995 to \$28.9 billion at the end of 2004. At Native American casinos, the growth was even more dramatic, although the numbers were not as large. During the same period, gross gaming revenue at those establishments more than tripled, from \$5.5 billion in 1995 to \$18.5 billion in 2004.

The days of coin as king in the casinos are gone and while cash may be king for now, it won't be long, maybe 5-10 years, before plastic and other forms of electronic currency become the dominant form of exchange.

With such an increase in gambling opportunities and venues, the number of people taking part in various forms of gambling is growing at a rapid pace, too. The American Gaming Association reported more than 51 million casino visitors in 2004, each one averaging about six visits. Overall, 35 percent of Americans took part in casino gaming that year, which was nearly one-third more than the previous year. Interest in poker increased, too, from 12 percent of Americans betting on a hand of casino poker in 2003 to 18 percent in the following year. And the most popular form of gambling in the country, the lottery, showed growth as well. In 2004, the study showed that 53 percent of Americans played a lottery game, which was up from the 2003 figure of 46 percent.



The economic boom experienced by casinos makes it plain that gambling has been transformed into a major American industry, generating revenue for the companies that own casinos, jobs for the employees and a very substantial – and welcome – tax base for state and local governments. But the same money that lures gamblers looking for a bonanza payday also prompts some to worry about a potential downside to gambling’s growth. Opponents of gambling characterize it as a vice that contributes to deviant social and criminal behaviors. Others see value

in gambling as a way for people to socialize, be entertained and try to win money. This report does not attempt to explore any real or perceived social or economic impacts of gambling on problem or pathological gamblers.

Gambling markets

Of the three areas that lead the nation in gambling activity – Las Vegas, Atlantic City and the Gulf Coast of Mississippi – the most popular is Las Vegas. The city is home to 14 of the 15 largest hotels in the United States and they average a 92 percent occupancy rate. In all of Nevada, more than 180,000 electronic gaming devices and 5,300 table games are in operation, contributing more than \$10 billion in gross gaming revenue in 2004. Nearly 200,000 people work in the state’s casino industry with an annual payroll of \$7.3 billion. What lies ahead for Nevada is likely to be further mergers among leading casino corporations, an increased emphasis on poker and other card games, and the development of broader-based casino resort “communities” that include hotels, residential units, shopping and entertainment.



Atlantic City is the second-largest commercial casino gaming center in the country. The city is home to 14 commercial casinos, including a Bally's complex that takes in three separate casinos. More than 41,000 electronic gaming devices and 1,700 table games operate in Atlantic City, where casinos employ 45,000 people and pay wages of \$1.3 billion a year. Just as the initial casino openings in the late 1970s were meant as an economic spark for the city, a new revitalization is in progress. Casino companies are expanding their operations with restaurants, retail shopping, nightclubs, luxury spas and music venues.

Mississippi's Gulf Coast is in a period of transition following the devastation

caused by Hurricane Katrina in August 2005. The research and interviews conducted for this report occurred earlier in the year. At that time, Mississippi had 29 commercial casinos, 11 of which were located in the area of Biloxi and Gulfport. Patrons could choose from nearly 40,000 electronic games or more than 1,000 table games. More than 29,000 people were employed by the casino industry, earning total wages of about \$1 billion a year. At the time of the hurricane, plans were in place to construct and open six new casino projects in the coming years. After Katrina, state officials enacted legislation allowing casinos to be built on dry land, undoing the restrictions that placed Mississippi casinos on the water.

The movement of currency

Understanding the volume of currency that flows through casinos and the amount that is recirculated is vitally important to the Federal Reserve System. This dynamic can be hard to track, given the scarcity of public information on the subject. But the magnitude of the currency used for gambling can be assessed based on an understanding of the way money passes through casinos. One such indicator is what is known as the "currency drop" – the total amount of currency, coin, tokens and chips collected from electronic gaming devices and table games. In Nevada, that figure for 2004 was nearly \$54 billion, according to the Nevada Gaming Control Board.

Casino Patron Portrait

Ethnicity	M/F	Age	Education	Profession	HHI per year
Caucasian	Male	46	College	White Collar	\$55,322

NOTE: The median household income of the typical casino patron is 17% higher than the average American earnings.

In general, the path currency follows between casinos, their financial institutions and the Federal Reserve is very similar to the process flow of currency in many other businesses. Orders for currency placed by casinos with their financial institutions are evaluated to determine whether the bank can meet the request. If additional currency is needed, the financial institution places an order with the Fed and then fills the request from the casino. The volume of currency used in casinos can affect the level of currency a financial institution has available to meet the needs of its other customers. Typically, large deposits made by casinos will provide enough currency for banks to service their other customers. Casinos also recirculate a large amount of currency, not only to meet the needs of

the cage and other places where cash is needed for payouts, but increasingly to supply currency to other operations, such as entertainment and retail venues.

Technology a key to change

As the casino industry continues to look for new ways to grow and become more profitable and efficient, technology has been the answer. The most significant technological innovations that have impacted the casino industry's use of coin and currency are the bill acceptor, the adoption of "Ticket-In Ticket-Out" technology and the self-service kiosk.

By the late 1990s, the cost of managing coin inventories had become a major

operating expense, prompting the industry to reevaluate the use of coin, especially for electronic gaming devices, such as slot machines and video poker games. Contributing to the high cost of managing coin were expenses such as staff to fill and empty game machines, the maintenance of coin inventory, equipment costs associated with machine malfunctions, the lost opportunity cost of money idly sitting in machines waiting for jackpot payouts, coin transportation costs and workmen's compensation claims. A less-obvious cost to casinos was the downtime associated with electronic games, which translated into lost revenue.

The casino industry's answer was to begin retrofitting gaming devices to accept bills – sometimes in addition to the coin slot,

Eight Major Categories for Legalized Gambling

Commercial Casinos	Lotteries	Pari-mutuel Wagering	Bookmaking
Native American Gambling	Racinos	Card Rooms	Charitable Games/Bingo

so a player could use either form of money. While this arrangement reduced the amount of coin played and associated operating expenses, the machines still paid out winnings with coins. As a way to further decrease operating expenses, many casino operators began adopting “Ticket-In Ticket-Out” – or TITO – technology.

Casino officials say TITO has drastically reduced their need for coin. In addition, the denominations ordered and deposited have changed. Prior to TITO, casinos ordered millions of dollars of coin per week – predominantly nickels, quarters and half-dollars – placing a substantial strain on banks. Now, casinos very seldom order coin and when they do, it is generally pennies and dimes to make change. While the advent of TITO has decreased coin usage, it has significantly increased the amount of currency used in by casinos. As a result, casino owners have invested in sophisticated currency-processing equipment to recirculate the

huge volumes of currency generated within the casinos.

With the reported success of TITO, it could be assumed that new casinos, as they open for business, would immediately implement the technology and be essentially coinless, as did the Borgata Hotel Casino and Spa and the Wynn Hotel Casino. Though the volume of currency money needed will be less than when coin was delivered by 18-wheelers, banks and casinos still will need to coordinate their

efforts to ensure that the appropriate amount of currency is on hand. The type of gaming at a particular casino determines the amount of currency needed. For instance, table games make up a smaller percentage of revenue in most casinos and are not as currency-intensive as electronic gaming devices. But casinos that rely more heavily on electronic gaming revenue require more currency to bankroll the gaming devices, and to supply the cage, TITO kiosks and bill-breaker machines. Finally, the number of ATMs in a casino





increases the amount of currency needed, although the ATMs and the cash in them is managed by a third party.

More change is on the way. In the coming years, additional technological advances are expected to bring to the casino floor new ways to bet and to account for a gambler's funds. Among these are so-called "cashless" wagering, which involves the deposit of funds on account at a casino, and the use of a "player's card" for gambling. Casino patrons soon may be able to carry their gambling money on stored-value cards, which can have funds added to them, or "smart cards," which would retain account data on embedded microchips. Also coming is wireless gaming, which would allow the use of cell-phones or

other wireless, handheld communications devices to place bets from off the casino floor, but from elsewhere on the casino property.

Technology has been developed to facilitate the electronic transfer of funds from personal bank accounts or credit card accounts at electronic gaming devices or specially designed casino kiosks. One such product is a combination ATM and ticket kiosk, allowing a gambler to access funds from a bank account while playing electronic games. Another similar product would be separate from the gaming device and would allow a gambler to transfer funds from a bank account, transferring funds to a ticket or plastic card that would be used for wagering.

Before these new technologies could become part of the gambling environment, certain regulatory approvals from gaming authorities would be required. The industry is approaching these technologies with caution, given the odds that gambling critics would loudly oppose changes that could give problem gamblers greater access to their money in casinos. Nonetheless, technology vendors and casino owners anticipate approval of these technologies over the next five years, with implementation in the next seven to 10 years.

The implementation of these technological advances, if and when they occur, likely would result in a gradual decrease in the flow of currency from the casinos to financial institutions and, therefore, to the Federal Reserve.

We all think of casinos as being this industry that generates huge volumes of cash activity between the banks and the Fed but, with all the internal recirculation they do, it's much less than initially perceived. In fact, there may be more growth in cash activity in the large casino markets as a result of the tremendous economic growth that has come with casinos.

Innovation and opportunities ahead

The booming success of the casino industry would seem to project continued growth. There have been huge increases in gaming revenue over the last decade, but lately, that pace has begun to slow. The key to success in recent years has been not expansion, but innovation. New technology has been introduced to revolutionize, revitalize and to reduce the industry's costs, and to generate higher profits. The impact for financial institutions and Federal Reserve Banks has been a significant decrease in coin orders, an influx of excess coin and a sizable increase in currency volumes needed to support and sustain this industry.



The excess currency in casino markets, which is boosted by the separate and independent operation of ATMs in casinos, allows financial institutions to meet the currency demands of other industries within those areas. If the processing of casino currency and ATM currency in casinos were managed by the same entity, recirculation within the casinos would increase even more dramatically, resulting in the amount of currency flowing back to financial institutions and Federal Reserve Banks being reduced. At that time, financial institutions may become more dependent on the Federal Reserve as a source of currency.

The trend of slower growth in the casino industry is not expected to reverse itself, though a few Federal Reserve Districts will be impacted by traditional expansion.

Vegas has already been billed by many as the “Disneyland for Adults” so it’s going to be interesting to watch it continue to evolve as the Casino’s invest heavily in trying to become the entertainment capital of the world.

Specifically, racinos will be opening in the Florida, Maine, Maryland and Oklahoma markets. Las Vegas has several large hotel expansion projects scheduled, just to keep up with the increasing demand. And in Pennsylvania, the opening of 14 electronic gaming casino venues has been approved. These will be new gambling operations, which is likely to pose some challenges. Because casino gambling is brand new in the state, it seems likely that a number of operators will seek to be first in the market, resulting in a number of venues probably opening within the same time frame. The currency-intensive nature of electronic gaming machines will present an increased demand for currency.

The future business imperative and longevity of the casino industry is dependent on consolidation, reinvention and non-casino revenue. The maturing of the casino industry has brought with it the same forces that affect retail, travel and other industries. As a result, this

industry is well suited for consolidation and expansion into international markets, both of which are occurring. The casino industry also will focus on increasing its percentage of non-casino revenues and becoming a more comprehensive entertainment provider by catering to younger crowds, increasing restaurant and retail shopping spaces, and seeking to provide more alternatives for business travelers and families. As long as the industry continues to renew, revitalize, reinvest its capital and find niche products to attract gamblers, it will have more to rely on than just good luck.



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