Working Paper: 2005_04

The Impact of Casino Gambling On Individual Bankruptcy Rates from 1990 to 2002

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4/5/2005 4:17 PM

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Abstract

By 2003, legalized casino gambling was available in 253 counties in the United States. Commercial (non-tribal) casinos operate in sixty-one counties. Class III tribal casinos operating under the Indian Gaming Regulatory Act may also operate in counties with commercial casinos, or independently on Indian lands in other counties. Past research has ignored the impact of a casino on bankruptcy rates over time and have thus provided mixed results. Using simple descriptive statistics and regression analysis, this study examines the impact of casinos on bankruptcy rates from 1990 to 2002. This analysis indicates that counties that legalized casino gambling during this time period experienced lower personal bankruptcy rates during the first several years of casino operations. However those rates then increase, rising above those of non-casino counties after nine years of operations. By 2002 the estimated bankruptcies per 1,000 population are 7.82 for counties that added casinos in 1990 compared to 6.39 for a non-casino counties. For the period of time covered by this analysis, this amounts to a compound annual growth rate of 2.0 percent higher bankruptcy rate for the county that added a casino in 1990 than for an equivalent non-casino county.

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Introduction

Legalized casino gambling has expanded rapidly throughout the United States over the past two decades. Since legalizing casino gaming in 1931, Nevada held an effective monopoly on casino gambling until 1978, when casinos opened in Atlantic City, New Jersey. Other states soon jumped on the gaming bandwagon, dramatically expanding consumer gambling opportunities. As of January 1, 2003, approximately 400 commercial casinos and 248 tribal casinos were open in the United States. Six states had racetrack/casinos ("racinos"), eleven states had commercial casinos, and twenty-eight states had tribal casinos.[1]

States without commercial casinos or Class III tribal casinos (which allow games, including slot machines, similar to those found at most commercial casinos) include: Alabama, Alaska, Arkansas, Georgia, Hawaii, Kentucky, Maine, Maryland, Massachusetts, Nebraska, New Hampshire, Ohio, Pennsylvania[2], Rhode Island, South Carolina, Tennessee, Utah, Vermont, Virginia and Wyoming. While legalized gambling was restricted to Nevada, most residents of these states had to travel long distances to reach legal casino operations. However, the proliferation of casino gaming over the past decade means that even residents of these states without casinos are now within a short traveling distance of casino gaming. Figures 1 and 2 show states with legal casinos in 2003.

As one would expect, casino revenues have grown along with the number of casinos. Commercial casinos have increased adjusted gross revenues (AGR) from $18.2 billion in 1997 to $27.0 billion in 2003, for a compound growth rate of 6.8 percent per year.[3] Tribal casinos have also experienced significant revenue growth, more than doubling the AGR of $7.5 billion in 1997 to an estimated $16.2 billion in 2003, for a compound growth rate of approximately fourteen percent per year. These growth rates eclipsed growth in the overall economy as AGR increased from $3.09 per thousand dollars of GDP in 1997 to $3.94 per thousand dollars of GDP in 2003. Figures 3 and 4 profile AGR growth for commercial and tribal casinos during this period. Table 1 compares selected data from commercial and tribal casino operations in 2003.

This expansion in casino gambling has undoubtedly affected the surrounding social and economic environment. However, much work remains to be done to measure the nature and extent of these effects. Considerable attention has been given to the effects of expanded gambling on problem or pathological gamblers. For example, in 1999, the National Gambling Impact Study Commission concluded that the increasing the availability of gambling has the potential to generate additional social problems from pathological gambling.[4] These problems include both social costs which are difficult to measure in monetary terms, such as potential impacts on divorce or suicide rates, along with other economic effects, including the effects on crime and bankruptcy.

This study focuses on one dimension of social and economic costs: the impact of casinos on bankruptcy trends. During this period of rapid casino expansion, personal bankruptcies expanded at comparably high rates. Between 1990 and 2002, total personal bankruptcies grew from 709,967 to 1,520,717, or a compound annual increase of 6.6 percent. Besides growth in casino gambling, other economic and demographic factors were also changing during this period, making the assignment of cause for rising bankruptcies impossible to isolate without more in-depth analysis. In the subsequent analysis, we use multivariate regression to disentangle contributors to higher bankruptcy rates, specifically focusing on the impact of casinos.

Other researchers have also undertaken this same task. For example, Barron, Staten and Wilshusen (2000) (hereafter referred to as BSW) concluded that casinos had positive and statistically significant impacts on personal bankruptcy rates in the casino county and its geographic neighbors. However, these researchers concluded that the increase in personal bankruptcies attributable to casinos was only 8.0 percent over an entire decade, and that other demographic and economic factors were much more important in explaining the rapid growth in personal bankruptcies in the 1990s.

Our investigation differs from the BSW study in several respects. First, we consider Class III tribal casinos, which were excluded from their assessment. Given the significant expansion of tribal casinos during this period, their inclusion in the data should prove helpful in providing a robust measurement of bankruptcy effects. Second, we examine the impact of casinos on bankruptcy rates over time. It is conceivable that the impact of a casino on bankruptcy rates differs according to the length of time that the casino has been in existence.

Third, our data set focuses only on the county in which the casino is located. The BSW study included counties adjacent to those hosting casinos – so called "collar counties" – based on the assumption that a higher incidence of pathological gambling behavior was expected within a 50-mile radius of a casino facility. Bankruptcy filings in collar counties may well include residents who live more than 50 miles from a casino, who are thus not particularly influenced by casino activity. Our more limited focus may be viewed as providing a more conservative measure of the bankruptcy impact of casinos, as it reduces the possibility that those with more attenuated geographical proximity to the casino operations may erroneously be attributed to casino-related causation. However, given that a large number of casinos are located along state borders to take advantage of trade from non-casino states, it is possible that this assumption may exert a dampening effect on the measurement on bankruptcy rates, thereby understating them.

CASINOS AND FINANCIAL DISTRESS

Casino promoters often tout their ability to generate positive economic impacts through jobs, tourism, and spending for goods and services to the industry and its patrons. However, the reality is much more ambiguous. For many patrons, gambling is simply a form of recreation or entertainment presenting minimal negative social effects. These patrons gamble what they can afford to lose, and their net losses represent another form of consumption expenditure that might substitute for other entertainment pursuits, such as movies, video games, or sports.

For problem gamblers, on the other hand, negative social effects can be particularly acute. An act of consumption, which in this case represents a legal activity, can nevertheless generate negative social consequences and economic costs through externalizing some of the effects of that consumption. Bankruptcy is an issue that bridges the economic and social spheres impacted by the casino gambling industry.

Research indicates that pathological gamblers are important to the fiscal health of the gaming industry. A study by the National Opinion Research Center at the University of Chicago found that pathological gamblers generate 15 percent of the industry's gross revenues and that each pathological gambler costs society around $10,550 over his/her lifetime.[5] In its 1999 report, The National Gambling Impact Study Commission singled out convenience gambling as providing fewer economic benefits and greater social costs than other forms of gambling. The Commission estimated that of the 125 million Americans who gamble at least once a year, approximately 7.5 million have some form of gambling problem.[6] Another 15 million are classified as "at risk" of developing a gambling problem. The Commission recommended a rollback in convenience gambling operations[7] and the completion of new studies on the relationship between gambling and various social problems, such as bankruptcy, divorce, domestic violence, suicide and crime.[8]

Until more research studies provide more conclusive data on the costs imposed by pathological and problem gamblers, the National Gambling Impact Study Commission recommended a pause in the expansion of gambling in order to assess the social impacts of recent rapid expansions in gambling availability.[9] In particular, the Commission recommended research on the "extent to which gambling-related debt is a contributing factor to personal bankruptcies", and on "gambling-related crimes perpetrated for the primary purpose of gaining funds to continue gambling or to pay gambling debts."[10]

AN OVERVIEW OF FEDERAL BANKRUPTCY LAWS

Federal bankruptcy laws serve two important purposes: providing a "fresh start" for debtors by granting relief from burdensome financial obligations, and providing an orderly means for creditors to obtain payment to the extent possible.[11] Debtors may choose between two primary approaches for bankruptcy relief: liquidation and reorganization/rehabilitation. Generally speaking, Chapter 7 of the Bankruptcy Code furnishes a liquidation process, while Chapters 11, 12, and 13 provide procedures for reorganization and rehabilitation of debtors.

A debtor initiates bankruptcy by filing a petition that constitutes an "order for relief" under the applicable chapter of the Bankruptcy Code for which the debtor is eligible.[12] The petition creates an estate which, by operation of law, generally includes all legal and equitable interests of the debtor in property.[13] From this estate, an individual debtor may be permitted to treat certain property – often basic necessities -- as exempt from bankruptcy proceedings, in order to facilitate the debtor's "fresh start".[14] All other property is potentially available for the claims of creditors, though satisfaction of those claims ultimately depends on the priority accorded to the creditor and the amount of available assets.

Chapter 7. Chapter 7 of the Bankruptcy Code focuses primarily on liquidating the non-exempt assets of the debtor and distributing them for the benefit of creditors.[15] The balance of those unpaid debts may be discharged – an important feature reflecting the "fresh start" purpose.[16] Discharges are frequent under Chapter 7 cases, meaning that creditors are often left unpaid. Some commentators have indicated that most Chapter 7 cases leave no assets available for distribution to creditors after exemptions are taken into account.[17] As a technical matter, Chapter 7 filers may include many types of debtors, including corporations.[18] However, only individuals may obtain a discharge under Chapter 7, which makes this chapter particularly appealing to individual debtors.[19] Individuals who are employees, as well as individuals who are sole proprietors of businesses, are eligible. Thus, a portion of Chapter 7 filings may reflect adverse financial experiences with business activities, as well as financial difficulties rooted in other personal events including gambling activity.

Chapter 13. Chapter 13 of the Bankruptcy Code provides individual debtors with another alternative, which focuses primarily on rehabilitation. Individuals with regular income meeting certain total debt limits for unsecured and secured debts are eligible to file under this chapter.[20] Self-employed individuals are potentially eligible, and thus Chapter 13 may involve business-related debt as well as personal debt.[21] Qualifying debtors may be attracted to Chapter 13 because it potentially allows them to keep secured property, which might otherwise be subject to loss through foreclosure.[22]

Chapter 13 allows a debtor to propose a plan[23] in which the debtor agrees to submit future income to the trustee to satisfy all or a portion of outstanding obligations.[24] The plan typically involves deferred payments over a period of three to five years,[25] which, for example, might allow the debtor to catch up on arrearages owing on secured property.[26] The plan must be confirmed in order to be effective, and one of the conditions of confirmation requires that "the value, as of the effective date of the plan, of property to be distributed under the plan on account of each allowed unsecured claim is not less than the amount that would be paid on such claim if the estate of the debtor were liquidated under Chapter 7 of this title on such date."[27] Discharges are permitted.[28] Thus, unsecured creditors may experience losses in this chapter as well as in Chapter 7.

A Chapter 13 case may also be converted to a Chapter 7 case under certain conditions.[29] A Chapter 13 case involving a debtor who is a sole proprietor of a small business may also be converted to a Chapter 11 case.[30] In some cases, it may also be possible for a debtor to file a Chapter 7 case followed by a Chapter 13 case, which is referred to as a "Chapter 20".[31] Thus, filings in Chapters 7 and 13 may, in some cases, reflect the same debtor.

<u>Chapter 11</u>. Chapter 11 of the Bankruptcy Code provides another route for reorganization or rehabilitation of a debtor, which is generally somewhat more complex and costly than Chapter 13. Eligible debtors technically include any debtor that is eligible for Chapter 7.[32] Thus, a debtor who does not carry on an active business is technically eligible to file under Chapter 11.[33] However, Chapter 11 is primarily aimed at business debtors, and these are the dominant filers under this chapter.[34] Much like the Chapter 13 debtor, the Chapter 11 debtor may file a plan of reorganization with the court that provides a blueprint for repayment of creditors.[35] Confirmation of this plan provides relief for the debtor by changing the nature and extent of the debtor's financial obligations, which may result in some creditors not being paid, or receiving lower payments at a later time than reflected in their original bargain.[36]

<u>Other Chapters</u>. Other more detailed chapters also exist in the Bankruptcy Code to address special types of debtors. Chapter 9 supplies special rules for municipalities.[37] Chapter 12 provides special procedures for family farmers with regular income.[38] Given the limited applicability of Chapter 12 and the extremely limited scope of Chapter 9, those bankruptcy filings are not considered in this study.

<u>Venue Rules-All Chapters</u>. Federal district courts have original and exclusive jurisdiction over bankruptcy cases.[39] Federal district courts are empowered to refer bankruptcy cases to bankruptcy judges,[40] so in this sense the bankruptcy court is a unit of the federal district court.[41] Bankruptcy petitions are subject to venue rules that affect the proper geographical location for filing. Though a detailed examination of these rules is beyond the scope of this study, it can generally be stated that venue will be appropriate in the district court where the domicile, residence, principal place of business, or principal assets of the debtor are located.[42] For purposes of this statute, “domicile” and “residence” may be in different venues.[43]

The venue rules make it possible for a debtor to have a residence in one jurisdiction, but to file a bankruptcy petition in another jurisdiction that the debtor considers his domicile. Alternatively, a debtor might file in still another venue in which the debtor has a “principal place of business.” Employment in a particular location is not a sufficient basis for venue under the “principal place of business” category.[44] However, an entrepreneur who owns a business, even one that is presently inactive, may file in the location of that business, even if it differs from his residence or domicile.[45]

These venue rules show that filing may occur in a location that differs from one’s residence. Although one might raise that issue as a basis for discounting the validity of any correlation between casinos and bankruptcy filings, the fact remains that the venue for filing will nevertheless be the same as the residence and domicile in the vast majority of cases.[46] Stringent requirements for domicile and the inability to use a place of employment to file in lieu of residence make it likely that the typical debtor is likely to file in the same geographical area in which he/she lives. Even if the debtor is an entrepreneur with a business located in a venue that might differ from his home, the business is nevertheless subject to the effects of casinos, and the individual may also be personally affected. Thus, the foundation for correlation shown in the data is substantial, though particular cases may well have exceptional facts that limit the actual scope of any effect from casinos in that jurisdiction.

DATA FOR ANALYSIS

Bankruptcy Data. The bankruptcy data used in this study were obtained from the Administrative Office of the United States Bankruptcy Courts. Report F-5A contains data by county for filings by business and non-business debtors under each bankruptcy chapter. Court administrators use data in this report to evaluate where demand is greatest for bankruptcy court services.[47] The county-by-county presentation of this data is also useful for the purpose of evaluating whether any correlation exists between the availability of casino gambling in that county and the number of bankruptcy petitions filed in that county.

Figure 5 shows the difference in bankruptcy rates from 1990 and 2002 between counties that opened casinos in 1990 and counties that had no casinos during the period. As shown, casino counties that opened in 1990 had a bankruptcy rate 1.50 per thousand higher than non-casino counties in 1990. By 1995, the gap had declined to less than 0.50 bankruptcies per thousand. Beyond 1995, Figure 5 shows that bankruptcy rates for 1990 casino counties grew more quickly than non-casino counties. This data suggest that the relationship between casinos and bankruptcy rates varies over the tenure of the casino.

<u>Other Data.</u> Data concerning population, income, employment for each county were also obtained for each county from the Bureau of the Census. Such data permit our regression formula to evaluate different parameters and their potential impacts on bankruptcy.

We also combed various data sources, including the Internet and private databases, to determine the first date in which a Class III or commercial casino opened in a particular county. In some cases, we made assumptions using the compact date associated with a tribal casino. Given the long time periods for operation of casinos in Nevada, they were excluded from the cohort of casino counties. This permitted our analysis to focus on relatively recent additions to the casino market, which would allow a more robust examination of the exogenous impact of the casino as opposed to other county-specific factors.

Table 2 also compares counties with commercial casinos, tribal casinos, and no casinos based on characteristics other than bankruptcy rates. In general, counties with commercial casinos had a larger population, higher density of population, lower poverty rates, higher bankruptcy rates, and higher family income than either counties with no casino or counties with a tribal casino. As presented, tribal casinos were located in counties that began the decade in greater financial distress in terms of higher poverty rates, higher unemployment rates and slightly lower average family income.

As discussed below, our data suggest that adding legalized casino gambling to a local economy correlates positively to increasing bankruptcy rates over time. This increase may be explained in part by the effects of problem gamblers, though other factors, such as effects from unrealized earning expectations, may also contribute to these results.

Method of Analysis

In order to investigate differences in a multi-variate framework, we regression analysis to the matched data. Equation (1) estimates individual bankruptcies against factors hypothesized to affect financial distress. The dependent variable, IndBnk, represents the county's individual bankruptcy rates per thousand of population. A description of each variable is contained in Table 3.

Included in Equation (1) are data on race and age, which other studies have show to have a disproportionate impact on bankruptcy rates within a population (Sullivan, et al., 2000).

$$IndBnk = \beta_0 + \beta_1 PopDen + \beta_2 PCapInc + \beta_3 Emp + \beta_4 Unemp + \beta_5 PBlack + \beta_6 PO55 + \beta_7 P2054 + \beta_8 PU20 + \beta_9 NE + \beta_{10} MA + \beta_{11} ENC + \beta_{12} WNC + \beta_{13} ESC + \beta_{14} WSC + \beta_{15} MT + \beta_{16} Year + \beta_{17} Casino + \beta_{18} Time + \beta_{19} Time^2 + \varepsilon \qquad (1)$$

Table 4 lists results from the estimation of Equations (1). As presented, the addition of casinos in a county from 1990 to 2002 had a positive and statistically significant impact on individual bankruptcy rates in the first year of operations. However, estimation results indicate that in the fourth year after adding a casino, a county will experience a bankruptcy rate less that an otherwise equivalent non-casino county. Only after eight years does the casino bankruptcy rate rise above that of a non-casino county. Each year beyond seven, the bankruptcy gap between casino counties and non-casino counties grows.

Figure 6 profiles the estimated bankruptcy rates for a casino counties and non-casino counties. Over the twelve year period, bankruptcy rates in casino counties grew by 320 percent, while bankruptcy rates in non-casino counties grew by only 260 percent. Beginning from a rate of 2.42 per thousand, the casino county is estimated to grow to 7.82 per thousand, while a noncasino county would grow to 6.39 per thousand. For the period of time covered by this analysis, this amounts to an increase of nearly 2 percent in the annual growth rate for bankruptcy over this period.

The above data support a theoretical model that is consistent with the developing experience with gambling pathology. Casinos almost always include slot machines, which have been identified among the most addictive forms of gambling. These machines combine quick-cycling, sensory-rich experiences, the psychologically attractive principle of intermittent reward, and the statistically inevitable house advantage which are assured to produce significant gambling losses over time. Industry observers have suggested that slot machines are gaining in popularity, that the industry is responding to that consumer interest by investing in more sophisticated machines, and that slot machines provide an increasingly significant portion of industry profits.[48]

Adding a casino increases the opportunity for convenient access to gambling. It is possible that, over time, citizens with a propensity for problem gambling behavior will capitalize on those opportunities by increasingly frequent gambling experiences. Losses mount as these experiences increase, leading to expanding demands on credit to pay for one's gambling habit. Irrational behavior, such as "chasing one's losses" may well increase as the pathology expands, thereby compounding financial problems. Ultimately, the problem gambler reaches the point where a bankruptcy petition seeking an order for relief from creditors becomes a rational, and perhaps also necessary, action.

Our results showing a time lag between the introduction of a casino and the manifestation of negative social consequences are consistent with other research findings. For example, Grinols and Mustard (2004) examined the impact of casinos on crime. Their findings indicate that crime rates may go down during the first year of operation, followed by average rates for two or three years, after which crime rates increased substantially. The existence of a substantial time interval before the introduction of a casino results in manifestation of additional bankruptcy events is also consistent with behavioral dimensions of problem gamblers and other economic impacts from the inception of casino operations.

Casinos also provide positive influences in the local economy, such as new employment and service opportunities, which potentially offset the negative effects of a growing population of problem gamblers. Increased income sources from new employment, as well as from ongoing construction projects or surrounding business expansion, may well provide a dampening effect on the rate of bankruptcy filings that might otherwise occur in the current population. As casinos become a more ordinary part of the local economy, this dampening effect may fade, allowing the effects of problem gamblers to swell the ranks of bankruptcy petitions. As shown in Table 2, bankruptcy rates in counties where casinos were added were already, on average, higher than in counties without casinos. Thus, where casinos were used as an economic development tool, short term positive impacts may well have reduced the overall bankruptcy behavior of the population.

The longer-term bankruptcy impacts may also reflect increasing density of casino gaming operations. During the initial years of a casino operation, it is likely to attract a greater influx of dollars from outside the county. Visitors from outside the county will travel to participate in gaming activities, bringing with them new dollars and new consumption. However, as casinos become available in markets that are closer to them (or perhaps more attractive simply because they are newer), these visitors may choose other venues, thereby eliminating the positive market influences in the particular casino county at this stage of the casino lifecycle.

Application of the permanent-income hypothesis may also support these observations. Under this model, consumption patterns are affected by the consumer's perception of his or her long-term income prospects. Government officials and other casino promoters typically tout the economic development potential of legalized casino gambling as a basis for implementing legal change. To the extent this touting changes the lifetime income expectations of employees and business owners in the area, consumption patterns may well shift beyond the immediate means to support that income. Projections of tourism growth, which often go along with economic development plans, frequently go unfulfilled or change over time, thus providing one source for disaffection with casino-based development.

If this explanation is correct, we should expect some increase in bankruptcy rates attributable to others besides problem gamblers. Even nongamblers could conceivably be impacted by disappointed earning potential resulting from unrealized expectations which might result, for example, from lost jobs in non-casino sectors of the economy. This could, of course, take some time to manifest after the casino industry has been established in a particular locale.

Data concerning the type of bankruptcy petition filed in casino counties also suggest an interesting theoretical construct. As explained above, bankruptcy petitions in chapter 7 involve liquidations of non-exempt assets, in which unsecured creditors are likely to receive little or nothing from the debtor's estate. Chapter 13 (or chapter 11, in limited cases) provides an individual debtor with a different form of relief, which involves time to restructure finances and to develop a plan for repayment of creditors.

Legal commentators agree that events such as unemployment, significant health events, and divorce are the most significant contributing factors toward bankruptcy petitions.[49] In each of these cases, the income potential that is critical to developing a repayment plan has been disrupted. A liquidation plan may thus provide the only feasible form of relief. A problem gambler, on the other hand, may have racked up significant debt while continuing to be gainfully employed, and he/she is likely to be able to continue that employment. Such a person may well be a candidate for a Chapter 13 filing.

This also raises an additional intriguing possibility: bankruptcy choices for problem gamblers may also be impacted by the practices of gambling treatment programs. Gambling treatment programs commonly operate around the guiding principle of getting the problem gambler to take responsibility for his or her choices. These programs discourage bankruptcy because it abdicates that responsibility, allowing others (i.e., creditors) to bear the costs of the gambler's irresponsible behavior.[50] The extent of participation in such programs may well vary among different locales, and nothing in our model tracks this form of participation. However, further inquiry in this area may confirm that such programs are indeed having an impact on behavior that is reflected in consumer choices that lean toward rehabilitative forms of bankruptcy, which result in fewer externalized costs than a liquidation alternative under Chapter 7.

Summary

Estimates contained in this study show a statistically significant and positive correlation between the introduction of legalized casinos in a county and individual bankruptcy rates. These effects occur over a time cycle of several years. After small increases in bankruptcy rates during the initial years of operation, we estimate that bankruptcy rates in a casino county will be lower than a noncasino county for the third through the ninth year of operations. Thereafter, the rate differential between the casino and non-casino counties are expected to increase, with casino counties having substantially higher bankruptcy experiences than the non-casino counties. These results suggest that the bankruptcy impacts from many of the casinos opened during the latter half of the 1990s are just beginning to appear, and that the social costs of those impacts need to be considered as further expansions are planned.

Estimates from our model show that personal bankruptcy rates in a noncasino county increased by 266% over a thirteen year period whereas a county with a casino in operation during this period would experience an increase in bankruptcy rates by approximately 325% -- a compound annual growth rate differential of nearly 2 percent. It should be noted that this analysis ignores the bankruptcy results from non-casino counties that are contiguous to casino counties. In that respect our results likely understate the bankruptcy impact of casinos.

Figure 1: Tribal casinos by state

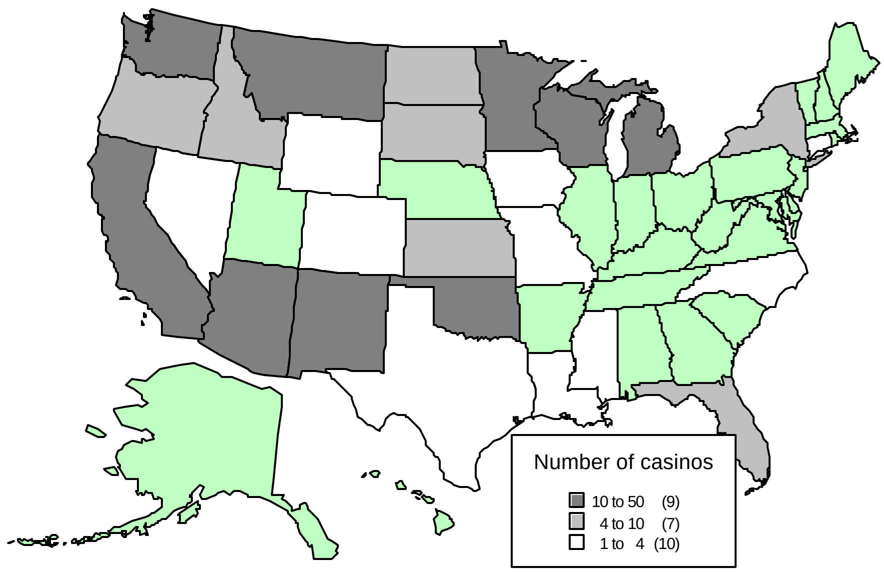


Figure 2: Commercial casinos by state

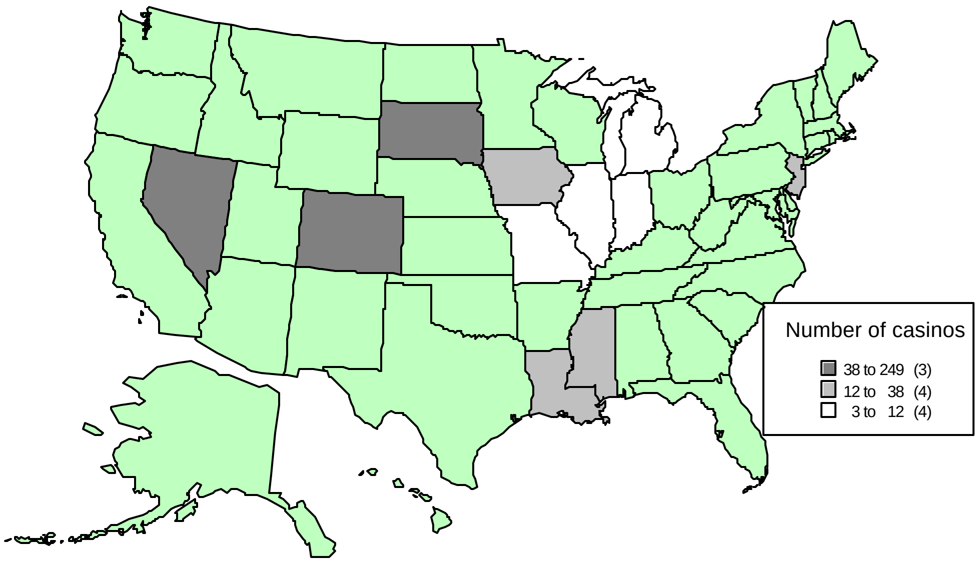


Figure 3: Commercial casino AGR, 1997-2003

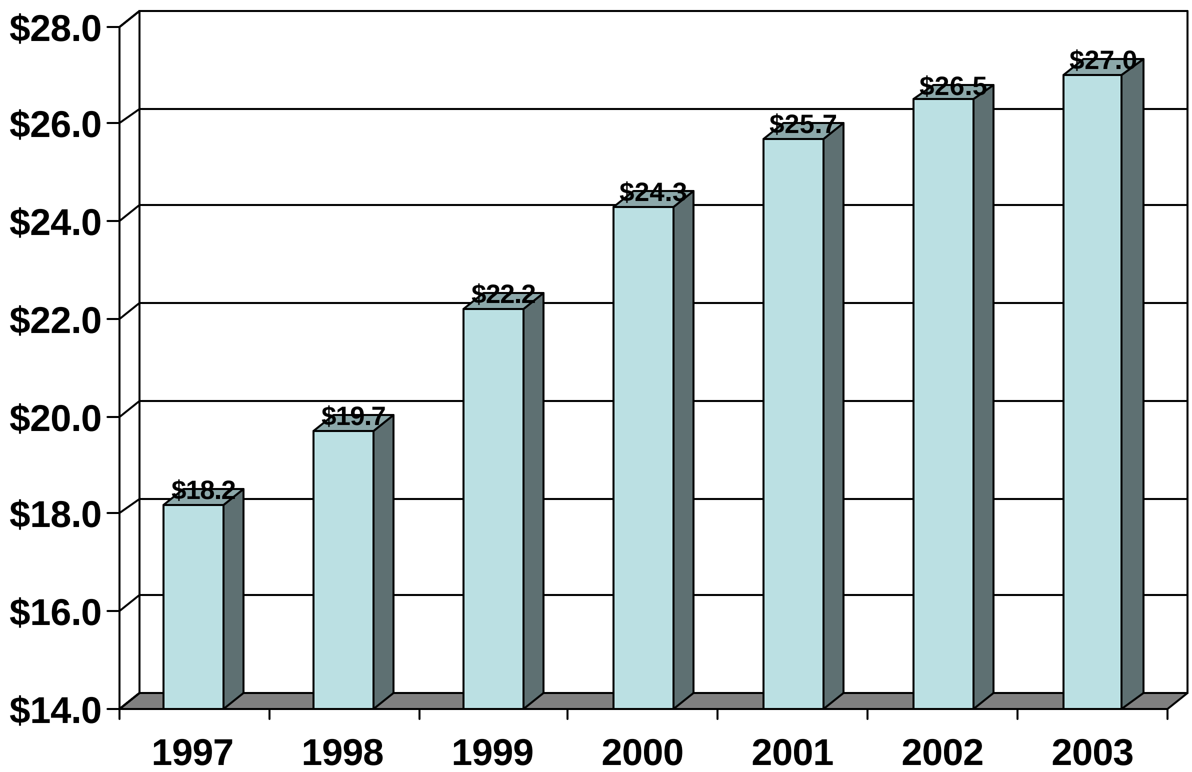
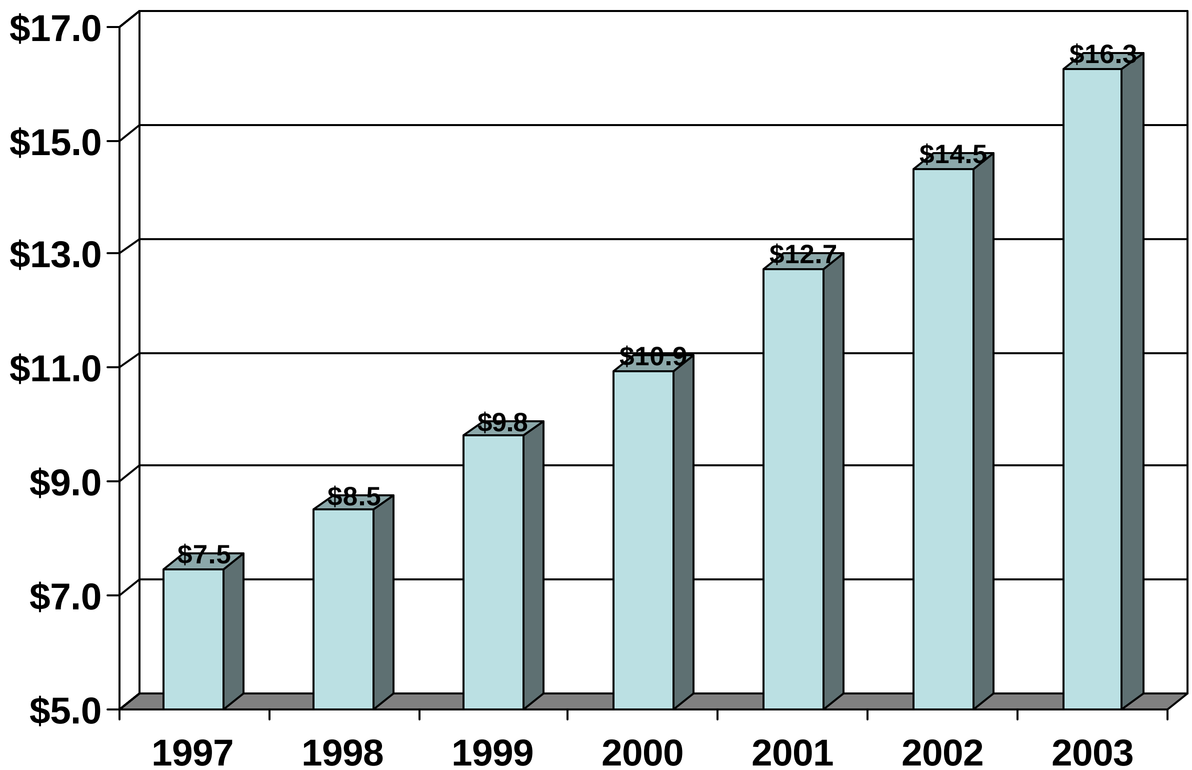


Figure 4: Tribal casino AGR, 1997-2003



Source: National Indian Gaming Commission, Tribal Gaming Revenues

Table 1: Comparison of commercial and tribal casinos, 2003

	Commercial	Tribal
Number of casinos	443	356
Number of counties with casinos	61	192
Total AGR (in billions)	$27.0	$16.2
AGR per casino (in millions)	$61.0	$45.7
AGR yearly growth rate 1997-2003 (compound)	6.8%	14.0%
Taxes or revenue sharing (in billions)	$4.32	$0.759
Effective tax or revenue sharing rate	16.0%	4.7%

Figure 5: Difference in bankruptcy rates, 1990 casino county vs. counties without casinos

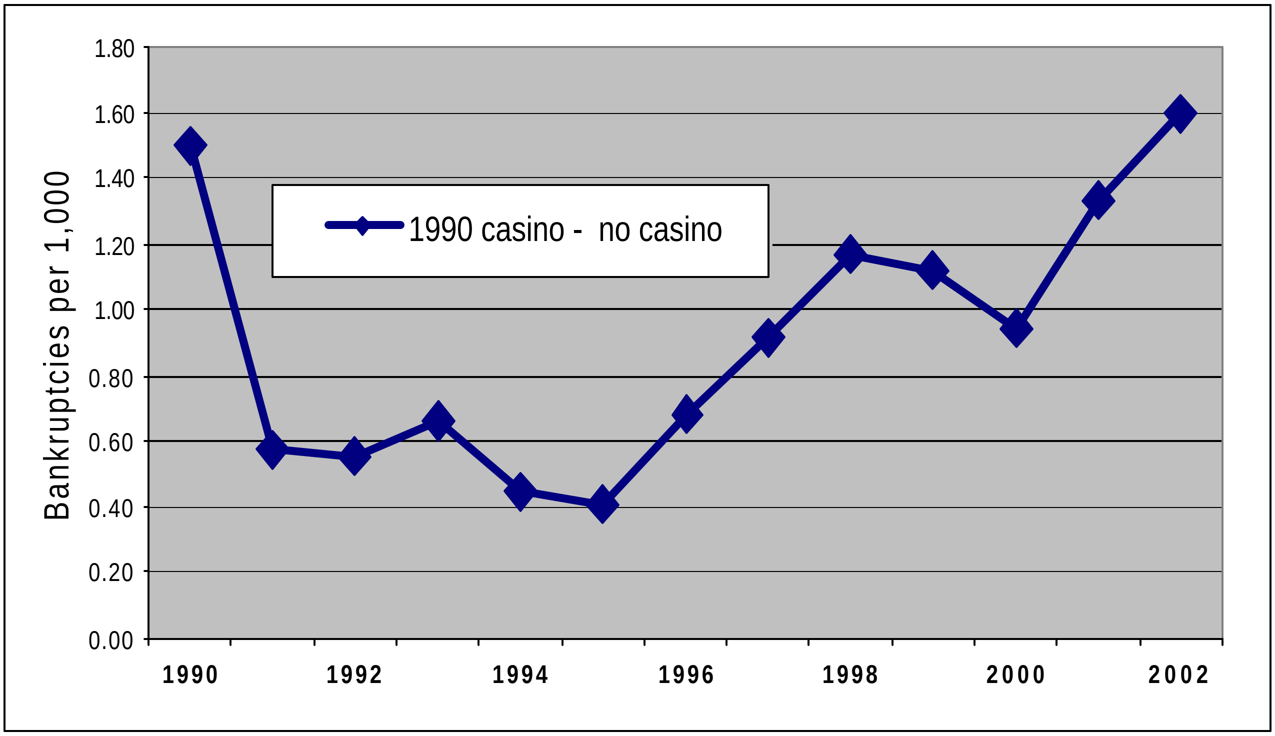


Table 2: Comparison of casino & non-casino counties, 1990 & 2002

	2002 Casino	2002 Non-casino	1990 Casino	1990 Non-casino
Personal bankruptcy rate per 1,000 population	6.0203	5.1965	3.6883	2.3912
Business bankruptcy rate per 1,000 population	0.1951	0.1418	0.4385	0.2992
Population density	0.1528	0.3079	0.1379	0.2641
Per capita income in thousands	$24.7	$24.4	$15.8	$15.3
Employment in thousands	97.0	50.9	108.9	44.2
Percent unemployment	6.4%	6.0%	7.2%	6.3%
Percent black	5.8%	9.2%	3.7%	8.8%
Percent over 55 years of age	14.2%	14.9%	13.7%	14.9%
Percent 20 – 54 years of age	41.1%	41.1%	40.1%	39.6%
Percent under 20 years of age	29.4%	28.5%	31.1%	29.7%
Percent of counties in New England	0.4%	2.3%	0.0%	2.2%
Percent of counties in Mid-Atlantic	2.1%	5.1%	4.8%	4.9%
Percent of counties in East North Central	16.7%	14.0%	11.1%	14.2%
Percent of counties in West North Central	21.7%	19.5%	12.7%	19.8%
Percent of counties in East South Central	3.3%	15.2%	0.0%	14.5%
Percent of counties in West South Central	21.3%	13.2%	22.2%	13.6%
Percent of counties in Mountain	14.2%	6.9%	30.2%	7.0%
Number of observations	240	2,841	63	3,018

Table 3: Definition of variables used in estimation of Equations (1) and (2)[1]

Variable	Mnemonic	Description
Population density	PopDen	County population per square mile; Source-U.S. Census Bureau
Per capita income	PCapInc	County per capital income in thousands: Source-U.S. Bureau of Economic Analysis
Employment	Emp	County employment in thousands; Source-U.S. Bureau of Labor Statistics
Percent unemployment	Unemp	County unemployment rates: Source-U.S. Bureau of Labor Statistics
Percent black	PBlack	Percent of county population that is black- U.S. Census Bureau
Percent over 55	PO55	Percent of population over the age of 55-U.S. Census Bureau
Percent 20 – 54	P2054	Percent of population between 20 and 54 years of age-U.S. Census Bureau
Percent under 20	PU20	Percent of population under age 20-U.S. Census of Bureau000
New England	NE	A binary variable equal to 1 if county is located in the New England States Region; Equal of zero otherwise.
Mid-Atlantic	MA	A binary variable equal to 1 if county is located in the Mid-Atlantic region; Equal of zero otherwise.
East North Central	ENC	A binary variable equal to 1 if county is located in the East North Central region; Equal of zero otherwise.
West North Central	WNC	A binary variable equal to 1 if county is located in the West region; Equal of zero otherwise.
East South Central	ESC	A binary variable equal to 1 if county is located in the West North Central region; Equal of zero otherwise.
West South Central	WSC	A binary variable equal to 1 if county is located in the West South Central region; Equal of zero otherwise.
Mountain	MT	A binary variable equal to 1 if county is located in the Mountain States region; Equal of zero otherwise.
Year	Year	A variable representing the year from which data were drawn.
Casino	Casino	A binary variable equal to zero if the county adds a casino; zero otherwise.
Time	Time	Number of years that casino is in existence; zero for non-casino counties
$Time^2$	Time2	Time * Time

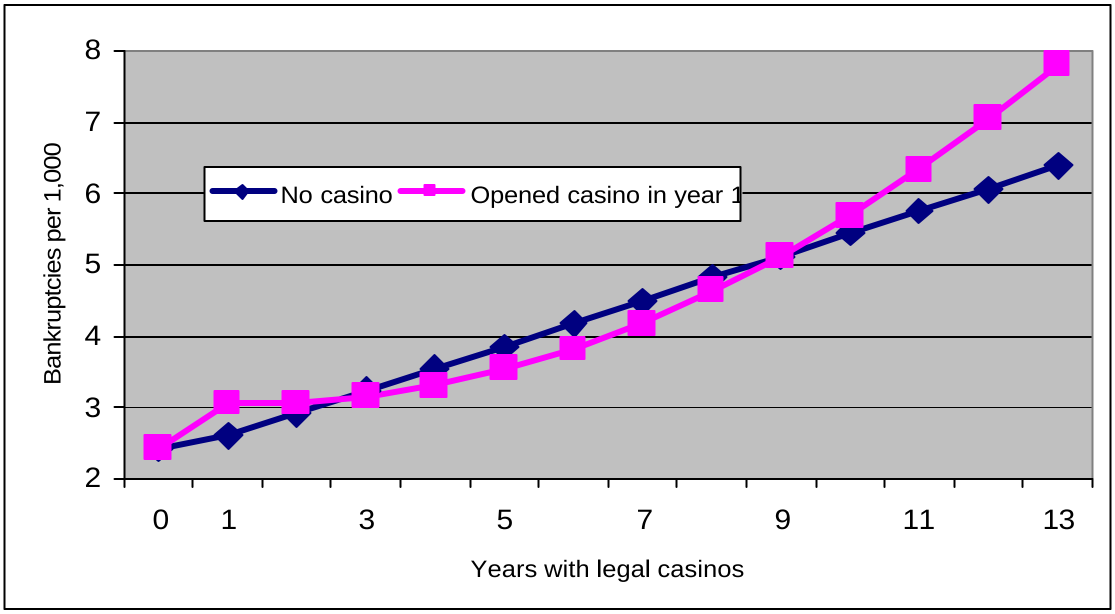
[1]The New England division includes: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont; and the Middle Atlantic division includes: New Jersey, New York, and Pennsylvania. The East North Central division includes: Illinois, Indiana, Michigan, Ohio, and Wisconsin; and the West North Central division: Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota. The South Atlantic division: Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia; The East South Central division includes: Alabama, Kentucky, Mississippi, and Tennessee; and the West South Central division includes: Arkansas, Louisiana, Oklahoma, and Texas. The Mountain division includes: Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming; and the Pacific division includes: Alaska, California, Hawaii, Oregon, and Washington.

Table 4: Impact of factors on bankruptcy rates

	With time Individual bankruptcy rates		Without time Individual bankruptcy rate	
	Coefficients	t Stat	Coefficient	t-stat
Population density	0.034	0.626	0.014	0.257
Per capita income	-0.084	-10.593	-0.090	-11.375
Employment	-0.003	-5.389	-0.002	-3.629
Percent unemployment	0.012	1.674	0.010	1.376
Percent black	3.845	5.088	3.738	4.922
Percent over 55	-7.176	-3.331	-9.198	-4.261
Percent 20 – 54	-12.374	-5.256	-14.127	-5.978
Percent under 20	-4.936	-2.227	-6.093	-2.738
New England	-1.034	-1.764	-1.083	-1.839
Mid-Atlantic	-1.146	-1.382	-1.191	-1.428
East North Central	-0.736	-1.822	-0.750	-1.849
West North Central	-1.755	-4.607	-1.757	-4.589
East South Central	-0.313	-0.800	-0.342	-0.870
West South Central	-2.039	-5.066	-2.066	-5.106
Mountain	-1.462	-2.902	-1.441	-2.847
Year	0.316	42.982	0.326	44.286
Casino	0.825	6.140	-0.045	-0.467
Time	-0.404	-12.836		
Time2	0.035	18.091		
Constant	-618.606	-42.365	-636.761	-43.537

*indicates that coefficient is statistically significant at 5% level

Figure 6: Estimated individual bankruptcy rates- casino vs. non-casino county



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[1] American Gaming Association, 2004 STATE OF THE STATES: THE AGA SURVEY OF CASINO ENTERTAINMENT at 2. Class III gaming, which includes slot machines and table games traditionally associated with casinos, requires a Tribe to compact with the state. Class II gaming, which excludes slot machines and banked card games, does not require a compact. See generally 25 U.S.C. § 2703.

[2] In June 2004, Pennsylvania legalized the use of up to 61,000 slot machines in the state. See 2004 Pa. Legis. Serv. 2004-71, H.B. 2330 (July 5, 2004). Florida's Broward County approved slot machines in a racino in March 2005, but voters in Miami-Dade County rejected them. See Theresa Walsh Giarrusso, Go Guide 2005: Seven states add slot machines, Atlanta Journal and Constitution, March 13, 2005, at K6 (2005 WLNR 3931048).

[3] Adjusted gross revenues refers to net losses of gamblers and does not include other non-gambling related casino revenues. See, e.g., Iowa Code § 99F.1 (defining adjusted gross receipts as "gross receipts less winnings paid to wagerers").

[4] National Gambling Impact Study Commission Report, at 4-1 (1999) (quoting National Research Council, "Pathological Gambling: A Critical Review," (April 1, 1999), p. Exec-2.)

[5] Id. at p. 4-14 to -15.

[6] Id. at p. 4-1.

[7] Id., Recommendation 3-6.

[8] Id., Recommendation 8-9.

[9] Id. at p. 47.

[10] Id., Recommendation 8-20.

[11] See, e.g., BFP v. Resolution Trust Corp., 511 U.S. 531, 569 (1994) (referring to "core Bankruptcy Code purposes of augmenting the bankruptcy estate and improving the debtor's prospects for a "fresh start"); Kokoszka v. Belford, 417 U.S. 642, 645-46 (1974) ("'It is the twofold purpose of the bankruptcy act to convert the estate of the bankrupt into cash and distribute it among creditors and then to give the bankrupt a fresh start with such exemptions and rights as the statute left untouched.'") (quoting Burlingham v. Crouse, 228 U.S. 459, 473 (1913)); Local Loan Co. v. Hunt, 292 U.S. 234, 244 (1934) ("One of the primary purposes of the Bankruptcy Act is to 'relieve the honest debtor from the weight of oppressive indebtedness, and permit him to start afresh free from the obligations and responsibilities consequent upon business misfortunes.' This purpose of the act has been again and again emphasized by the courts as being of public as well as private interest, in that it gives to the honest but unfortunate debtor who surrenders for distribution the property which he owns at the time of bankruptcy, a new opportunity in life and a clear field for future effort, unhampered by the pressure and discouragement of pre-existing debt." (citation omitted)).

[12] See 11 U.S.C. § 301.

[13] See 11 U.S.C. § 541(a).

[14] See 11 U.S.C. § 522(b); In re Morehead, 283 F3d 199 (4th Cir. 2002) ("Federal bankruptcy law allows a debtor to exempt some of his property – mainly basic necessities – from the bankruptcy estate. The exemptions can afford the debtor some economic and social stability, which is important to the fresh start guaranteed by bankruptcy.")

[15] See 11 U.S.C. § 704 (defining duties of bankruptcy trustee in Chapter 7 case).

[16] See 11 U.S.C. § 727(a) (granting discharge provided that certain conditions are met).

[17] See, e.g., Arnold B. Cohen, Chapter 20 Cases: An Appropriate Debtor Tool?, 4 J. BANKR. L. & PRACT. 53, 53 n.4 (1994) ("Although most Chapter 7 cases are so-called "no asset" cases in which the debtor's Section 522 exemptions cover all the Section 541(a) property of the estate, there are cases in which there will be distributable property of the estate.")

[18] See 11 U.S.C. § 109(b) (defining debtors eligible for Chapter 7 filing).

[19] See 11 U.S.C. § 727(a)(1).

[20] See 11 U.S.C. § 109(e). The statutory debt limits are subject to adjustment for inflation. See 11 U.S.C. § 104. For cases commenced after April 1, 2001, eligibility is limited to individuals with regular income who owe less than $290,525 in applicable unsecured debt, and $871,550 of applicable secured debt. See Alan N. Resnick, Bankruptcy Law Manual § 10.4, p. 1085-86 (5th Ed. 2002). The next adjustment was scheduled to occur on April 4, 2004. See id. at § 10.4, p. 1086.

[21] See 11 U.S.C. § 1304(b).

[22] See Cohen, supra note 17, at 58.

[23] See 11 U.S.C. § 1321.

[24] See 11 U.S.C. § 1322(a).

[25] See 11. U.S.C. § 1322(d).

[26] See Cohen, supra note 17, at 58.

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[27] 11 U.S.C. § 1325(a)(4).

[28] See 11 U.S.C. § 1328 (describing terms of discharge).

[29] See 11 U.S.C. § 1307.

[30] See Resnick, supra note 20, at § 10.13.

[31] See generally Cohen, supra note 17.

[32] See 11 U.S.C. § 109(d) (defining debtor for purposes of Chapter 11).

[33] See Toibb v. Radloff, 501 U.S. 157, 162 (1991). See also Resnick, supra note 20, at § 9.5, n. 3 (noting that the bankruptcy court has refused to allow individuals to fund a chapter 11 reorganization plan with future wages).

[34] The legislative history supports this approach to Chapter 11. See Toibb v. Radloff, supra, 501 U.S. at 162 (quoting the legislative history as follows: "Chapter 11, Reorganization, is primarily designed for businesses, although individuals are eligible for relief under the chapter. The procedures of chapter 11, however, are sufficiently complex that they will be used only in a business case and not in the consumer context." S.Rep. No. 95-989, p. 3 (1978), U.S.Code Cong. & Admin.News 1978, p. 5789 (1978).) As the Court also noted, 'the greater expense and complexity of filing under Chapter 11 likely will dissuade most consumer debtors from seeking relief under this Chapter." See id. at 165. See also Resnick, supra note 20, at § 9.6 (describing typical conditions leading to a Chapter 11 petition).

[35] See 11 U.S.C. § 1123. Plans may also be filed by creditors. See 11 U.S.C. § 1121.

[36] See 11 U.S.C. § 1129. As one commentator explains, "the essence of confirmation is that prior debts and interests are extinguished and replaced by the debts and interests provided for in the plan or confirmation order." See Resnick, supra note 20, at § 9.64, p. 1060.

[37] See generally 11 U.S.C. §§ 901 ff.

[38] See generally 11 U.S.C. §§ 1201 ff.

[39] See 28 U.S.C. § 1334(a).

[40] See 28 U.S.C. § 157 (empowering District Court to refer cases arising under Title 11 (i.e., bankruptcy cases) to bankruptcy judges).

[41] See 28 U.S.C. §§ 151 (designating bankruptcy judges as units of Federal District Court).

[42] 28 U.S.C. § 1408(a).

[43] In re Frame, 120 B.R. 718 (S.D. N.Y. 1990) (citations omitted). This case also indicated that residence for venue purpose reflected a requirement of permanence. See id. While there is agreement that a temporary presence is not sufficient, courts have disagreed on whether this implies a single residence. See In re Handel, 242 B.R. 789, 792-93 (1999) (agreeing with In re Frame to extent that a "mere stopping place" would not establish residence, but refusing to read venue statute as limiting venue to area of "principal" residence to exclude possibility that debtor might have more than one residence).

[44] See In re Canavos, 108 B.R. 55, 57-58 (1989).

[45] See id. at 58.

[46] Ms. Sandra Thomas, the program manager for bankruptcy court data, has explained: "Please note that almost all consumer debtors file in the county in which they actually have their residence." E-mail from Sandra Thomas to Edward A. Morse, September 23, 2003 (on file with author).

[47] See id. Some counties appear more than once on the report. The program manager for bankruptcy court data has confirmed that the appropriate total for each county requires aggregation of each county appearance. See id.

[48] See Gary Rivlin, The Tug of the Newfangled Slot Machines, New York Times Magazine, May 9, 2004.

[49] See Teresa A. Sullivan, Elizabeth Warren, and Jay Lawrence Westbrook, THE FRAGILE MIDDLE CLASS (Yale 2000).

[50] See SMR Research, The New Bankruptcy Epidemic: Forecasts, Causes, and Risk Control (June 2001).