Cummings Associates

Analysis of the Data and Fundamental Economics Behind Recent Trends in the Thoroughbred Racing Industry

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Analysis of the Data and Fundamental Economics Behind Recent Trends in the Thoroughbred Racing Industry

Executive Summary

The Thoroughbred racing industry reacted with great concern when the Jockey Club released data showing that while total handle rose slightly in 2003 (by 0.8%), total purses actually declined by $19 million, or 1.7%. This concern rapidly focused on factors such as "simulcast signal piracy, illegal offshore wagering, betting exchanges and the growth of rebating operations,"[1] all fueling "leakage" from the pari-mutuel betting system. In response, the NTRA formed a Wagering Systems Task Force to examine these and all issues connected with "handle up, purses down." While this Task Force has been working quietly, debate has continued to fester within the industry. Stevenson & Associates Inc. therefore retained Cummings Associates to conduct an analysis and prepare this report to the NHBPA regarding the fundamental economics of these issues.

My conclusions are as follows:

"Handle up, purses down" is not a new phenomenon – though the trend was masked for a while by the funds from slots at tracks, purses have been declining as a percentage of handle for nearly twenty years (see Exhibits A and B). This is basically due to the spread first of lotteries, then casinos crushing racing industry revenues (Exhibit C). Racing has responded with ITW, OTB, and Account Wagering. These have done well just to hold handle steady, let alone inch it forward. These advanced distribution systems, however, have added new layers of costs on top

of the old. It simply *costs* more now to generate each new dollar of handle than before the new competition came to town. Less is therefore available for purses (and less for tracks, too, net of the new expenses of OTB and account wagering).

The takeout has played a role, too. Bettors, or at least a very significant subset of them, are highly sensitive to the rate of takeout. This is demonstrated by the experiences of NYRA and New York City OTB, by statistical studies that have looked at broad cross-sections of data, by the dramatic increases in handle that small numbers of bettors have provided at Incentive Wagering Services, and by parallels with other types of gambling. Even the industry's frequently-touted "churn factor" of 7 implies that lower takeouts would benefit the industry -- if that is the case, we would make more money with the takeout at 14% than we do today. Higher takeouts have depressed handle, but this trend can be reversed. Investing in players (via rebates) can be just as or even more effective than investing in bricks and mortar and new technology as means to grow revenues for the industry.

Economic theory holds that a competitive marketplace is the best way to match producers and consumers of almost every product. It also says that in a competitive market, price equals marginal cost. That maximizes revenues for the producers, and consumer surplus for the buyers. But the most relevant factor here is *marginal* cost, not average cost. The marginal cost of a simulcast signal / betting opportunity is close to zero. The high *average* cost of putting on a horse race is unfortunately almost irrelevant. The only industries that can successfully charge more than the competitive price are monopolies. Monopolies don't last. Horse racing's ended years ago. If we charge more than the competitive price, we *will* lose customers.

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[1] *2003-2004 NTRA Annual Report to the Membership*, page 36.

Incentive Wagering Services improve the competitiveness of the racing industry. They provide a critical service (lower takeout) to a very few high-volume customers. In this respect, they are very different from the *real* pirates, internet and telephone-account bookmakers. Data indicate that doing business with IWSPs has increased tracks' handle, not reduced it. They moreover provide sorely-needed counterpressure against the widespread industry bias toward raising the price of wagering.

What the industry needs most, and has been working on for more than twenty years, is a diversified set of delivery mechanisms to bring our product to the customer, as well as attract more customers to our product. These delivery systems have different costs. Customers have different sensitivities to price. If we try to shoehorn all our customers and delivery systems into one uniform cost/price structure, we'll be leaving money on the table. Incentive Wagering Services provide benefits to the industry by bringing customers to the table, and should therefore be included as a significant component of the industry's diversified distribution network.

Exhibit A: Purses Net of Slot Subsidies and Tax Reductions as % of Handle

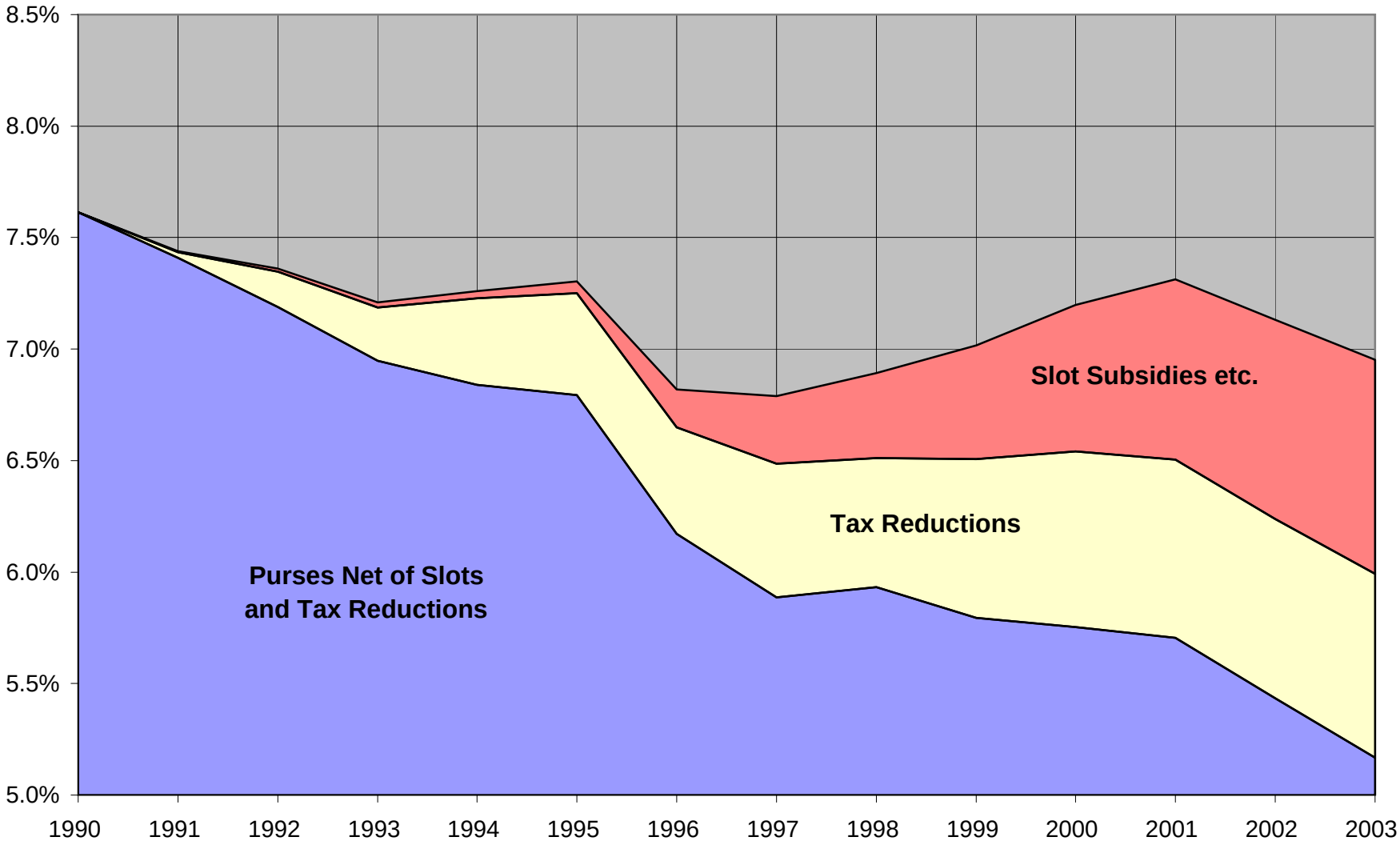

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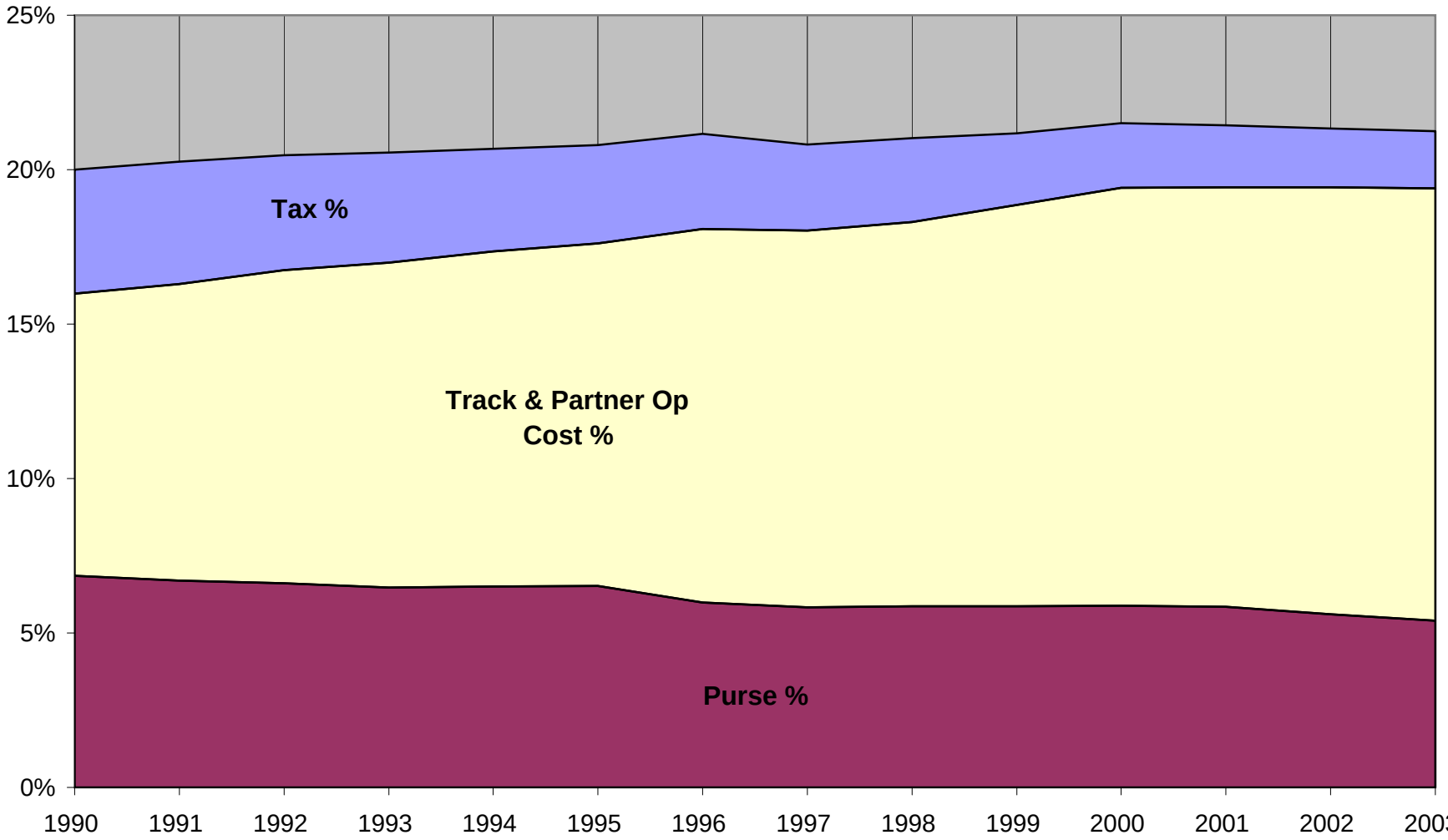
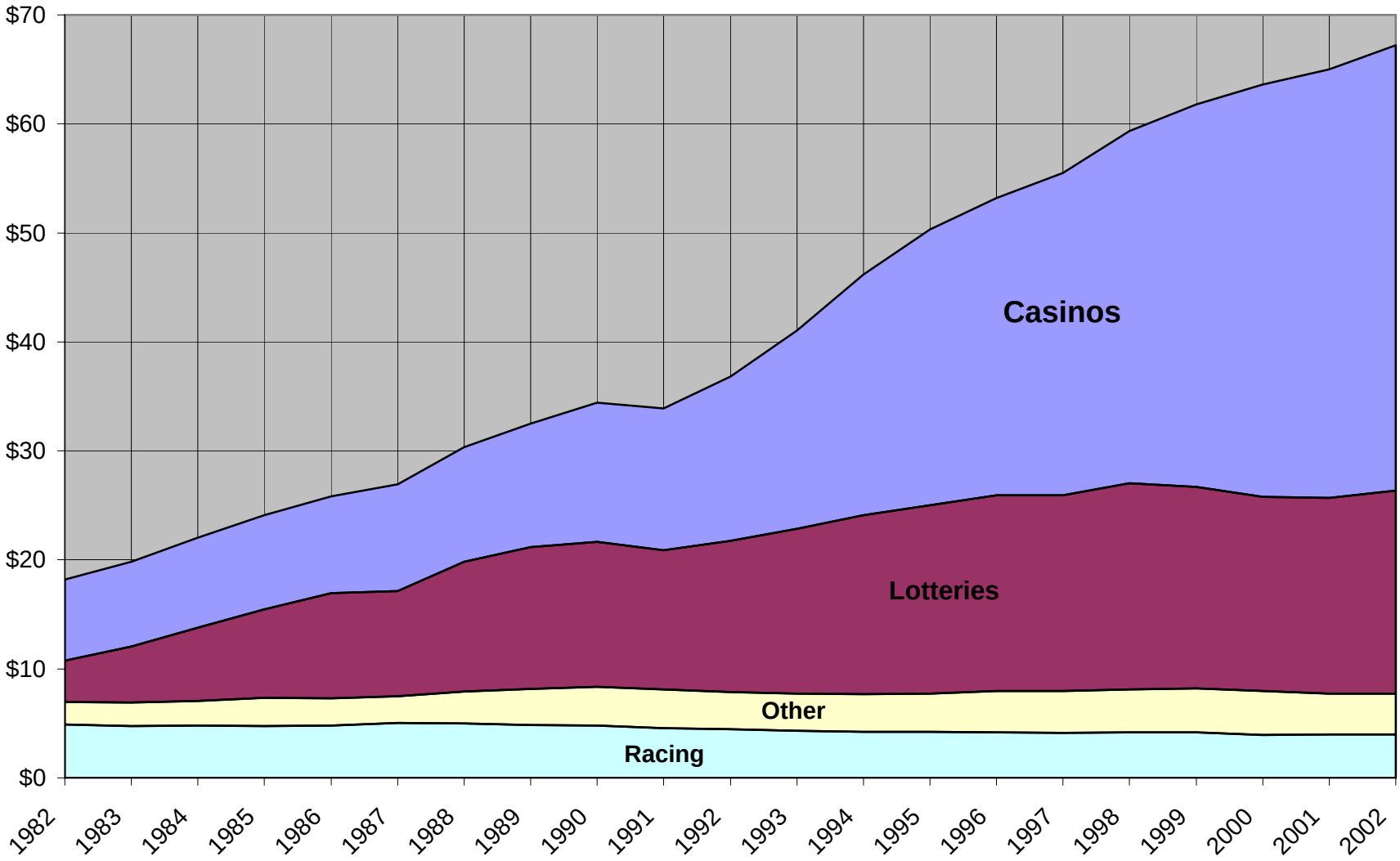
Exhibit B: Macro Trends in Takeout Percentages, 1990-2003 (approx.)



Source: Takeout rates and taxes from Racing Commissions; other percentages estimated by Cummings based on Jockey Club data.

Exhbit C: Total U.S. Legal Gambling Revenues (billions of Year 2002 dollars)



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Analysis of the Data and Fundamental Economics Behind Recent Trends in the Thoroughbred Racing Industry

1. Introduction: Handle Up, Purses Down - A New Phenomenon?

The Thoroughbred racing industry reacted with great concern when the Jockey Club released data showing that while total handle rose slightly in 2003 (by 0.8%), total purses actually *shrank* by $19 million, or 1.7% (see Exhibits 1 and 2). This was the first time that purses had declined since 1993 (-2.5%), and in that year, handle actually fell, too (-0.4%). Following hard on the heels of very marginal gains in purses in 2002 (up just $6 million, or 0.6%), many in the industry began to wonder what was going wrong.

Concern focused rapidly on factors such as "simulcast signal piracy, illegal offshore wagering, betting exchanges and the growth of rebating operations," in the words of the National Thoroughbred Racing Association, all fueling "leakage" from the pari-mutuel betting system. In response, the NTRA formed a Wagering Systems Task Force in March of this year to examine these and all issues connected with "handle up, purses down." While this Task Force has been working quietly, debate has continued to fester within the industry. Stevenson & Associates Inc. therefore retained Cummings Associates to conduct an analysis and prepare this report to the National Horsemen's Benevolent and Protective Association (NHBPA) regarding the fundamental economics of these issues.

Lacking hard data, I cannot comment on the magnitudes and impacts of "signal piracy, illegal offshore wagering, [and] betting exchanges" except in passing -- if significant in scale, these could indeed be major competitive threats to the legal pari-mutuel industries. I await the

report of the Task Force on these issues. I believe, however, that existing data (though imperfect) permit extensive analysis of the underlying long-term economics of "handle up, purses down," and of the role that rebating may or may not play in these trends. This report documents my analyses of the data and the fundamental principles of economics that underlie these issues.

"Handle up, purses down" is actually a phenomenon of long standing. Purses have been declining as a percentage of handle for nearly twenty years; they peaked in the mid-eighties. In recent years, however, it *appeared* that this trend had been reversed (see the late 1990s in Exhibits 1 and 2). Total Thoroughbred handle, thanks to new delivery systems and partnerships with new outlets, rose rapidly from 1995-2000. Heartened by the rapid spread of full-card simulcasting, it seemed to some that racing had emerged from a long period of doldrums into a new golden age of growth in handle. Purses at first lagged behind. Then, between 1998 and 2001, purses began to catch up, and actually increased faster than handle by two to three percentage points per year.

This surge in purses, however, was both temporary and illusory. It was, in fact, due largely to new contributions to purses from slot machines (Exhibits 3 to 6).[2] In 2003, these generated $146 million for Thoroughbred purses, almost 14 percent of the total. Since this funding started to accelerate in Delaware and West Virginia in 1996, slot machines, VLTs and related subsidies have added roughly two percentage points each year to the growth rate of total purses. In fact, when this funding hiccupped slightly in Delaware and Iowa in 2003, it contributed significantly to "purses down." If slot monies had continued to grow at their previous

[2] And related state subsidies, such as the Indiana industry's share of riverboat casino admissions tax receipts.

rates in these two states, rather than decline as they actually did, they would have added roughly $10 million to Thoroughbred purses in 2003.

(I should also observe that "purses down" would not likely have been exposed without a sharp reduction in the growth rate of handle in 2003. In a very real sense, the problem is one of "handle up not very much." Rather than casting about for villains with regard to handle, though, I believe that reduction is largely due to the recent recession. Most previous recessions had substantial adverse effects on pari-mutuel wagering.)

The longer-term issue, however, is that purses have substantially lagged handle; that is, the percentage of the industry's handle allocated to purses declined through the 1990s. At best, it plateaued for a few years (1994-95, 1998-2001). The purse percentage net of slots has otherwise demonstrated significant decline over the past decade (Exhibit 6).

This trend actually predates the 1990s; as indicated in Exhibit 7, it clearly started in the mid-1980s. Since this was long before signal piracy, offshore bookies of any significance, betting exchanges, and/or "rebaters" of any kind, these current scapegoats cannot have been responsible. Something (or things) of much larger scale, operating over much longer spans of time, must contribute far more to these trends. In addition, there are discrepancies in the underlying data that should be addressed, witnessed by the two different (although parallel) lines presented in Exhibit 7, one according to the Jockey Club and the other according to racing commissions.[3] Since the economic issues contribute in large measure to the confusion regarding data, I address both in Section 2. I then address the data and economic issues relating to the

[3] Largely as presented in the *Annual Statistical Summaries* of the Association of Racing Commissioners International. In some cases I have directly consulted individual state racing commission and related reports for clarification. I have also used my own estimates to disaggregate the racing commissions' "Mixed" racing category into Thoroughbred, Quarter Horse, and other breeds.

takeout, rebating, and competitive pricing in general in Sections 3 and 4. Section 5 presents a summary and conclusions.

2. Underlying Data and Economic Factors

There are substantial differences between purse and handle data as reported by the Jockey Club versus the racing commissions. Through the mid 1980s, the two purse numbers were actually fairly close (see Exhibit 8). In the late 1980s, though, the racing commissions' purse figures began to fall behind the Jockey Club's; I believe this was in large part due to growing numbers of jurisdictions failing to track purses accurately, if at all. By the mid-1990s (not shown), so many jurisdictions failed to account for purses that an aggregate estimate for the U.S. as a whole can no longer be compiled from these sources. I would urge HBPAs across the country to address this issue. In order to make informed public-policy decisions, racing commissions should have accurate data at hand regarding the purses paid in their jurisdictions and the different sources of those purses: live racing, simulcast racing (both import and export), slots, horsemen's own stakes and nominations fees, and any and all other contributions.

The differences between the two sources regarding handle are more dramatic. Throughout the 1980s, as indicated in Exhibit 8, the Jockey Club was consistently lower, by 13%-15%. This difference continued into the early nineties (Exhibit 9), where the Jockey Club's handle figure began the decade $1.4 billion less than the racing commissions'. In 1996 and 1997, however, the Jockey Club figure caught up to the racing commissions', and then surged past it. By 2002, the Jockey Club reported handle $1.9 billion *higher* than the racing commissions.

I believe two factors are at work here. I suspect that the Jockey Club's data prior to the mid-nineties are low because they did not include some (or all) handle at "mixed" meetings, at which both Thoroughbred and Quarter Horse (and sometimes other breeds of racing) are conducted. In the mid-nineties, with the formation of Equibase, the Jockey Club achieved full

coverage, and hence caught up with the racing commissions.[4] More recently, the industry has diversified enormously with regard to sources of handle, adding on-track simulcasting, off-track betting, and account wagering, all from a variety of jurisdictions. Equibase/The Jockey Club follows "all sources" handle (which is the most important criterion for most track operators and horsemen, too), while each racing commission[5] accounts only for the wagering that is handled within its own jurisdiction. That is, after all, the only handle that its state can tax (again, with a few exceptions). The Jockey Club figures therefore include offshore wagering, while the racing commissions' do not. This likely now adds up to the entire difference, on the order of $2 billion.

Here, as with purse data, I would recommend that the NHBPA work with the Jockey Club and the racing commissions to reconcile their figures so that all stakeholders in the racing industry can make better-informed decisions regarding its future course. If their tracks and horsemen are dependent upon revenues from other jurisdictions, racing commissions should have that data. If, on the other hand, their industries are net payors for simulcast signals, racing commissions should know where that money is going, too. In addition, all sectors of the industry should recognize that "total handle" is no longer a good proxy for the overall economic state of the business. Some types of handle generate large amounts of revenues, while other types contribute much more modest amounts. I would argue therefore that the industry should focus on revenues, not handle, in most of its accounting.

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[4] To the extent that the Jockey Club counted purses at those meetings while it did not count handle, the purse percentages of handle per the Jockey Club in Exhibit 6 (and the early part of Exhibit 7) are overstated. Since the racing commission data show the same trends, however (until the recent burst of growth, which includes handle for which they do not account), this would affect only the *slope* of the decline in the percentage to purses. Both sources agree that it exists.

[5] With a few exceptions.

Back to the trend of "handle up, purse[percentage]s down:" as indicated in Exhibit 7, this was not always the case. In marked contrast, from the late 1970s through the mid 1980s, purse percentages *grew* substantially. How did this happen? The explanation for this rise involves, in fact, the same underlying factors as the more recent *decline* in purse percentages: the advent of new competition first from state lotteries and then from the proliferation of casinos, as well as a host of other new entertainment alternatives, followed by the industry's response in terms of simulcasting, off-track betting, and the whole array of new distribution channels.

A little history here: When they were first authorized in some states in the 1930s, and for a long golden age thereafter, race tracks essentially had a monopoly on legal gambling on a commercial scale. They were legalized because states needed money. During the economic collapse of the Great Depression, a number of states turned to legal gambling as a source of revenue. Nevada legalized casinos (in 1931), but every other state chose pari-mutuel betting on horse racing, and in a few states, on greyhound racing as well. This occurred, moreover, in the context of relatively simple leisure economies which, aside from movies and major league baseball, offered few alternative forms of commercial entertainment. In these circumstances, race tracks were by and large highly profitable. As businesses, horse tracks had little trouble developing large numbers of customers and were able to pay high rates of gambling "privilege" taxes. They lived in a sheltered world.

Over the past thirty years, however, the economic environment has changed dramatically. Competing forms of legal gambling have proliferated, starting with state lotteries in the late 1960s. Ironically, the same force that legalized racing led to lotteries: states needed money. Thirty-nine states now have them, and all the provinces of Canada. In the aggregate, U.S. lotteries attracted more than $18.6 billion in consumer spending in 2002 (net of prizes), dwarfing

the approximately $4 billion that was spent on horse racing, greyhound racing, and jai-alai combined.[6]

Then came an explosion of full-scale casino resort hotels in Las Vegas, New Jersey, Mississippi, Canada and Connecticut. These now attract tens of billions of dollars in consumer spending each year, with large amounts also spent on "limited" casino gaming on riverboats in the Midwest, small casinos in Colorado and South Dakota, VLTs ("video lottery terminals") or slot machines at race tracks in seven states, and on a widespread basis in several Western states and much of Canada, on cruise ships operating out of many states, and at casinos on Indian lands across wide stretches of North America. U.S. "casino" gambling in all these forms attracted roughly $41 billion in 2002. Including lesser amounts spent on bingo, charitable games, and card rooms in various states, consumer spending on all forms of legal gambling was nearly $68.7 billion in that year.

In the 1980s, racing's legal gambling competition more than doubled in size (see Exhibit 10); in the 1990s, it more than doubled again. In 2002, the market share of *all the racing industries combined* was less than 6 percent.[7]

Over the same period, the U.S. leisure economy grew enormously and became vastly more diversified. Many leisure and entertainment activities are available today that did not exist in the 1930s, or even in the 1960s. Cable television, VCRs, DVDs, inexpensive air travel and the

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[6] Christiansen Capital Advisors, *The Gross Annual Wager of the United States: 2002*. Note that these figures are for *revenues*, not handle. Including all breeds, the racing industry's roughly $19 billion in wagering handle provided only $4 billion in *revenues*. These fund all purses, track and other operating costs, and the (shrinking) share of state taxes derived from pari-mutuel betting.

[7] Another way to view the current position of the racing industry is in terms of per capita spending. In 2002, the average adult living within ten miles of an attractive race track spent $20-30 per year on pari-mutuel wagering. The average adult living in a state with a lottery spent between $50 and $150

related (but not-so-inexpensive) theme park resort industries, major-league football and basketball and a host of other diversions now compete much more intensely with horse racing for the leisure dollars available.

This explosion of competition could have dealt a crushing blow to the racing industry. In some jurisdictions, it very nearly did, for example, Louisiana (Exhibit 11) and Alberta (Exhibit 12). In most others, the blows appeared less severe, but that was due, in large part, to the racing industry's own efforts to transform itself in response to this new competition. There have been three major elements in this transformation.

First, the racing industry convinced state governments to lower their high tax rates. With the disappearance of its monopoly, racing argued quite rightly that it could no longer be taxed like one. States indeed reduced their tax rates dramatically (Exhibit 13). As a result, higher percentages of the handle were made available for purses (and for track operators), enabling the industry to survive, though not prosper, in the face of the new competition.

In addition, as indicated in Exhibit 14, the rates of total takeout rose. Although the scale of the exhibit lessens its impact, over the course of the 1980s the average takeout rose from roughly 18% to nearly 20%. (It has continued to rise since, though more slowly. In 2002 the average was approximately 21.3%).[8] This was an increase of more than ten percent over ten years. And while it provided the opportunity for both tracks and horsemen to increase their percentages of handle, I will argue below that this was at best a mixed blessing for the industry.

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on it, and the average adult within ten miles of most full-scale casinos spent $600-700 on such gaming -- *twenty to thirty times* as much as on racing.

[8] In both decades, two factors contributed to the rise in average takeouts. Statutory (or otherwise official) rates increased, and customers' betting patterns shifted to more exotic wagers, upon which takeout rates are often substantially higher.

Total handle would have been somewhere between five and fifteen percent higher had takeout rates not risen as they did through the 1980s.

Exhibit 15 presents the same information in terms of shares of *revenues* rather than shares of the takeout. In 1977, government revenues[9] averaged 7.3% of handle, while total takeout averaged 18.1%. State taxes therefore represented 40% of all revenues (= 7.3 / 18.1). Tracks received roughly 33%, and purses 27%. As state tax rates declined, the shares of revenues going to both tracks and purses increased through 1985.

In the late 1980s, however, things began to change. The tracks' share of the takeout -- overwhelmingly for operating expenses, not profit -- began to rise faster than state tax rates declined. As a result, the share to purses began its long-term decline. This continued through the 1990s, and still continues today, as indicated in Exhibits 16 to 18.

In fact, if effective state tax rates had not continued to decline, purses would be far lower than they are now. In conjunction with the industry's *third* response to the new competition (embrace it and seek to profit from it -- hence, slots at tracks), tax reductions have contributed mightily to growth in purses over the past decade. I have developed an estimate for their impacts in Exhibit 19, which builds on Exhibit 3's calculation of the impacts of slot and other subsidies. If state taxes had *not* declined from their 1990 average rate of 4.0%, the industry would have been out another $250 million in 2003. Assuming that half of this has effectively gone to purses,[10] the resulting $125 million has contributed nearly as much as slots' $146 million.

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[9] In some cases, including not only state pari-mutuel taxes but also local taxes, state franchise fees, the net proceeds from state-operated OTB, shares of breakage, and other revenues allocated to government. For ease of use in the text, I refer to all these payments in the aggregate as "state taxes."

[10] Perhaps a generous estimate, but a proportion that is commonly accepted in the industry for the division of truly new revenues on a net basis.

As indicated in Exhibits 20 and 21, without these contributions the growth in purses would have fallen *far* behind growth in handle. Slot revenues and tax reductions masked, until exposed by the recent recession, a continuing long-term trend of more difficult, and more costly, competition for the racing product. As indicated in Exhibit 22, purses net of slot subsidies and tax reductions have declined substantially in proportion to handle.

This trend has not been due to anxious greed on the part of track operators. With few exceptions, their profit margins, like those of the horsemen, evaporated long ago. This was, rather, due to the industry's *second* response to the tidal wave of new competition (second in chronological terms; I've already mentioned the third, slots at tracks): investing in new, and higher-cost, delivery systems to bring the racing product to the customer.

By the mid-eighties, many states had begun to reach their limits with regard to taxation: they had cut their rates to nominal levels, and had no more to give. Searching for new sources of revenue, racing turned to new distribution systems: first to inter-track wagering . . . then (in some, but not all cases) to off-track betting . . . then to full-card simulcasting . . . and finally, to telephone and computer account wagering. All these new ways of distributing the racing product were at first highly controversial, subject to fiery debate as to their efficacy ("cannibalization!" was the cry), and equally intense debate as to how to pay for them and/or share the proceeds. These new distribution systems are now generally accepted, and they have in fact managed to hold handle steady against the onslaught of new competition, and in many cases to actually push it forward -- hence, "handle up." The share/pay debate, however, still goes on -- *because the new distribution systems have added new layers of costs* to racing industry operations: satellite time, television production, telecommunications, bulky programs, the construction and maintenance of off-track facilities, and on and on.

Hence, the share of the revenues available for purses has shrunk, as, in most cases, has the actual net to tracks after the new (and continuing old) costs of operation.

To take a simple example from my recent experience, consider a new teletheatre (off-track betting facility, Canadian-style) that might be opened in Podunk, Alberta. A projected profit-and-loss statement for this facility is presented in Exhibit 23. Its weekly handle would likely average $10,000, resulting in revenues of $2,300. Expenses add up to $2,000 per week, resulting in a net margin of just $300. Can the horsemen claim 8% of handle ($800)? No. Can Horse Racing Alberta (formerly the racing commission, now privatized) claim 5% of handle ($500)?[11] No. Can the tracks make the same margin as they could on-track? No -- but can they all come to some agreement in order to share that $300 profit? Yes, they can (and have), albeit at much lower percentages of handle than before.

To take another current example: at its most recent meet, Tampa Bay Downs saw its handle from all sources rise 24%. Since most of the increase, however, came from sales to other jurisdictions, purses rose only 5.5%. Still, like Podunk for Alberta, that's money the horsemen would not have had without such a large increase in handle.[12]

The same things have happened on a larger scale all across North America. The new channels of distribution are more costly. Horsemen have generally cooperated willingly, often even taking the lead in promoting these new channels. Most sectors of the industry have seen the wisdom of investing in these distribution vehicles to bring new money into the system. And it is to Thoroughbred racing's credit that we have implemented these new systems well enough, again in the face of a tidal wave of new competition, to actually increase handle and revenues, and, in

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[11] Horse Racing Alberta's share would ultimately be reinvested in the industry.

[12] Figures from *bloodhorse.com*, May 4, 2004. Interpretation my own.

most years, purses. (Compare, for example, the trends for Harness and Greyhound racing in Exhibit 24.) This growth, however, or even holding steady, comes at a higher cost than it used to.

In sum, in this new and much more intensely competitive world, the racing industry must invest more and more to attract each incremental dollar of revenue. It is again a measure of the industry's effectiveness that we have been able to raise handle at all -- but at times, simply not enough to raise purses as well.

Does this mean the industry should raise prices (its takeout) to increase its margins? NO -- as I describe below, that would be counterproductive. The industry should recognize that lower margins are inevitable in a more competitive environment, and continue to invest wisely in new distribution systems, improve its focus on the consumer, develop more "show" for the casual fan and more bettable products (field size!) for the core fans. In this respect, I will contend below that it is just as legitimate, and perhaps even more effective, for the industry to invest in *customers* as well as in bricks and mortar and new technology to raise its revenues.

3. The Role of the Takeout and Rebating in Recent Trends

In this era of shrinking margins, it is understandably a hard sell for race tracks like Keeneland and NYRA to win their argument that an even *lower* margin would result in greater dollar revenues, and therefore profit, for the industry. There is, however, extensive evidence to show that this is indeed the case, at least for key segments of the betting public.

Racing has lived with rising rates of takeout for so long that they have become a way of life. They are the line of least resistance whenever the industry needs money. It is all too easy for the industry to see that if we have a constant $100 in handle, and we raise the takeout by one percent, we'll make a dollar more. It is much less easy to see that handle is *not* constant and, over the longer term if not the short, we won't have that $100 any more.

Race track managers also know that the vast majority of their current customers are creatures of habit, most passionately devoted to the game. Many find it difficult to believe that these creatures of habit would modify their behavior very much in response to reasonable changes in the rate of takeout. What they miss are the smaller numbers of people, some not currently in evidence at the track, who *would* make dramatic changes in their betting patterns when presented with a reasonable chance to win.

Moreover, with the multitude of adversities affecting the racing industry over the past quarter-century, the on-track experiences with both increases and reductions in the takeout have been extremely mixed. Each side in the debate can list many examples where rising takeouts were followed by such-and-such changes in handle; confusion reigns, nobody wins these debates, and the line of least resistance carries on. The following lines of evidence, however, demonstrate to me quite clearly that takeout rates *do* matter very much:

First, the race track operator with *the* most extensive experience, and the most thoroughly studied, is convinced that lower takeouts are good for business: the NYRA. This is perhaps because in addition to its own experience, NYRA had a sterling example right in its own back yard of how badly high takeouts can hurt. New York City OTB (run by the City, not NYRA, in competition with live racing at the track) opened in 1971, and for its first three years of operation paid out at the same rates as on-track. At the height of its budget crisis, though, the City imposed a five percent surcharge on winnings at NYC OTB on July 1, 1974. Prior to that time (despite the parlous economy), OTB had shown strong growth, and new parlors had been added continuously without any decline in handle per shop. But immediately following the surcharge, OTB handle per shop dropped by more than 20% (see Exhibit 25. Note that the seasonal patterns indicated for 1973 and [much lower] 1975 do not include the Belmont Stakes or the Saratoga meet, when handle at OTB always perks up.) In particular, NYC OTB lost all the big telephone accounts it had up to that time. The lost handle was never regained (and very little of it showed up at the track). In later years, NYC OTB waived its surcharge for telephone accounts and new upscale simulcasting facilities in order to get its business growing again.[13]

Second, there have been a wealth of scholarly studies that have used statistical methods to estimate the impacts of changes in the takeout based upon broad cross-sections of data. The most prominent of these are listed in the bibliography at the end of this report (but before the exhibits). In addition to myself, these investigators have included Arthur Gruen, Robert Guthrie, Patricia McQueen, Daniel Suits, Richard Thalheimer, and Maury Wolff. Some of these papers

[13] New York City did not reverse itself with respect to the surcharge at its ordinary storefront outlets. The surcharge appeared to make money at these for the City, but because of the large decline in handle, payments to the state and to the racing industry fell significantly before additional growth in the number of shops brought these revenues back up again.

have been published in refereed journals such as the *Journal of Political Economy*, *Public Finance Quarterly*, the *Quarterly Journal of Economics*, and presented at the University of Nevada/Reno's International Conferences on Gambling and Risk-Taking. These are all thorough studies, well-respected in the research community.

And while far from unanimous as to the precise degree of their sensitivity, almost all of these studies agree that pari-mutuel customers are, as a group, affected very significantly by the rate of takeout on pari-mutuel wagering. Their estimates for the "elasticity" of handle with respect to the takeout range from -0.65 to as high as -1.8, that is, customers respond to a change in the takeout by returning 65% to 180% of their added winnings in the form of *revenues* to the industry (or if in the other direction, cutting back their wagering to reduce their losses, and hence the industry's revenues, by that proportion). If one takes the *low* end of this range, the rise in average takeout from roughly 18% to 21% over the past quarter-century has depressed total handle by ten percent. At the high end of the range, handle has been depressed by nearly thirty percent. (The impacts would be far greater, of course, if measured from racing's golden age in the 1950s, when Thoroughbred takeouts averaged 14 to 15%.)

Admittedly, most of these studies are dated, but (a) the fundamental principles behind them have not changed, and (b) one can no longer duplicate them. With commingled pools, takeout rates at the various receiving sites are a hodgepodge . . . and among signal providers, anyone who tries to lower takeouts gets blasted just like Keeneland did. There is no longer an unbiased market in which the experiment(s) could effectively be conducted (except, perhaps, by way of rebating . . .).

In addition, full-card simulcasting today provides a much higher frequency of betting events than the nine-live-races-per-day environment in which most of these studies were

conducted. This has surely *increased* churn and therefore customers' sensitivity to takeout, not reduced it.

Third, there is the experience of the authorized Incentive Wagering Service Providers (IWSPs), or "rebaters." These must be distinguished from offshore bookmakers and illegal wagering services. While some of these IWSPs conduct their telephone account business from bases offshore (some, however, operate entirely within the U.S.), all operate by contract with each host track. They merge the wagers placed with them into the tracks' pools, hub their bets through the U.S., settle their accounts through the U.S., pay U.S. taxes and withhold as required by U.S. law. Neither they nor their customers have any unfair advantage in terms of access to pari-mutuel pool information. Their structure and methods of operation are similar to those of the industry-supported account wagering services doing business through the Oregon hub. The critical difference is that the IWSPs return large proportions of the takeout to their customers, who they believe then re-bet it. IWSPs also generally pay higher fees to the host tracks, on the order of 5%-6%, versus the 3%-4% paid by most domestic tracks and casinos. With total handle estimated at $1.5 billion, these operators now contribute roughly $75 million to the racing industry in track fees alone, half of which should flow to horsemen in the form of purses.

These IWSPs, both individually and as a group, have shown dramatic increases in handle. While some fear that most of this handle is "cannibalized" from tracks and other distribution channels, I have seen no evidence that this is the case. Two of the most prominent IWSPs operating out of the Caribbean, Racing and Gaming Services (RGS) and International Racing Group (IRG, commonly known as Holiday Beach), have supplied data showing that they deal with very limited numbers of customers. They state that they do not "recruit" among tracks' clientele. In both cases, individual customers have substantially increased their levels of

wagering over time. RGS data indicate that their average customer has increased his play from $3,000 per day in 1998 to $21,000 per day in 2003. I believe their stories. Most importantly, most *tracks* believe their stories, too, and the evidence of their own experience. Handle rises when you do business with these IWSPs (see below).[14]

Fourth, there are extensive parallels with other types of legal gambling. The tremendous expansion of slot play (now more than 80% of most casinos' revenue) is acknowledged to be due in large part to players' clubs. Through trial and error, casinos have learned that targeting select players with modest amounts of complimentaries and cash (or credit) rebates can have dramatic effects on their rates of play. "Paying people to play" has become a way of life in the casino business. And independent of such clubs, slot managers have learned that their customers want "time on the machine." Slot hold percentages, even in less competitive markets, are therefore much lower than race tracks' takeouts. Casinos know that the faster they take their customers' money, the faster they won't come back.

Even in the lottery business, takeout matters. With instant games (scratch-off tickets), most state lotteries pay out roughly 50% in prizes. Those that pay more reap higher sales. The Massachusetts State Lottery pays out roughly 70%, and gets more than double the per capita sales of the second-best state in the category of instant games.

Fifth, I would take the arguments against customers' sensitivity to the takeout to their logical extreme. If takeout matters little, why not jack it up to 30%? . . . 40%? . . . 50%?

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[14] I could also observe that *all* the account wagering services with which I am familiar pay rebates to select customers in one form or another, including all those based in North America, as well as many individual tracks. I do not claim this as positive evidence, however, because most are rather defensive about the practice, and claim to rebate due only to competitive necessity rather than its ability to elicit truly incremental new handle. I would rephrase my previous observation that it is easy to see if you

Everyone will agree that at some point we would have gone too far. At 50%, or even 40%, the business would surely crater. So the real question is, where does the upward curve reverse? (A parallel would be the Laffer curve with respect to tax rates: at some point, higher rates yield lower revenues.) No one can reasonably argue that takeout does not matter -- the only real issue is *how much* does it matter, and where does it start to hurt?

I would suggest that there is most likely no single answer to this question. For one class of fans, a 28% takeout might be optimal; for another (perhaps the largest group), 18% might be the best; and for *some* fans, it might be 8%, or even less. If we don't offer a low takeout (via rebate) to these customers, we're going to lose them, or at least a significant portion of their money. Hence the efficacy of rebates: they target reductions in the takeout to the customers who would respond the most to them.

This raises the question as to how do we learn who's who. Casinos have found that the simple answer is to observe customers' betting patterns and volumes of play; in almost all other walks of life, volume gets a discount. And if the customer responds well to that discount, you give him a little more . . . and a little more . . . and a little more . . . up to the point that he stops repaying you with higher play. It's not rocket science.

Finally, in making arguments that the "winnings" of some rebaters' customers impose unreasonable costs on the industry, opponents have presented calculations assuming a "churn factor" of 7.[15] This figure seems to have become commonly accepted within the racing industry.

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have $100 in handle and you can get away without paying a 1% rebate, you'll have one dollar more, but less easy to see that if *no one* pays that rebate, no one will have that $100 in handle any more.

[15] J. Curtis Linnell, *Quantifying the impact of negative settlements in simulcast networks*, a presentation to the TRA's International Simulcast Conference, San Francisco, September 2003.

Steve Mitchell, Woodbine Entertainment Group presentation to the joint TRA-HTA Conference, Fort Myers, Florida, March, 2004.

The churn factor quantifies the relationship between customers' winnings (or alternatively, losses) and the rate at which they generate handle. If, for example, you cause a customer to lose a dollar more, he will respond by wagering $7 less. If on the other hand you give him (or save him) an extra dollar, then he will respond by wagering $7 more.

If, however, you truly believe that the churn factor is as high as 7, then we have the following:

Current Handle (e.g.)	$1,000,000
x Takeout	x 21%
Pari-Mutuel Commissions	$210,000
Give 3% back to the fans	$30,000
x Churn Factor	x 7
Additional Handle	$210,000
+ Original Handle	$1,000,000
New Handle	$1,210,000
x New Takeout	x 18%
New Commissions	$217,800

Presto! We've made $7,800!

If the aggregate churn factor is 7, then the optimal takeout is 14.3%. If it is any higher, a calculation like that presented above will show that the industry would make more money, in the end, by giving some back to the fans.

In short, if we think our customers are so sensitive, as a group, to reduced winnings caused by the bets of smarter players, then they must also be sensitive to reduced winnings caused by a higher takeout. If Joe Blow winning a dollar from them is a bad thing, then if *we* take a dollar from them that's got to be bad, too.

Based upon these lines of evidence, it is clear to me that there must be at least *some* set of customers who respond to reductions in the effective rate of takeout that they face (i.e., total takeout less rebates) in far more than sufficient proportion to repay the industry for those rebates. If those customers are properly incentivized, then not only handle but also total industry revenues will increase as well. The only remaining questions are (1) what is the best route to finding and motivating these customers? and (2) are there any significant "externalities" involved, i.e., do these customers (or their service providers) impose costs on the industry that are not fully compensated by the revenues that they generate? These issues are addressed in the following section.

4. Competitive Pricing Good for Customers, and for the Industry

Economic theory holds that with very few exceptions a competitive marketplace is the best way to match buyers and sellers, or producers and consumers of a product. It is most "efficient" or "optimal" in several senses: it maximizes the total welfare of buyers and sellers, it best allocates resources for maximum production at minimum cost, and it responds most rapidly and effectively to changing conditions in the world at large.

While one may object at this point to say we're in business to maximize our *own* welfare, not anybody else's, I would respond that for better or worse (better *and* worse?), the racing industry is in fact operating in a *highly* competitive market. The consumer looking for gambling entertainment has many choices available, and over the past twenty years he (or she) has largely been choosing something other than racing. If we do not seek to maximize benefits to the consumer, we will not be in business for long.

The same economic theory also holds that in a competitive market, the price of a product is equal to the marginal cost of production -- not the *average* cost, but the *marginal* cost of delivering one incremental unit of the product to the customer.[16] With simulcast racing, the marginal cost to deliver an additional race or betting opportunity is very low. Once you've got your signal up on a satellite, the marginal costs are close to zero. This is why the "price" of generic simulcast signals (actually, access to the pari-mutuel pool associated with each race, the

[16] As long as the price exceeds your marginal cost, you're adding to your profits. And in a competitive market, if that is the case, then someone else will come along and sell that product (or something very similar) at a price closer to *his* marginal cost. That process continues until no one is adding to their profits any more, and the price then exactly equals the marginal cost for the industry as a whole. See Baumol & Blinder, *Microeconomics: Principles and Policy* (South-Western College Publishing, 1999); Eaton & Eaton, *Microeconomics* (Prentice Hall, 1994); or the McConnell-Brue classic *Microeconomics* (15th Edition, McGraw-Hill, 2001).

demand for which has traditionally been rather low unless there is audiovisual feed accompanying it) settled at the long-time going rate of 3%. (Exceptions, of course, have always been races of truly special interest, generally pretty rare, then the emergence of higher rates for high quality/large pool racing for which there is greater demand, and more recently, a few conglomerates that control sufficient quantity and quality of racing to exert some power over the market.)

(Inter-track wagering actually started with revenue splits on the order of 50/50. In some jurisdictions, intra-state simulcasting is still conducted close to this ratio. The relative costs, however, are not beneficial for the guest facilities. As interstate signals became more common, a buyer's market developed very quickly. The rationale that "receivers have higher costs," while generally true, is simply the flip side of the coin that the marginal costs of the *producer* are very low. It is, nevertheless, a question not only of supply but also of demand. The major impetus that drove simulcast signal prices down was in my opinion the desire of race tracks to sell their signals to Las Vegas casinos -- at that time, clearly incremental business for the racing industry, but one that the casinos could take or leave . . . Similarly, there are other actual and prospective markets today -- such as the Incentive Wagering Services -- at which the customers, or the distribution channel, can take or leave our product, and price will be a significant factor.)

The only producers who can (successfully) charge more than the competitive free-market price are monopolies, or oligopolies that can exert similar monopolistic "market power" -- state lotteries, for example, and some casinos in protected markets. With rare exceptions, however, monopolies don't last. Horse racing's monopoly ended years ago -- our share of the legal gambling market is now less than six percent. If race tracks charge more than the competitive price for our product, we *will* lose customers. The fact that we are a heavily-regulated industry

makes little difference. The regulators of other such industries (railroads, airlines, banks, insurance, telecommunications, and public utilities, for example) decided long ago that the benefits of competition outweighed by a large margin those of monopolization.

In this context, some race tracks' contention that they need to "control" the price of their product (whether to the consumer or to the distributor) is misguided. They already control the price of their product; they are free to sell or not sell to third-party distributors as they choose. It is a business decision identical to that of the producer of a retail product as to whether or not to sell through Wal-Mart: does the higher volume make up for the lower price? And yes, selling through Wal-Mart will "cannibalize" *some* sales through other outlets, but the producer must simply make a business judgement as to whether he will make it up on volume.

This concern with "price" obviously reflects desires that the price should be higher. Advocates of a more dramatic "two-tiered" price structure argue that it would bring, or keep, more money within the industry. Operators "within" the industry would benefit, they say, from a lower price, while "outsiders" would pay more. I believe, to the contrary, that this would stifle competition. If the advocates of higher fees are successful with "rebaters," they may turn next to some other class of victim. Higher simulcast fees benefit only a few select tracks. Most regional tracks (and therefore groups of horsemen) are net *payors* in the simulcast market. A competitive market benefits them.

Complaints about "middlemen" are similarly misplaced. The racing industry should be happy to deal with middlemen/partners who bring customers, and therefore revenues, to the table. Casinos, Harness tracks, and Greyhound tracks now generate substantial revenues for Thoroughbred racing. They provide customers. The IWSPs are no different. In fact, they bring very special, high-volume, price-sensitive customers to the table. In this respect, they are very

different from the *real* pirates, internet and telephone-account bookmakers. Thoroughbred racing now competes in an international marketplace. By focusing intently on just a few players, I would contend that the IWSPs are better positioned to retain high-volume customers (and make new ones) for the racing industry than almost every other operator in the race track business today.

Despite these complaints by some, race tracks have so far voted overwhelmingly in favor of the benefits of doing business with IWSPs. Tracks that stopped doing business with them, or raised rates unilaterally, have seen their handles decline. These include:[17]

2003 Oak Tree: total handle -10%

2004 Santa Anita (through January 14): handle -11.5%
(agreement reached January 15; after that, handle -3.5%)

2004 Gulfstream Park (through January 14): handle -13.4%
(agreement reached January 15; after that, handle -9.5%)

2004 Oaklawn: average daily handle -7%

2004 Woodbine (through 57 days): handle -13%[18]

2004 Hazel Park (through May 20): handle -23%

Conversely, Tampa Bay Downs reportedly contributed to the success of its recent meet by cutting off "Caribbean rebaters." The two IWSPs based in the Caribbean, however (RGS and IRG), report that they have not done business with Tampa Bay Downs since 1999. It is therefore far from clear how rebating, or the absence thereof, contributed to Tampa's gains in handle. It

[17] Data provided by RGS.

[18] Steve Mitchell of Woodbine contends that this figure is polluted by the fact that Woodbine offered fewer races this spring due to barn renovations. Woodbine's position is that apples-to-apples total wagering is down just 8.6%, and total revenues down just 0.7%.

appears likely that most of those gains came from Tampa's new, full-time access to New York City OTB and other extensions to its distribution network.[19]

Even if the answer to the question as to whether they raise handle were not so clear, there is in my opinion another very important reason for the racing industry to include IWSPs among its distribution partners. As described in the previous section, in the face of much evidence to the contrary the industry has long been biased in the direction of higher takeouts. (Again, as a practical matter, higher takeouts have been the path of least resistance when the industry has needed more money.) This bias has grown by leaps and bounds with the explosion of full-card simulcasting; it is actually a competitive advantage for tracks to have a high takeout to sell their signals.[20] In this atmosphere, *whatever* the "proper" level of the takeout may be, it should be obvious that the industry will err on the side of too high rather than too low. Countervailing pressure is good for the consumer, and therefore good for the industry, too.

Finally, aside from all these issues regarding "price," it has been argued that rebaters are bad for the industry because their customers are winners, sucking money out of the pockets of the humble fans at home. This is indeed a potential "externality," as economists would call it, because it imposes costs on a third party, the players, that *could* rebound to the industry's loss. The presentation cited above by Curtis Linnell purported to demonstrate that on one random day, when one rebater's customers won roughly $100,000 (i.e., bet $800,000 and cashed $900,000 in winning tickets), there were indeed substantial costs to the industry. I believe this illustration is highly exaggerated for the following reasons:

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[19] As I observed above, Tampa Bay Downs's 24% rise in handle distilled down to a rise of only 5.5% in purses -- a perfect illustration of the fact that incremental handle "costs" more to achieve these days, with or without the "rebaters."

[20] Again, it is easy to see that if you have $100 in handle . . .

First, the day examined may have been random, but it was far from average. Several IWSPs provided data to me that indicate that the average rate of *loss* (not win) for their players in 2003 was roughly 5%. Assuming the $800,000 figure for their daily average handle, such players would lose, on average, $40,000 rather than win $100,000. While this would still be "winning" from the other players, it would only be at a rate of $120,000 rather than at a rate of $260,000[21] -- less than half as much, a very substantial difference.

Second, Linnell assumed a churn factor of 7. As I described above, if you believe that the average churn rate is really that high, then we should reduce the overall total takeout to just 14%. It would make us more money (and probably drive the rebaters out of business, too). The actual average churn rate is probably far less than 7.[22]

Third, shutting off the rebater, or charging him a price sufficiently high to offset the supposed costs of his customers' "winning," would *not* eliminate those winners from the pari-mutuel pools. It would reduce their betting, but some would move on to another account wagering service, or continue to bet, though at a reduced rate, getting a lower rebate from their IWSP. The humble customers would regain only a fraction of their current "excess" losses.

Finally, where do we draw the line? How high is up? What is winning "too much"? What is an acceptable rate of return? +1%? -8%? -12%? -18%? How do we make that

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[21] If they were of average skill, and the takeout averaged 20%, the IWSP's players would have lost $160,000 ($800,000 x 20%). By losing only $40,000, they effectively extracted $120,000 from other players ($160,000-$40,000). If they had won $100,000, they would have effectively extracted $260,000 ($160,000+$100,000).

[22] For *some* customers, as I have argued above, the effective churn rate probably is that high, or even higher. These are the most price-sensitive bettors, among whom a reduction in the takeout stimulates much greater volumes of wagering. For most customers, however, particularly the "entertainment-oriented" types, the churn factor is probably much lower. If the "same-day" churn factor is much higher than 3, simulation analyses suggest that very few people would leave the track with any money in their pockets.

determination? And what do we tell our fans? I believe that is a slippery slope down which we should fear to tread. Handicapping is a game that attracts customers *because* it can be beaten. To draw another parallel with the casino industry, they know full well that if they want to keep the business coming in, *some customers have to win*. Not "win for a while, then lose it back," but win, *period* -- and this is *their* money they're giving up, not the other players'. The example of a few winners stimulates many more to try their luck. All the more important, I believe, for Thoroughbred racing to position itself as a game at which some people win. Sure, we'd all like more dumb money. The more dumb money in the game, the easier it is for smart players to win. We must, however, always keep the competition in mind: dumb money doesn't go to the track. Dumb money plays the slots. We can't beat the competition at *its* game, so we have to emphasize the strengths of our own. Penalizing some winners would send the wrong message to *all* our sophisticated customers.

5. Conclusions

"Handle up, purses down" is not a new phenomenon. Though masked recently by the revenues from slots at tracks, purses have been declining as a percentage of handle for nearly twenty years. This has been due first to the spread of lotteries, then casinos crushing racing industry revenues. Racing has responded with ITW, OTB, and Account Wagering. These have performed relatively well in the new, much more intense competitive environment. These advanced distribution systems, however, have added new costs on top of the old. It simply *costs* more to generate each new dollar of handle than it did in the past. Less is therefore available for purses (and less for tracks, too, net of the new expenses of OTB and account wagering).

The takeout has also played a role. Bettors, or at least a very significant fraction of them, are highly sensitive to the rate of takeout. This is demonstrated by the experiences of NYRA and New York City OTB, by statistical studies that have looked at broad cross-sections of data, by the dramatic increases in handle that small numbers of bettors have provided at Incentive Wagering Services, and by parallels with other types of gambling. Even the industry's frequently-touted "churn factor" of 7 implies that lower takeouts would benefit the industry. Higher takeouts have depressed handle, but this trend can be reversed. Investing in players (via rebates) can be just as or more effective than investing in bricks, mortar and new technology in terms of growing revenues for the industry.

Economic theory holds that a competitive marketplace is the best way to match producers and consumers of almost every product. It also says that in a competitive market, price equals marginal cost. That maximizes joint benefits to the buyers and sellers. But the most relevant factor here is *marginal* cost, not average cost. The marginal cost of a simulcast signal / betting

opportunity is close to zero. The high *average* cost of putting on a horse race is unfortunately almost irrelevant -- the consumer is under no obligation to support a hundred race tracks and a hundred thousand horses. The only industries that can successfully charge more than the competitive price are monopolies. Monopolies don't last. Horse racing's ended years ago. If we charge more than the competitive price, we *will* lose customers.

Incentive Wagering Service Providers improve the competitiveness of the racing industry. They provide a critical service, in the form of lower takeout, to a few high-volume customers. In this respect, they are very different from the *real* pirates, internet and telephone-account bookmakers. Data indicate that doing business with IWSPs has increased tracks' handle, not reduced it. They moreover provide sorely-needed counterpressure against the predominant industry bias toward raising the price of wagering.

What the industry needs most, in my opinion, and has been working on for 20+ years, is a diversified set of delivery mechanisms to bring our product to the customer, as well as attract more customers to our product. These delivery systems have different costs. Customers have different sensitivities to price. If we try to shoehorn all our customers and delivery systems into one uniform cost/price structure, we'll be leaving money on the table. Incentive Wagering Services provide benefits to the industry by bringing customers to the table, and should therefore be included as a significant component of the industry's diversified distribution network.

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Cummings Associates

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Mr. Cummings has engaged in management consulting since 1975. Prior to founding Cummings Associates, Mr. Cummings directed consulting firms including Christiansen/Cummings Associates, Inc., specializing in entertainment and legal gambling, and Killingsworth Associates, Inc., focusing on professional sports and pari-mutuel racing. His early experience was with Pugh-Roberts Associates, Inc., which specialized in applying the techniques of system dynamics to strategic planning and forecasting in a wide range of industries, including, for the Jockey Club, the first wide-ranging study of the economics of Thoroughbred racing in North America.

Mr. Cummings has directed studies of the economics, management, operations, taxation, and regulation of leisure and entertainment businesses in more than forty states, provinces, and foreign countries, with particular focus on gaming and wagering. The subjects of these studies have included sports, entertainment, communications, casinos, sports wagering, lotteries, and all segments of the racing and pari-mutuel wagering industries. His engagements have included:

- Assessing the overall economic contribution of commercial gambling industries to countries, states, and individual localities;

- Estimating the degree of saturation and potential for growth in various markets, and assessing the interactions among numerous competing facilities;

- Due diligence and other assessments of the performance, current value, and/or likely prospects of a variety of firms engaged in the sports and gambling businesses, or as suppliers thereto, including professional sports teams, race tracks, casinos, state lottery agencies, and vendors of goods and services to these industries;

- Evaluation of proposed cable television networks for a major U.S. media company;

- Assistance to government entities privatizing racing and wagering facilities, including the *Patronato Hipodromo V Centenario* in the Dominican Republic, Connecticut's State-operated OTB system, and the *Fondo de Inversiones de Venezuela*; and

- Expert testimony in a variety of legal cases and regulatory procedures regarding issues such as facility licensing, financing, racing dates, Native American gaming, charitable casino gambling, anti-trust issues, and fair trade practices.

Mr. Cummings received his Bachelor's and Master's degrees from the Sloan School of Management at the Massachusetts Institute of Technology. He has testified before the U.S. Congress, state legislatures, local government bodies, and regulatory agencies. He has also appeared as a featured speaker before the Association of Racing Commissioners International, Racetracks of Canada, the World Greyhound Federation, the University of Arizona Race Track Industry Program and its annual Symposium on Racing, and other leisure industry organizations.

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Major Projects

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- Numerous market analyses and feasibility studies for new race tracks, casinos, off-track betting systems, and other commercial gambling facilities. Over the course of his career, Mr. Cummings has conducted feasibility studies for more than twenty proposed horse and greyhound tracks, including most recently:

  · Retama Park, in San Antonio, Texas;

  · The Virginia Turf Club, a horse track proposed for Northern Virginia;

  · Zia Park, a combination horse track / slot-machine facility proposed for Hobbs, New Mexico;

  · Of particular note, Mr. Cummings directed the initial feasibility studies for (a) Dubuque Greyhound Park, the first municipally-owned greyhound track in the U.S., (b) subsequently at Dubuque, one of the first riverboat casinos in the U.S. and, finally, (c) one of the first "slots-at-track" casino facilities.

- Assistance to government entities investigating or preparing for the privatization of racing and wagering facilities, including the *Patronato Hípodromo V Centenario*, in the Dominican Republic, the Connecticut OTB system, then operated by that State's Division of Special Revenue, and the *Fondo de Inversiones de Venezuela*, with regard to the race tracks of that country.

- Advice to government regulatory bodies evaluating financial stability, projected performance, and race track and casino license application issues. Major clients of this type have included:

  · Alberta Racing Corporation (now Horse Racing Alberta)
  · Connecticut Division of Special Revenue
  · Iowa Racing and Gaming Commission
  · Missouri Horse Racing Commission
  · New Jersey Casino Control Commission
  · New Mexico Racing Commission
  · Ohio Racing Commission
  · Washington Racing Commission

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- For Dubuque Greyhound Park, *prior* to Iowa's riverboat gaming legislation, a study of the feasibility of riverboat gambling on the Mississippi. Participation rates, likely casino win, and costs of operation were projected based upon data regarding local consumer behavior, competitive interactions, cruise ship gaming norms, and the economics of small-scale casino enterprises.

- For Dubuque and a wide variety of other pari-mutuel facilities, as well as several state lottery agencies, the likely performance and impacts of the introduction of gaming devices and/or full-scale casino gaming have been assessed. Mr. Cummings has worked with the racing industries of numerous jurisdictions to assist in the introduction of gaming devices on favorable terms.

- For several State Racing and Gaming Commissions, detailed assessments of their statewide markets for casino gaming, including the prospective performance and impacts of new entrants and/or expansions of facilities in areas already containing many existing facilities.

- An extensive study for the Connecticut Division of Special Revenue examining the current status of all types of gambling legal in that state, the competitive threats facing those industries (including the soon-to-be opened Foxwoods casino at Ledyard), and ten alternative future options regarding legal gambling (including privatization of State-owned facilities). This study included both telephone and intercept surveys. Mr. Cummings's projections for the performance of Foxwoods and its impacts were borne out.

- For major media companies evaluating investments associated with the legal gambling industries, consumer and industry attitudes, needs, and preferences were assessed. Detailed ten-year forecasts of the likely performance of these industries were also developed.

- Evaluation of proposed cable television networks for a major U.S. telecommunications company.

- Due diligence assessments of the performance, current value, and/or likely prospects for a variety of firms engaged in gambling businesses, or as suppliers thereto, including race tracks, casinos, and equipment suppliers.

- Assessments of the operational and financial performance of race tracks, off-track betting corporations, and state and provincial lottery agencies.

- Demographic surveys and analyses at a wide range of horse tracks, greyhound tracks, jai alai frontons, and off-track betting facilities.

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Prominent Clients

Race Tracks

Dubuque Greyhound Park and Casino
El Comandante
Fraser Downs
Gulfstream Park
Hoosier Park
Ladbroke Racing Corp.
Multnomah Park
New York Racing Association
Northfield Park
Oaklawn Park
Ontario Jockey Club
Phoenix Greyhound Park
Rockingham Park
Ruidoso Downs
Santa Anita
Suffolk Downs
Turf Paradise
Westwood Racing Holdings, Inc.

Other Pari-Mutuel

American Totalizator Co.
Autotote Corporation
Bridgeport Jai-Alai
Cloverleaf Standardbred Owners Association
Harness Horsemen International
United Tote Company

Regulatory Agencies

Connecticut Division of Special Revenue
Federal Trade Commission
Horse Racing Alberta
Iowa Racing and Gaming Commission
Milton Marks Commission on Economy and Efficiency in State Government (California's "Little Hoover Commission")
Missouri Horse Racing Commission
New Jersey Casino Control Commission
New Mexico Racing Commission
Ohio Racing Commission
South Dakota Gaming Commission
Washington Racing Commission

Other Gambling-Related

Ameristar Casinos Inc.
Atlantic Lottery Corporation
Centaur, Inc.
Fondo de Inversiones de Venezuela
ITT/Sheraton Corporation
Massachusetts State Lottery
Mirage Resorts Inc.
Penn National Gaming Inc.
United Video Satellite Group
Video Lottery Technologies, Inc.
Virginia State Lottery

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Will E. Cummings
Principal

Engagements in Assistance of Litigation

- The economics of operating a stable of Thoroughbred race horses (*Brach* case, Illinois, circa 1983) (deposition only)

- Breach of contract between a totalizator company and a race track (*International Totalizator Systems v. Rockingham Park,* New Hampshire, circa 1986)

- The conduct, financial control systems and financial results of "charitable" casino nights (*U.S. v. Rooney,* Federal Court, District of Manhattan, circa 1988) (included verbal testimony)

- Appeals of regulatory commission procedures (*Bridgeport Jai Alai v. Connecticut Division of Special Revenue,* Connecticut, 1989) (included expert report and verbal testimony)

- Breach of contract between a financial institution and a race track (*Trinity Meadows vs. Van Kampen Merritt,* Texas, 1995) (included expert report and a deposition)

- Anti-trust issues relating to the purchase by Native Americans of a race track out of bankruptcy (with prospects for conducting slot-machine gaming) (*re* National Cattle Congress [Waterloo Greyhound Park], Iowa, 1996) (included a deposition and verbal testimony)

- Breach of contract between a race track and Nevada casinos (*Grand Resorts et al. v. Los Angeles Turf Club,* Nevada, 1998)

- Appeal of regulatory commission action (*Lakeside Casino LP v. Iowa Racing and Gaming Commission,* Iowa, 2000)

- Scale of Indian gaming and impacts of Native American casinos on race tracks, in Arizona (2001) and in Wisconsin (*Dairyland Greyhound Park, Inc. v. Scott McCallum, et al.,* 2002)

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Analysis of the Data and Fundamental Economics Behind Recent Trends in the Thoroughbred Racing Industry

Exhibits

July 17, 2004

135 Jason Street, Arlington, Massachusetts 02476
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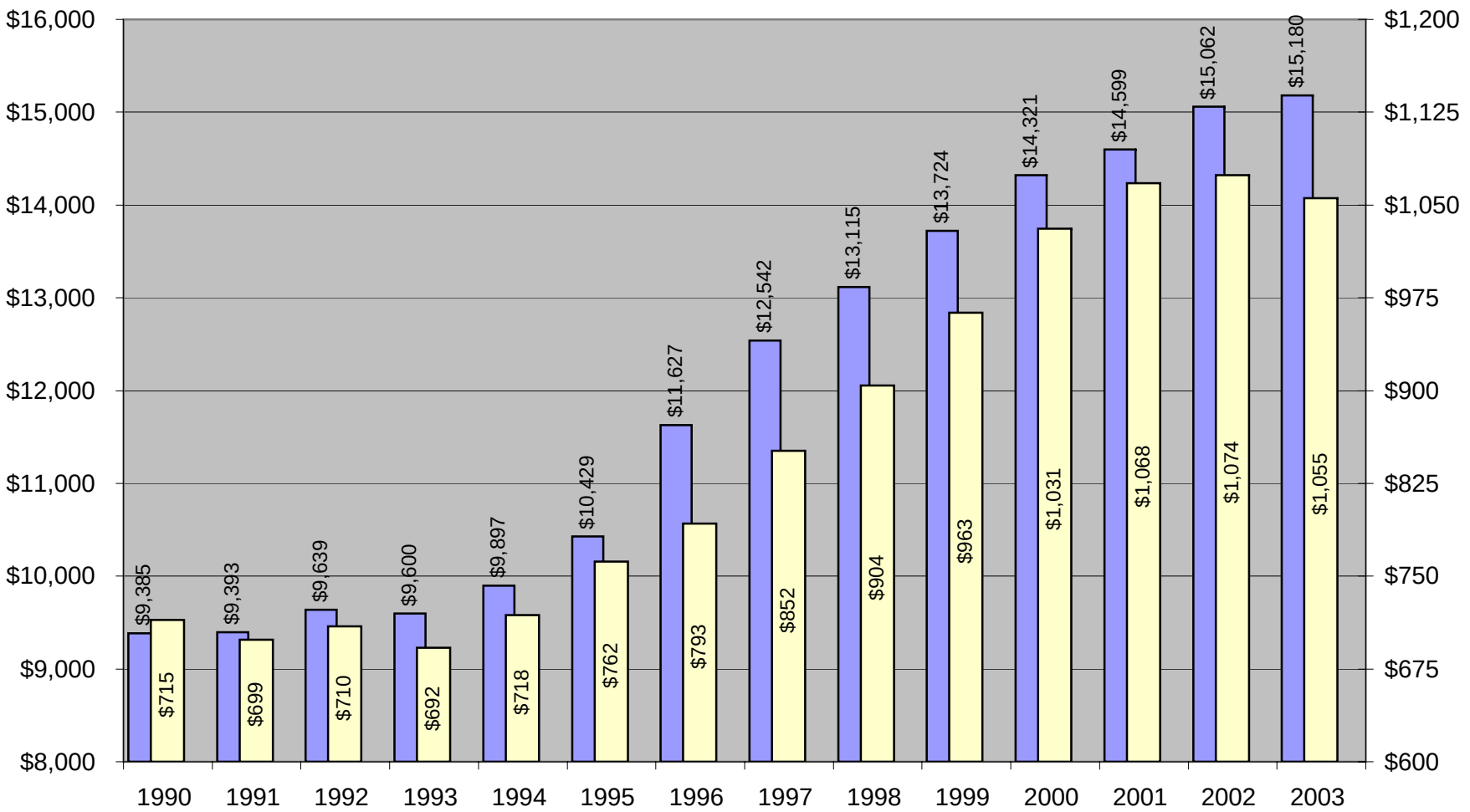
Exhibit 1: Total US Thoroughbred Handle and Purses, 1990-2003 ($ million)



Handle bars in blue, scale to the left; purse bars in yellow, scale to the right

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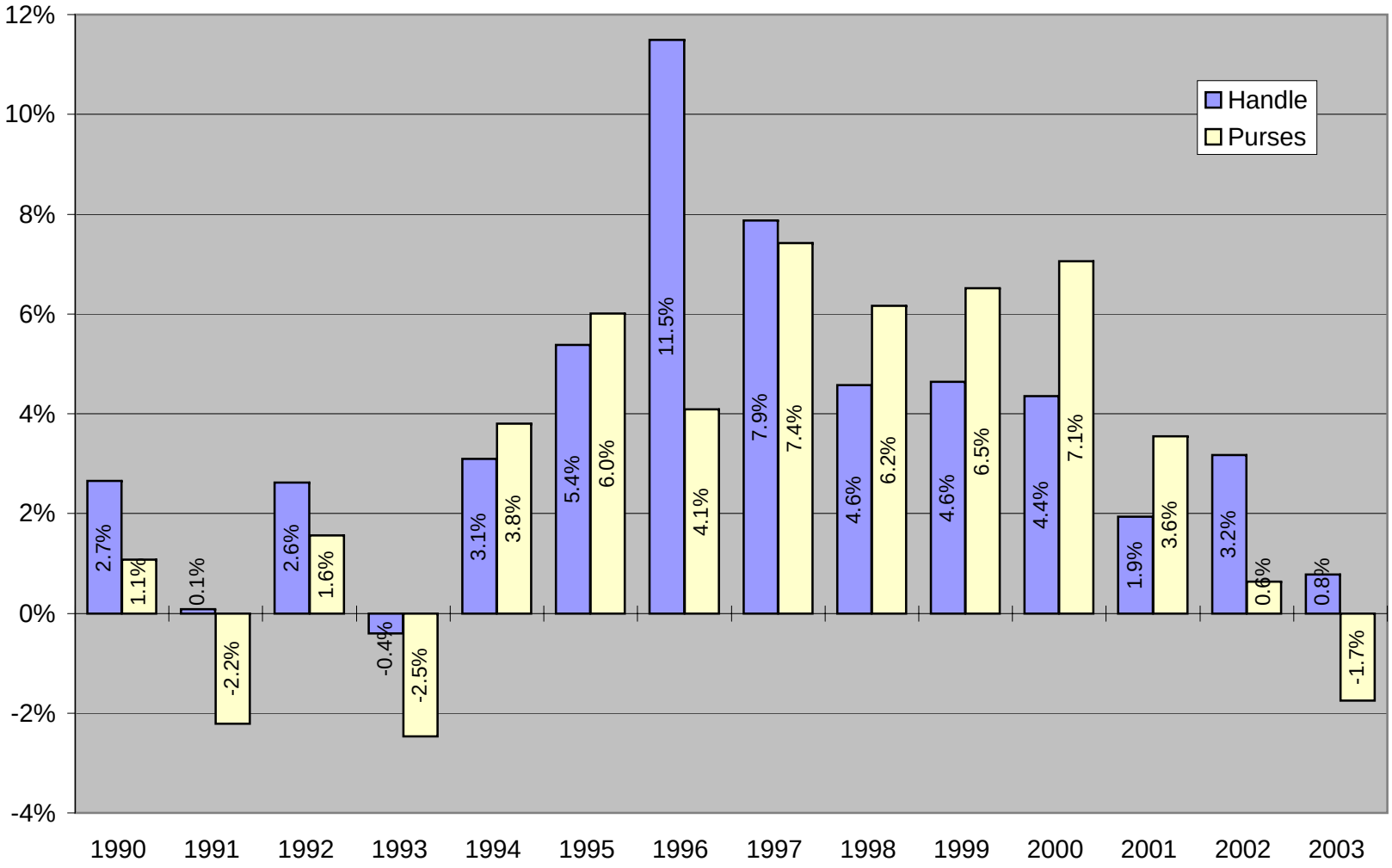
Exhibit 2: Year-to-Year Percentage Changes in Handle and in Purses



Handle change bars in blue; purse change bars in yellow.

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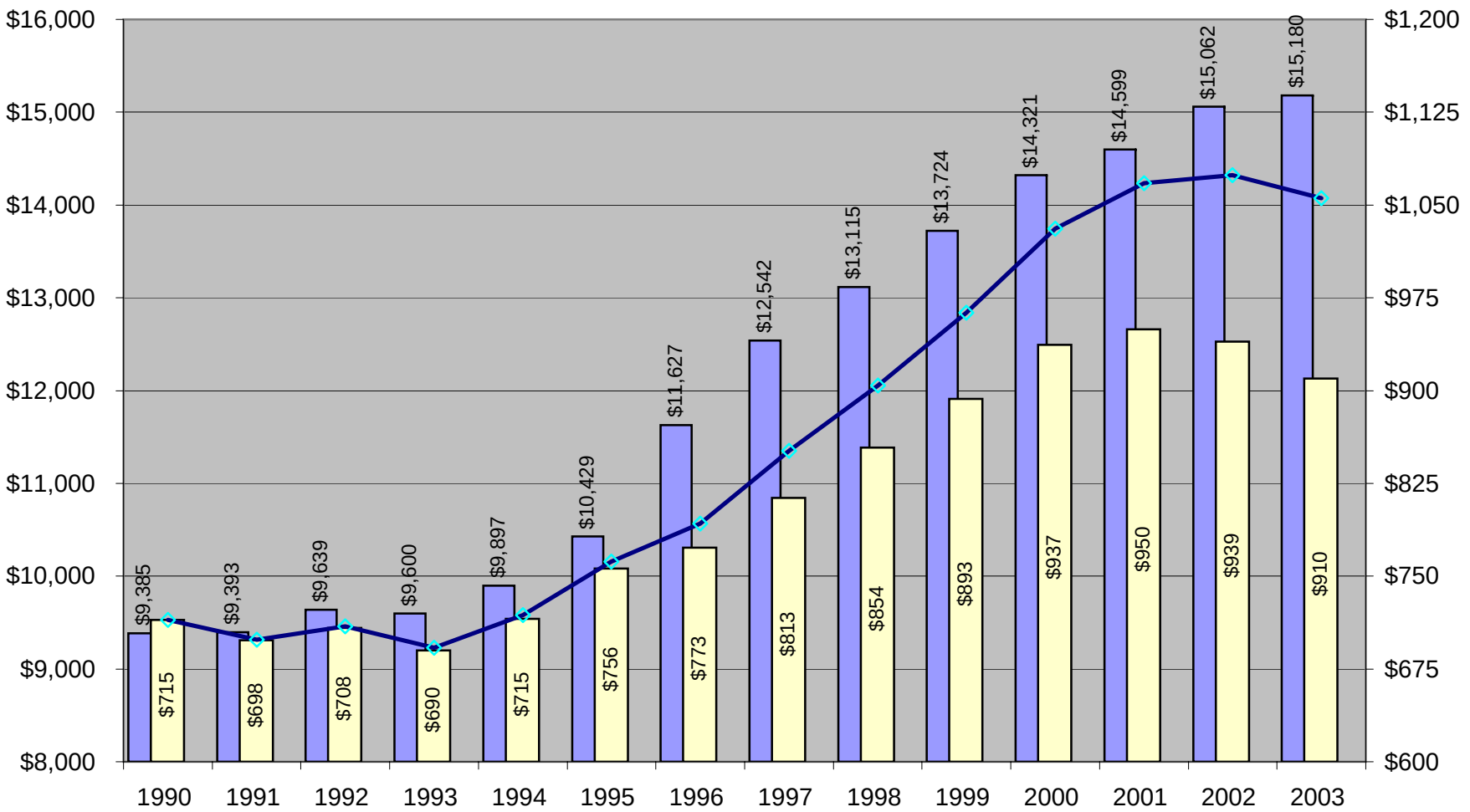
Exhibit 3: Contributions of Slot and Other Subsidies to Total Purses

($ million)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Purses	**$715**	**$699**	**$710**	**$692**	**$718**	**$762**	**$793**	**$852**	**$904**	**$963**	**$1,031**	**$1,068**	**$1,074**	**$1,055**
Percent of Handle	7.61%	7.44%	7.36%	7.21%	7.26%	7.30%	6.82%	6.79%	6.89%	7.02%	7.20%	7.31%	7.13%	6.95%
Subsidies:														
Delaware							$11	$15	$17	$20	$25	$26	$27	$23
Indiana								$3	$4	$5	$5	$5	$5	$5
Iowa						$1	$1	$8	$10	$10	$13	$15	$16	$13
Louisiana			$1	$2	$2	$2	$3	$3	$3	$3	$3	$2	$20	$28
Maryland										$3	$6	$3	$1	$1
New Jersey												$11	$2	
New Mexico									$0	$3	$6	$8	$11	$15
West Virginia		$0	$1	$1	$1	$2	$5	$9	$15	$24	$36	$47	$54	$61
Total Subsidies	**$0**	**$0**	**$1**	**$2**	**$3**	**$5**	**$20**	**$38**	**$50**	**$70**	**$94**	**$118**	**$135**	**$146**
Purses w/o Subsidies	**$715**	**$698**	**$708**	**$690**	**$715**	**$756**	**$773**	**$813**	**$854**	**$893**	**$937**	**$950**	**$939**	**$910**
Percent of Handle	7.61%	7.43%	7.35%	7.19%	7.23%	7.25%	6.65%	6.49%	6.51%	6.51%	6.54%	6.50%	6.24%	5.99%

Sources: Jockey Club for Total Purses and Handle; State Racing Commission, Legislative Audit, and Gaming Commission reports for Purse Subsidies.

Exhibit 4: Total US Handle and Purses Without Subsidies ($ million)



Handle bars in blue, to the left; purse bars in yellow, to the right. Black line indicates total purses, including subsidies.

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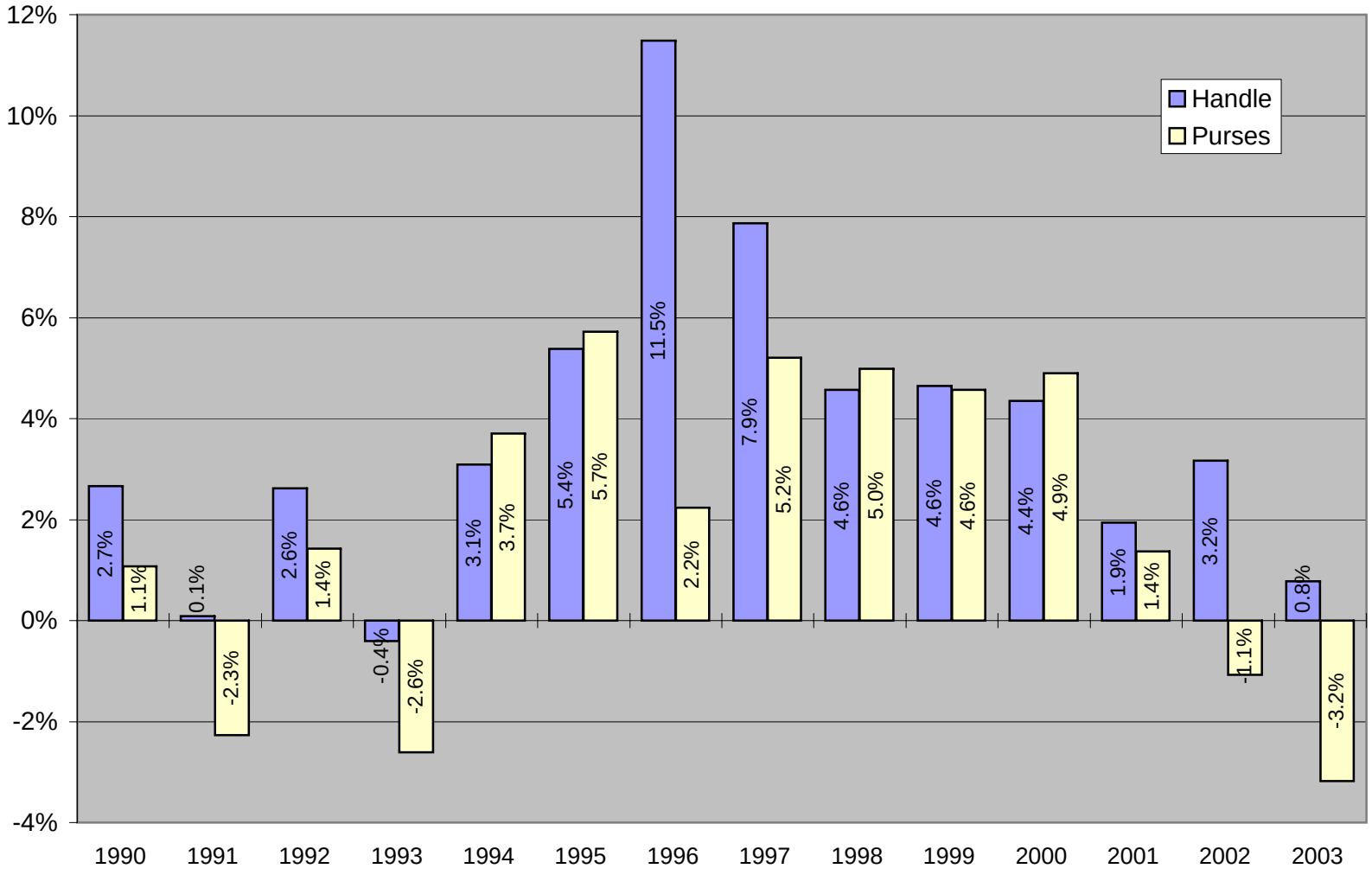
Exhibit 5: Year-to-Year Changes in Handle and in Purses Net of Subsidies



Handle change bars in blue; purse change bars in yellow. Purses are net of slot and related subsidies.

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Exhibit 6: Total Purses (Net of Slots etc.) as Percentage of Handle, 1990-2003

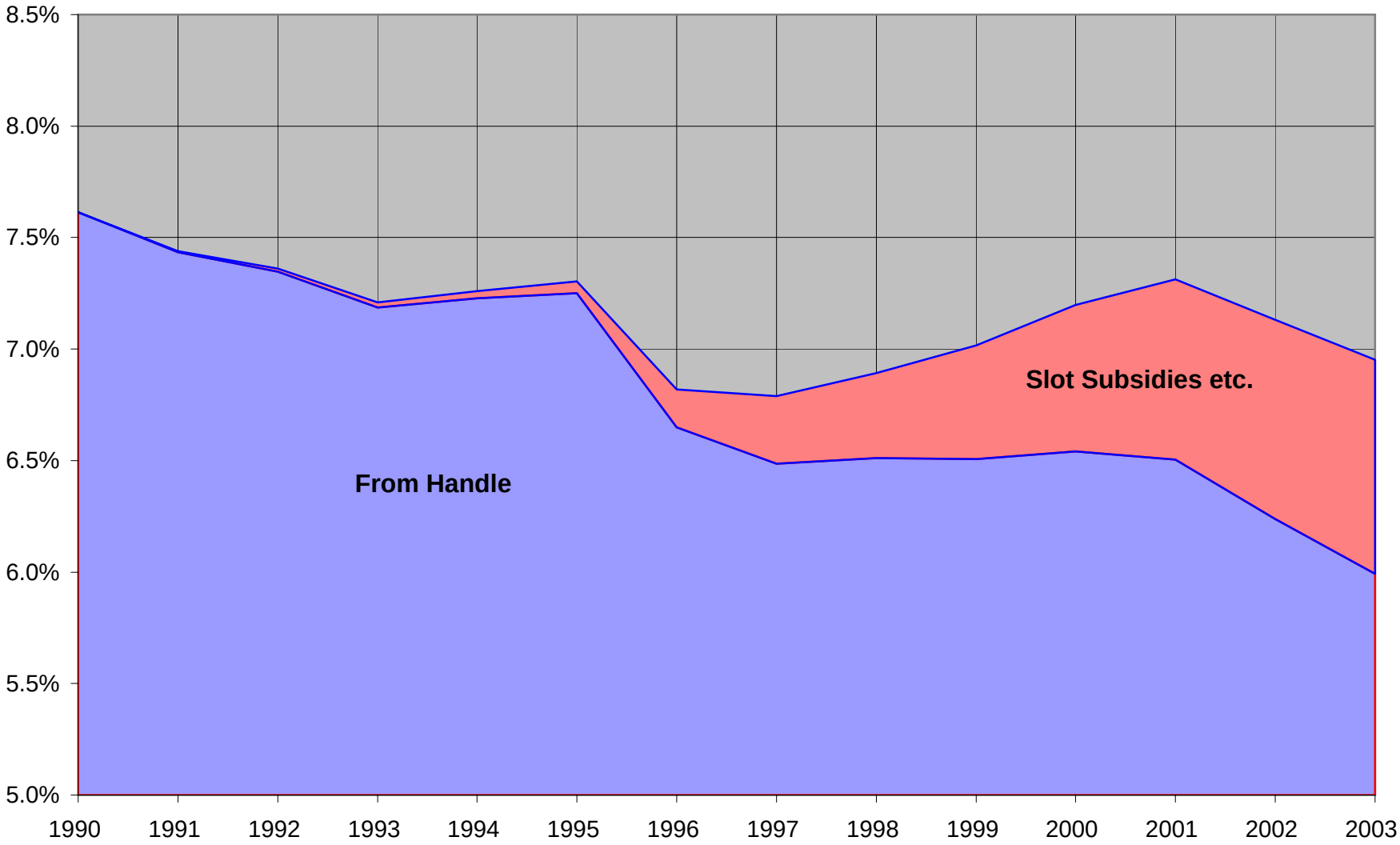

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Exhibit 7: Total Purses vs Total Thoroughbred Handle, 1980-1990

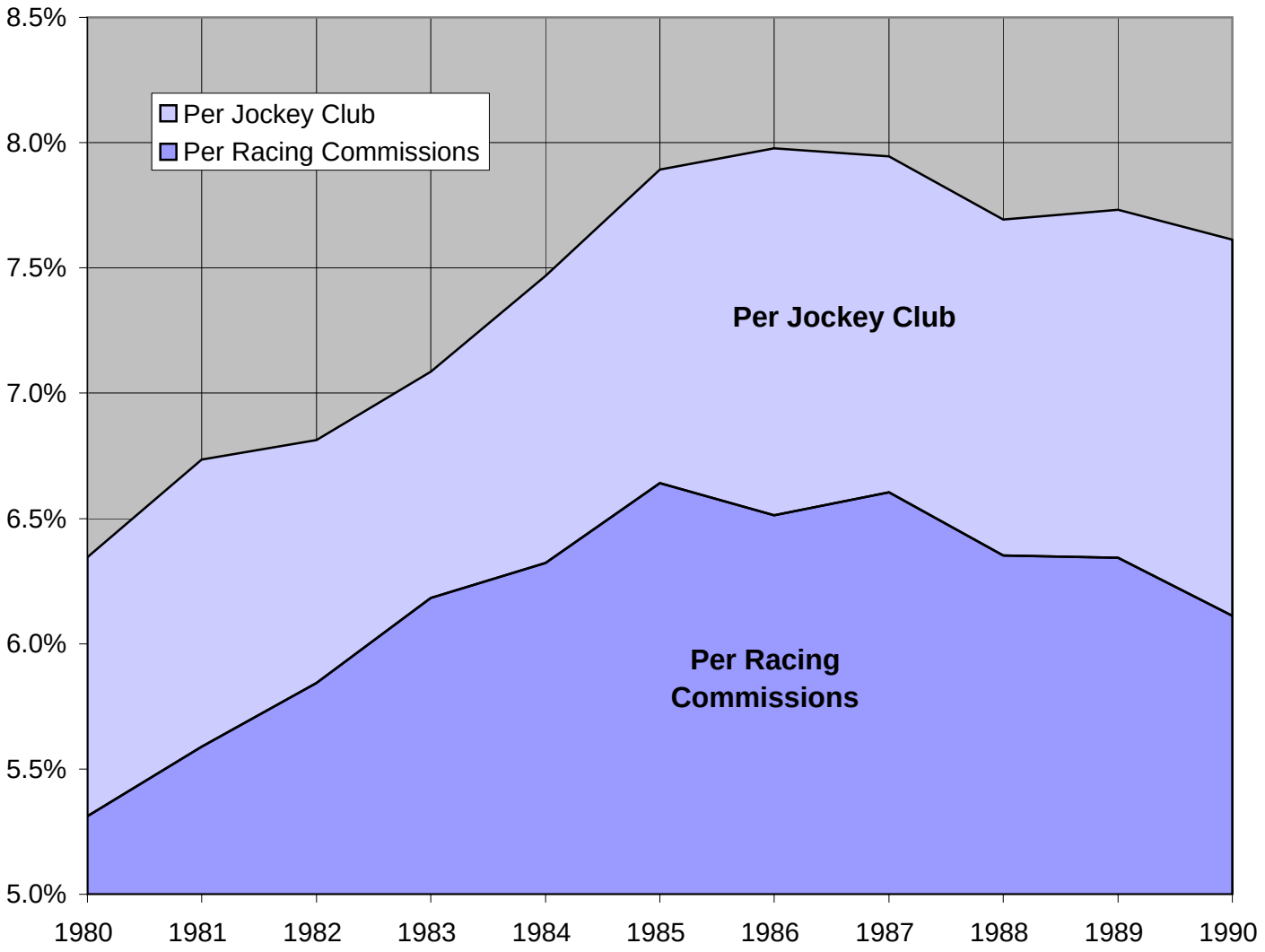

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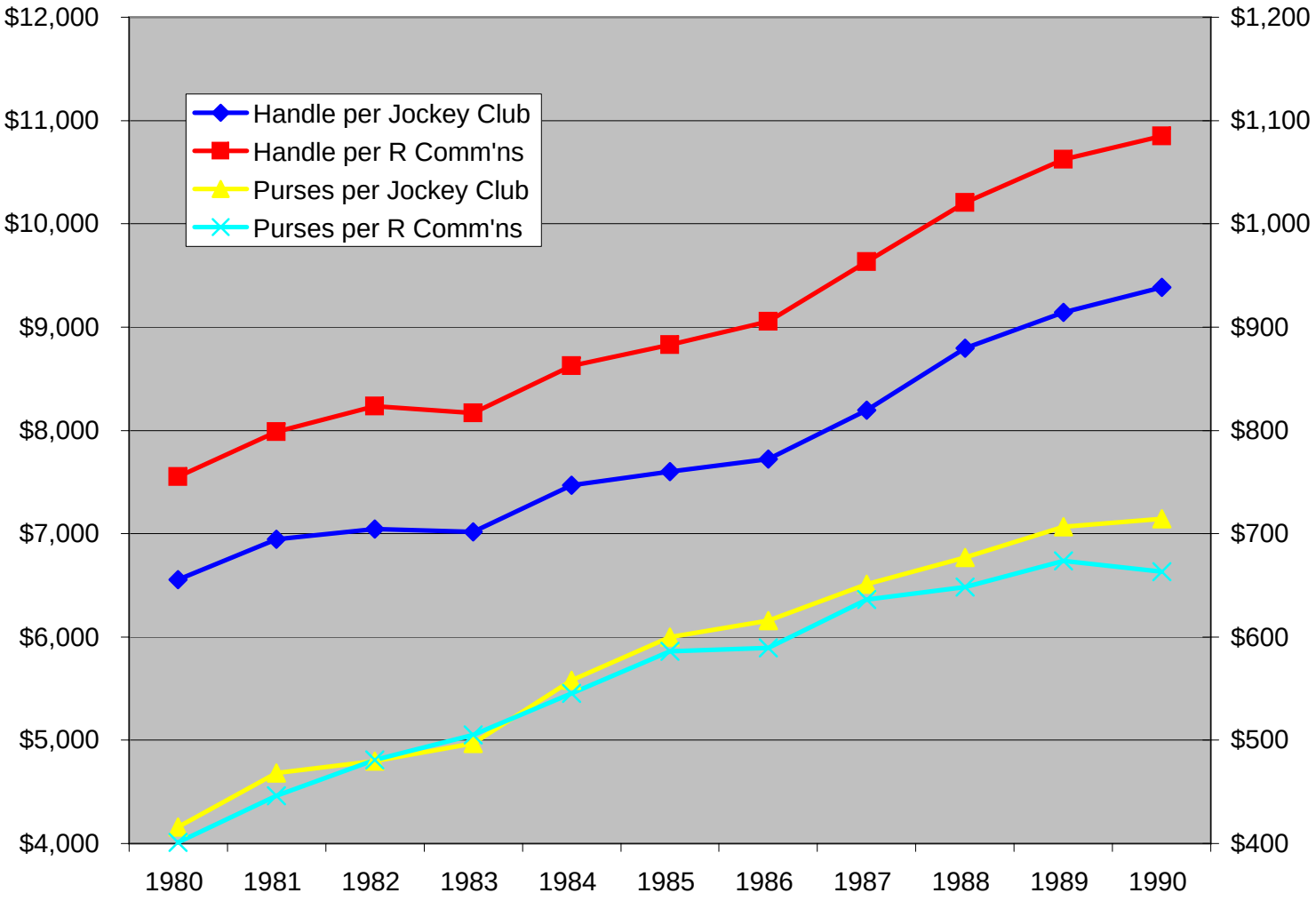
Exhibit 8: Differences in Data, 1980-1990 ($million)



Left scale is for handle, right scale for purses.

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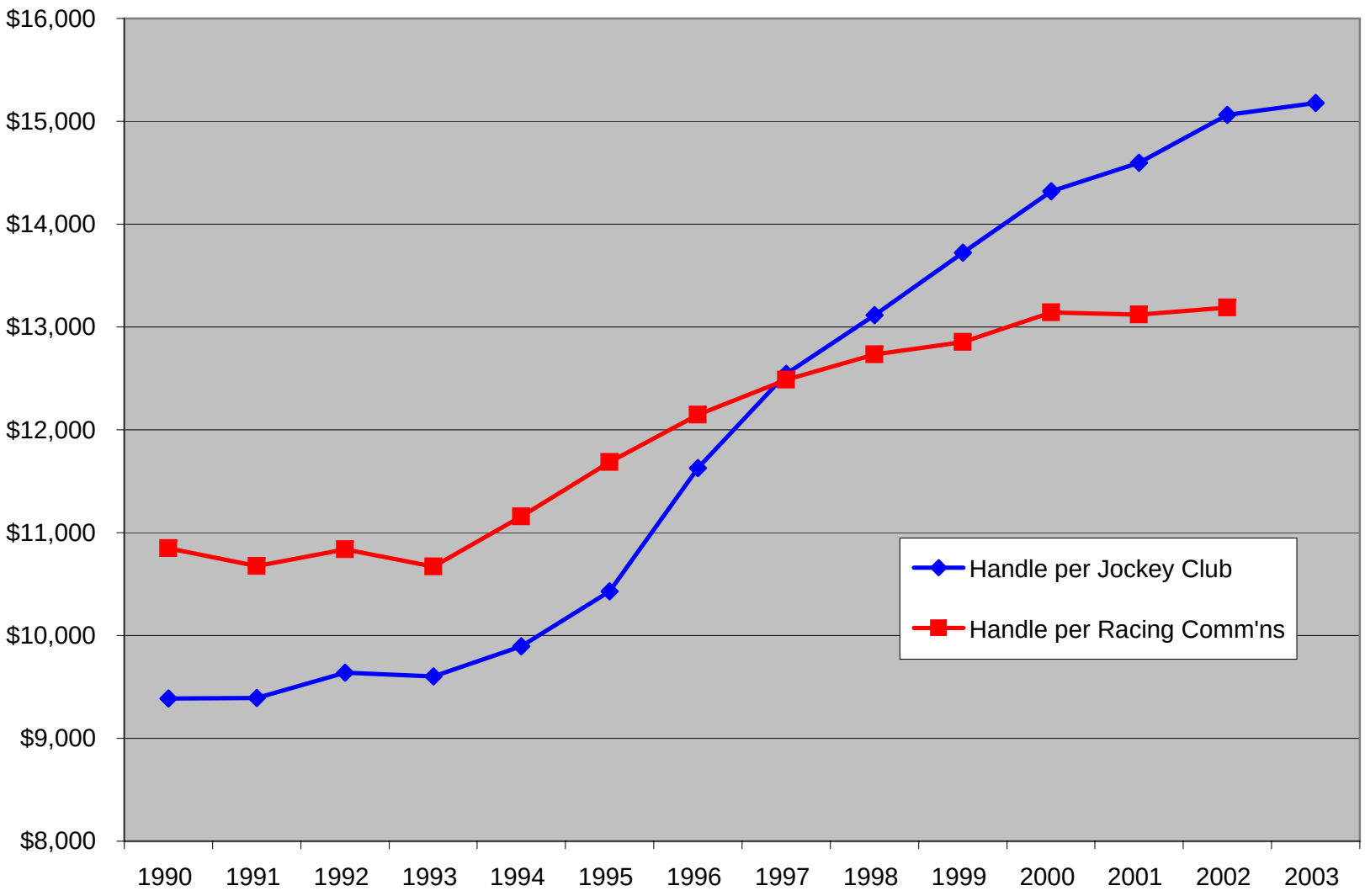
Exhibit 9: Differences in Data, 1990-2003 ($ million)



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Exhbit 10: Total U.S. Legal Gambling Revenues (billions of Year 2002 dollars)

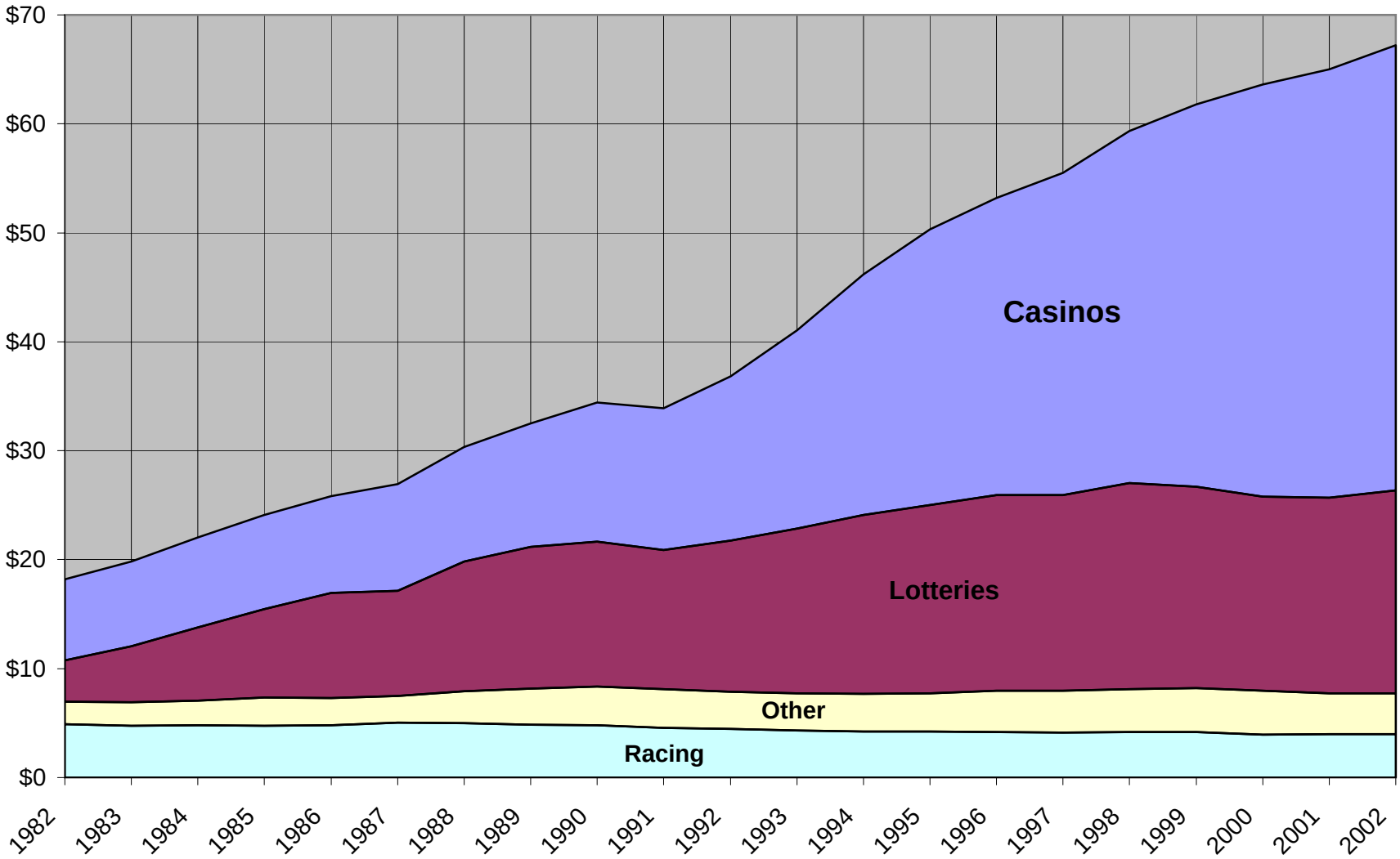

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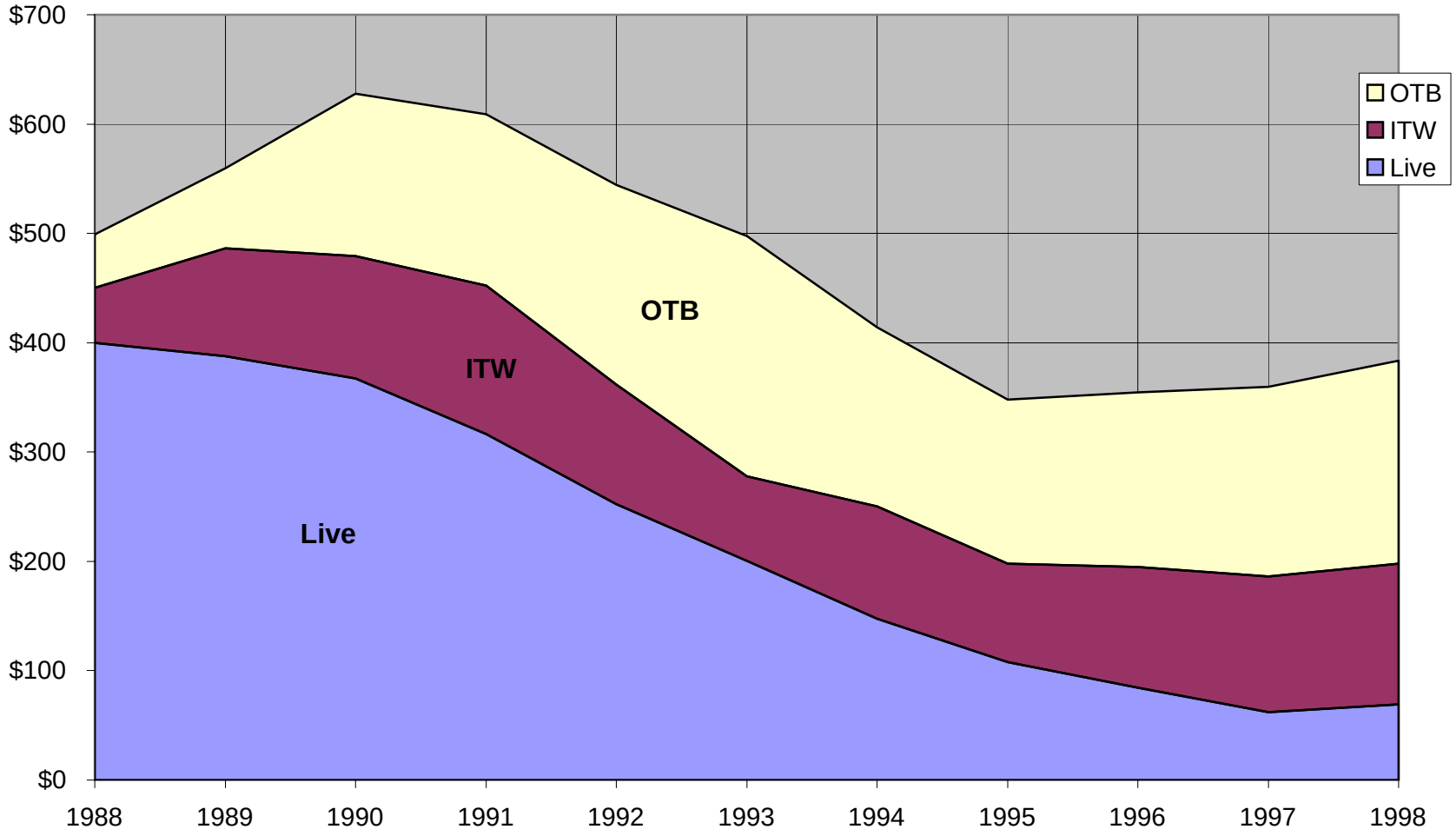
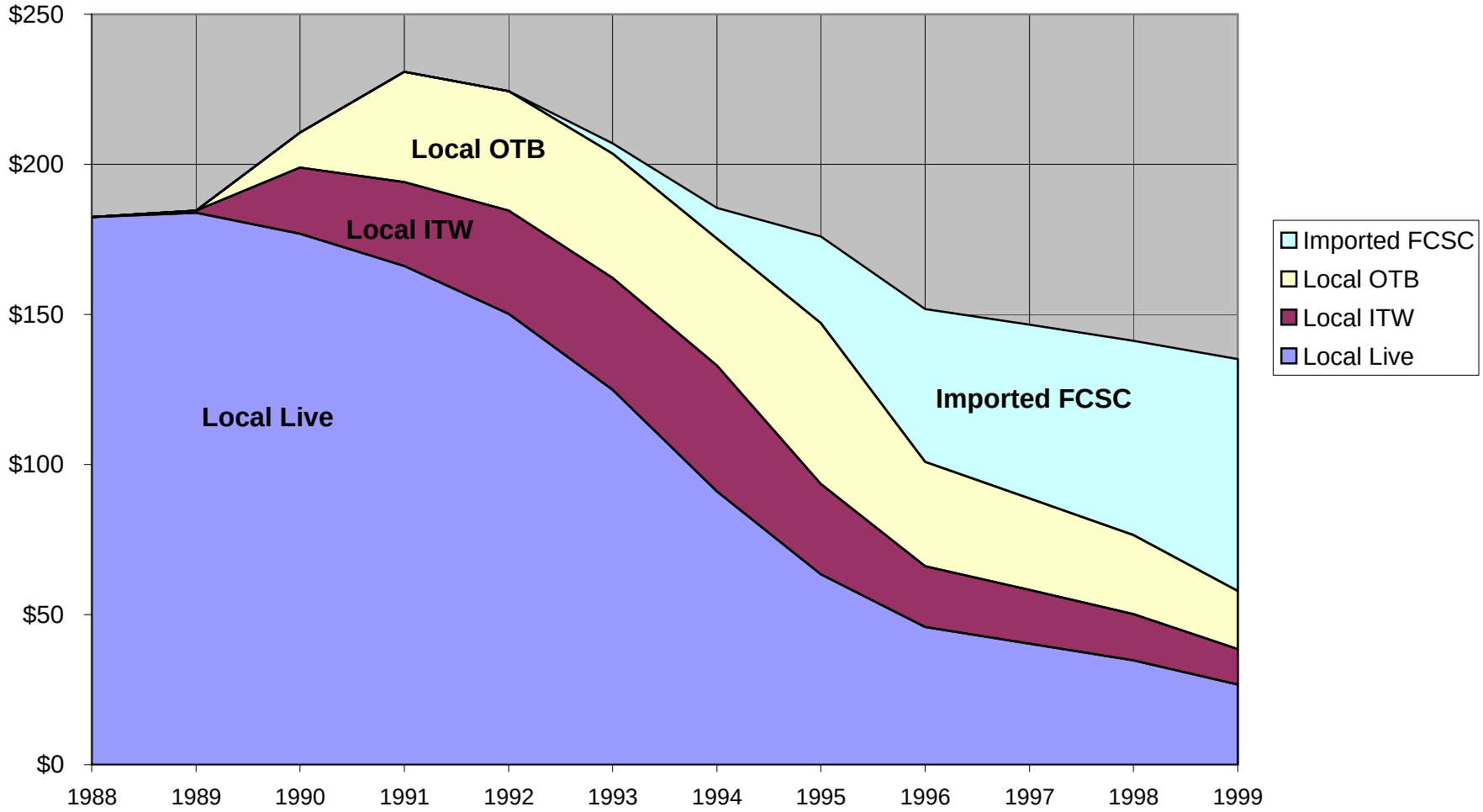
Exhibit 11: Impact of Casinos on Handle in Louisiana ($ million)



(First Mississippi casinos opened in 1991)

Exhibit 12: Impact of Casinos and VLTs on Handle in Alberta ($ million)



(VLTs introduced in 1992; casino slots in 1994)

Exhibit 13: Total Gov't Tax Revenues vs Total Thoroughbred Handle, 1977-1990

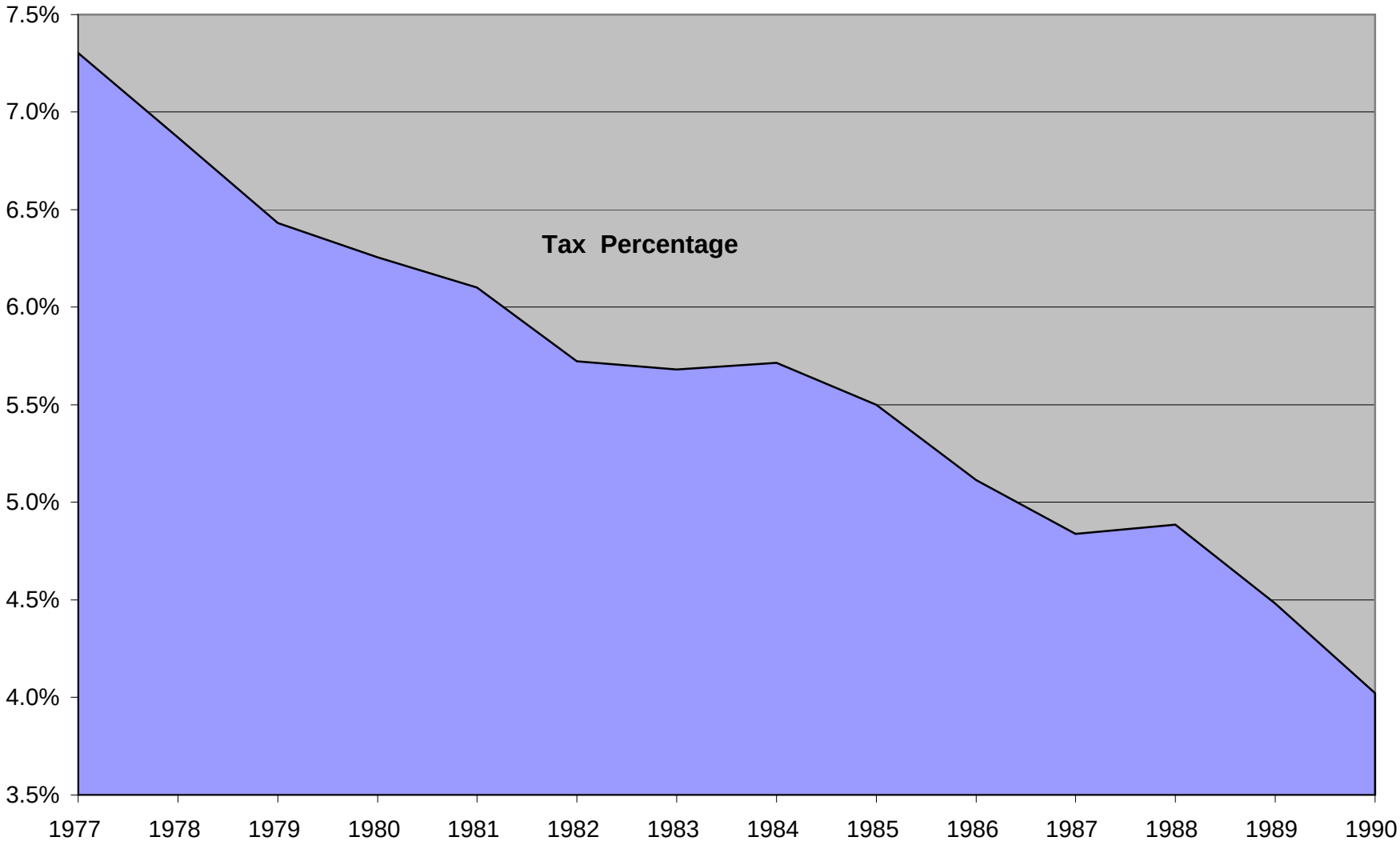


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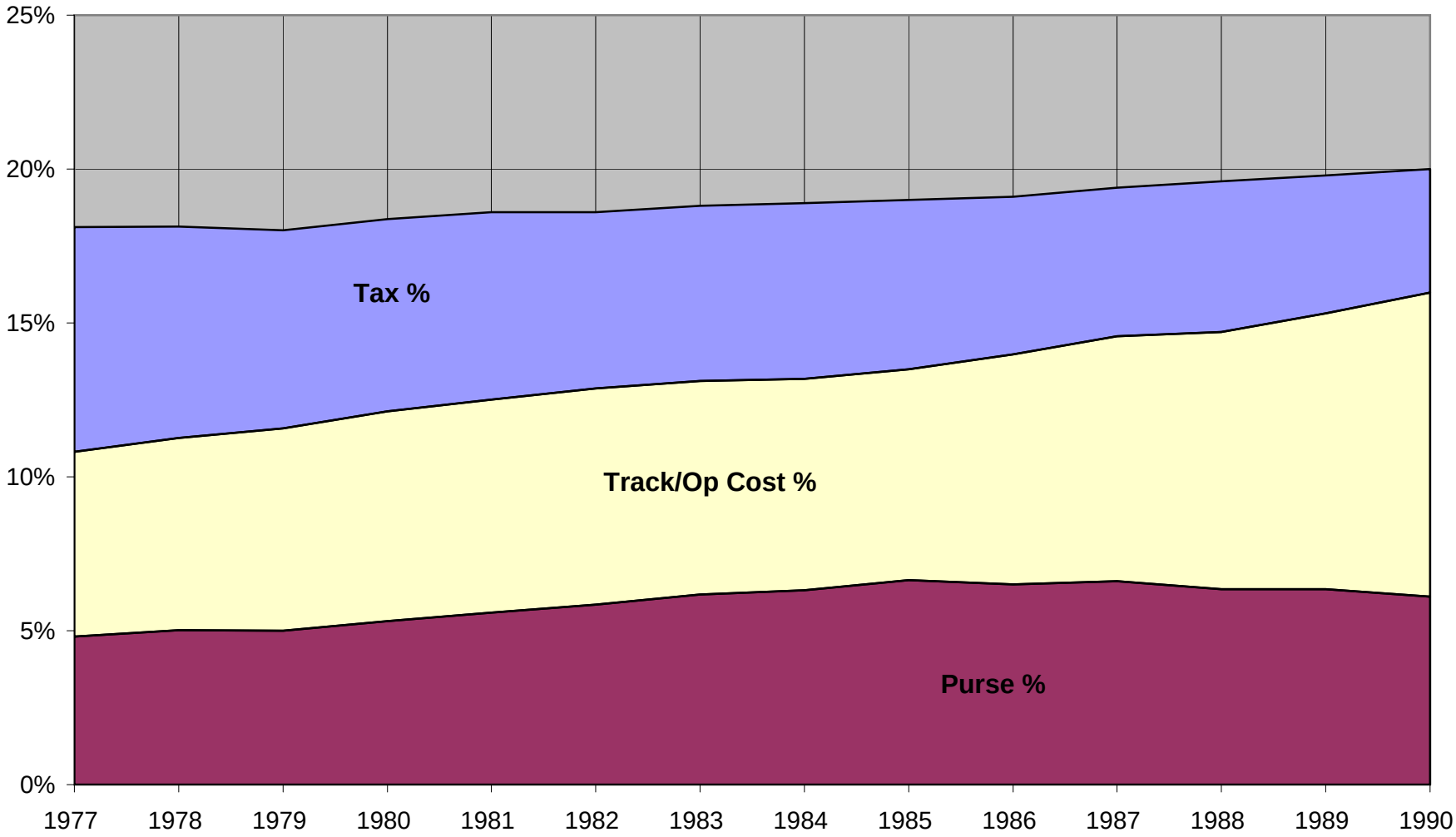
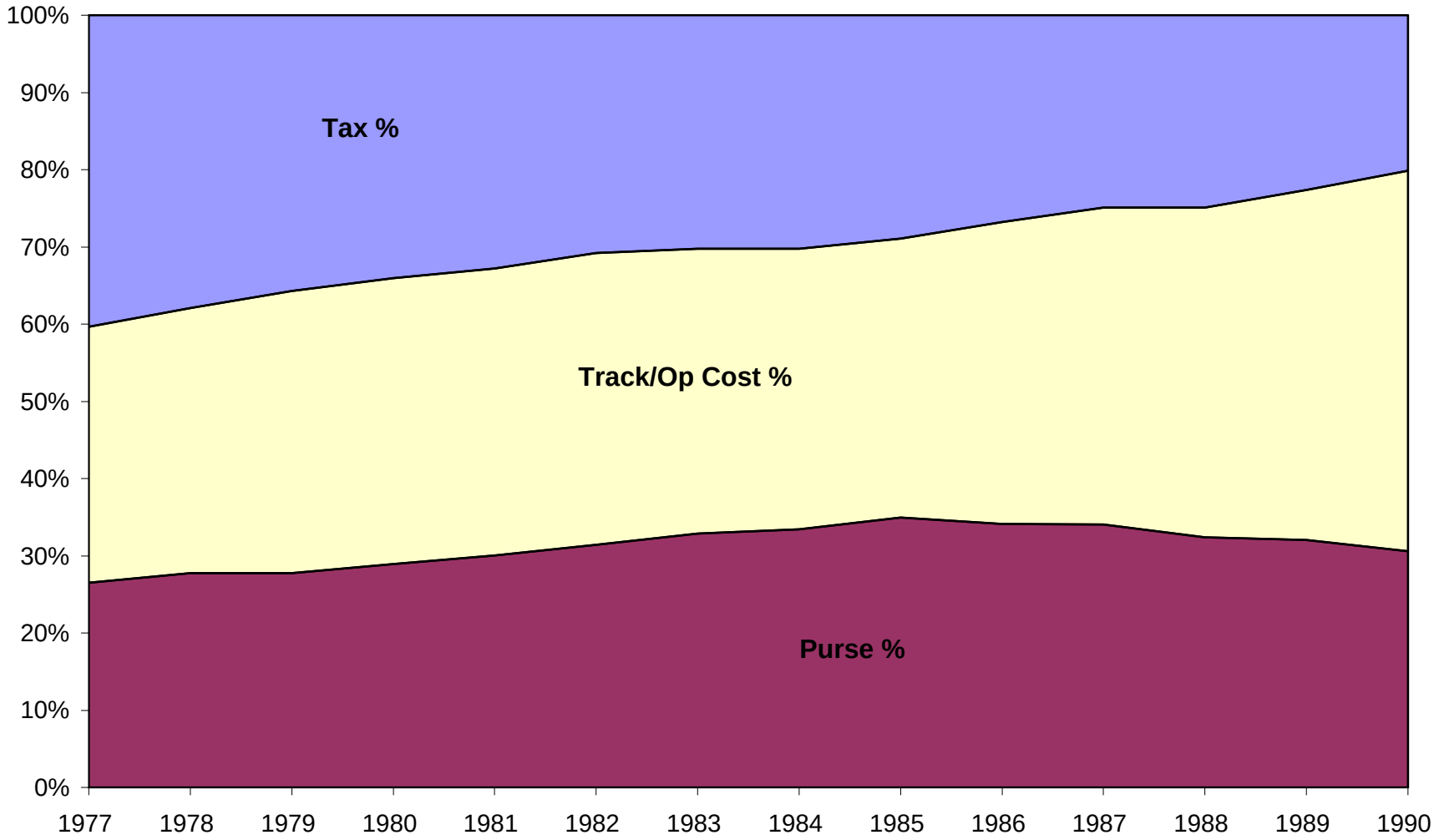
Exhibit 14: Macro Trends in Takeout Percentages, 1977-1990



Source: Racing Commissions.

Exhibit 15: Division of Pari-Mutuel Revenues, 1977-1990



Source: Racing Commissions

Exhibit 16: Total Gov't Revenues as Percentage of Taxable Handle, 1990-2003

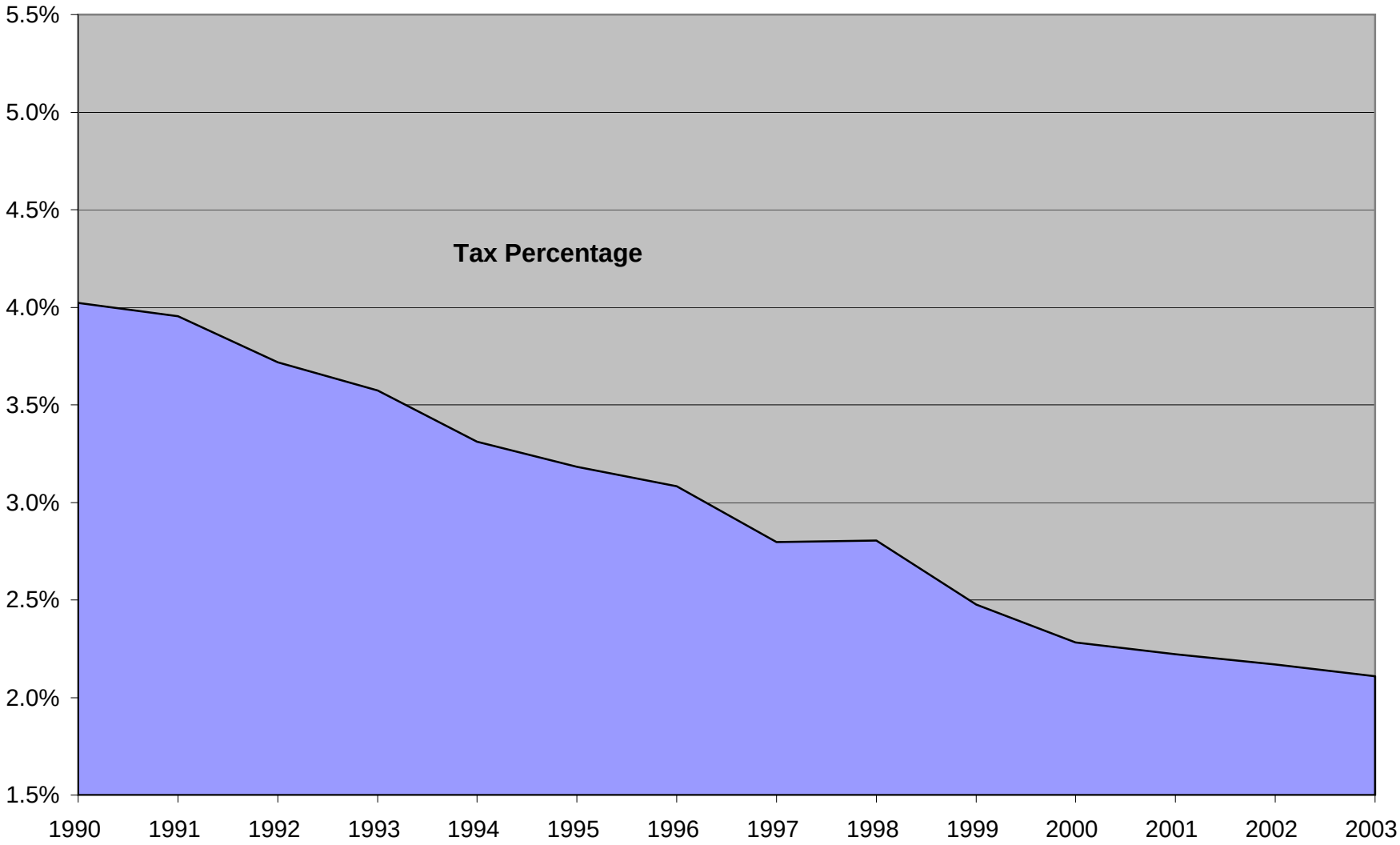


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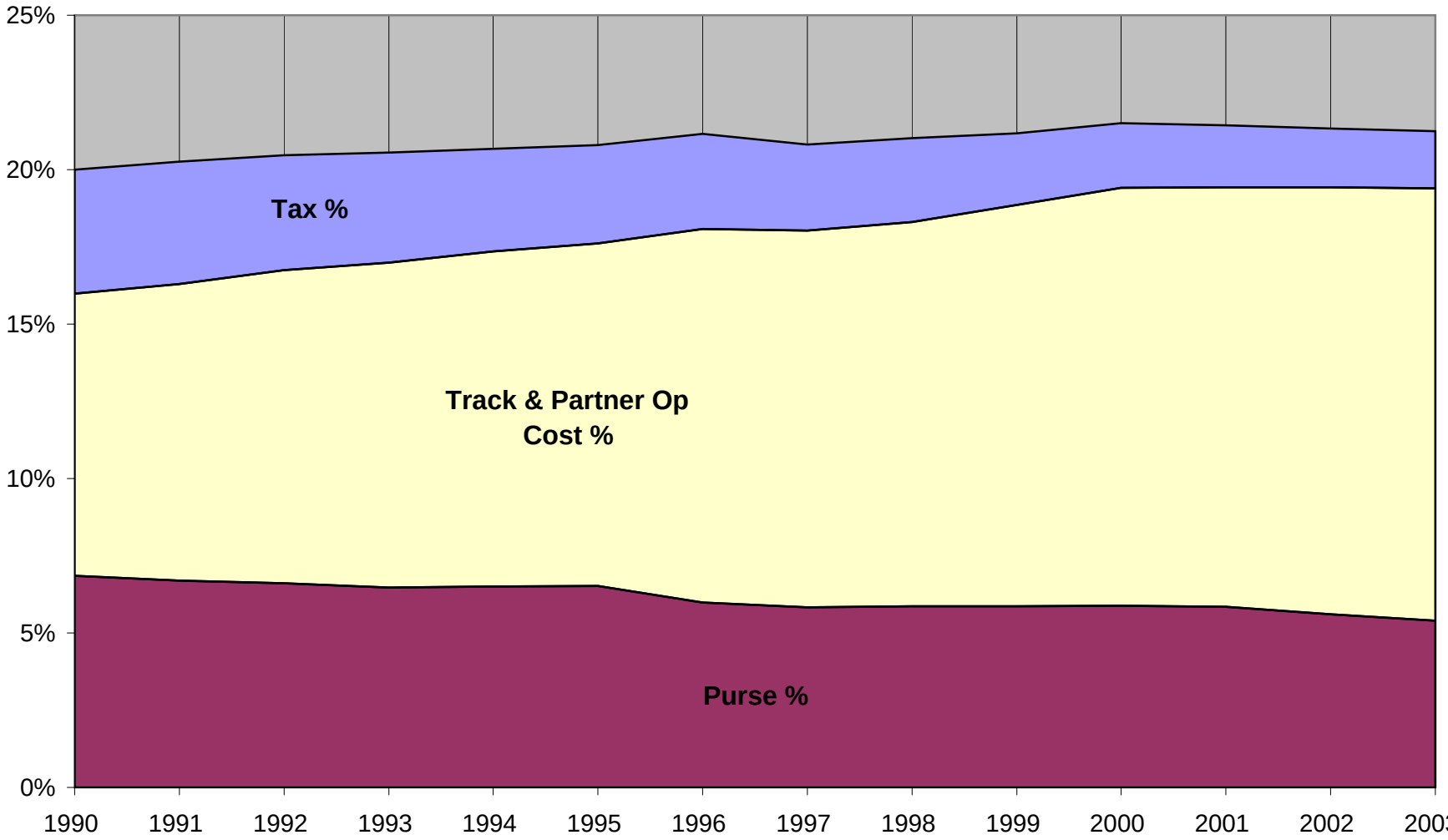
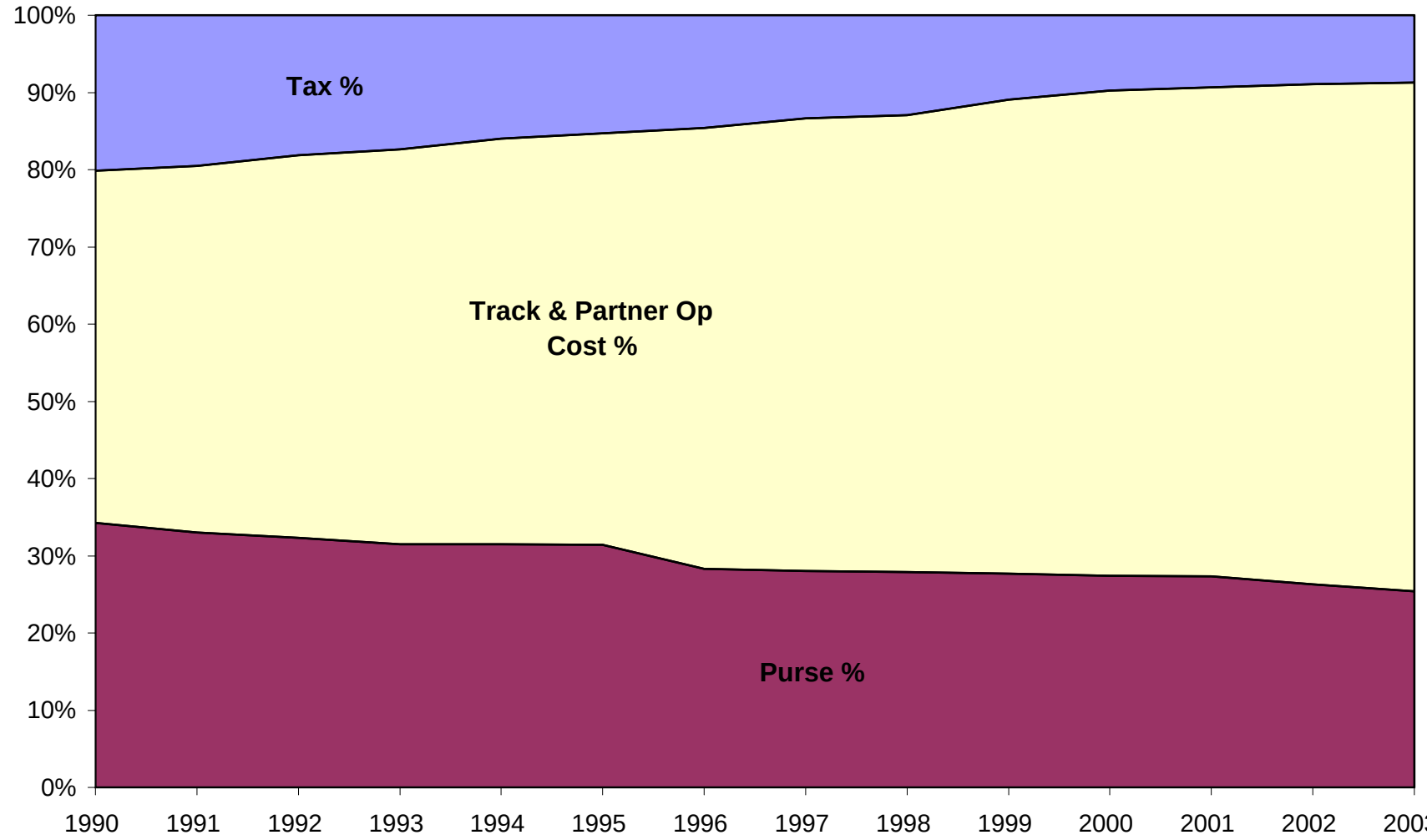
Exhibit 17: Macro Trends in Takeout Percentages, 1990-2003 (approx.)



Source: Takeout rates and taxes from Racing Commissions; other percentages estimated by Cummings based on Jockey Club data.

Exhibit 18: Division of Pari-Mutuel Revenues, 1990-2003 (approx.)



Source: Takeout rates and taxes from Racing Commissions; other percentages estimated by Cummings based on Jockey Club data.

Exhibit 19: Purses Net of Slot Subsidies and State Tax Reductions

($ million)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Purses	**$715**	**$699**	**$710**	**$692**	**$718**	**$762**	**$793**	**$852**	**$904**	**$963**	**$1,031**	**$1,068**	**$1,074**	**$1,055**
Percent of Handle	7.61%	7.44%	7.36%	7.21%	7.26%	7.30%	6.82%	6.79%	6.89%	7.02%	7.20%	7.31%	7.13%	6.95%
Subsidies:														
Delaware							$11	$15	$17	$20	$25	$26	$27	$23
Indiana								$3	$4	$5	$5	$5	$5	$5
Iowa						$1	$1	$8	$10	$10	$13	$15	$16	$13
Louisiana			$1	$2	$2	$2	$3	$3	$3	$3	$3	$2	$20	$28
Maryland										$3	$6	$3	$1	$1
New Jersey												$11	$2	
New Mexico									$0	$3	$6	$8	$11	$15
West Virginia		$0	$1	$1	$1	$2	$5	$9	$15	$24	$36	$47	$54	$61
Total Subsidies	$0	$0	$1	$2	$3	$5	$20	$38	$50	$70	$94	$118	$135	$146
Purses w/o Subsidies	**$715**	**$698**	**$708**	**$690**	**$715**	**$756**	**$773**	**$813**	**$854**	**$893**	**$937**	**$950**	**$939**	**$910**
Net / Tax Reductions		**$2**	**$15**	**$23**	**$38**	**$48**	**$56**	**$75**	**$76**	**$98**	**$113**	**$117**	**$121**	**$125**
Net Net Purses	**$715**	**$696**	**$693**	**$667**	**$677**	**$709**	**$717**	**$738**	**$778**	**$795**	**$824**	**$833**	**$819**	**$785**
Percent of Handle	7.61%	7.41%	7.19%	6.95%	6.84%	6.79%	6.17%	5.89%	5.93%	5.79%	5.75%	5.71%	5.44%	5.17%
Calculation of Net / Tax Reductions:														
Taxes (per R Comms)	$436	$422	$403	$381	$370	$372	$374	$349	$357	$318	$300	$291	$286	na
Taxes at 4.0% (=1990)	$434	$427	$434	$427	$446	$467	$486	$499	$509	$514	$526	$525	$528	na
Difference		$5	$31	$45	$77	$95	$111	$150	$152	$196	$226	$233	$242	$250
x 50% assumed to Purses		$2	$15	$23	$38	$48	$56	$75	$76	$98	$113	$117	$121	$125

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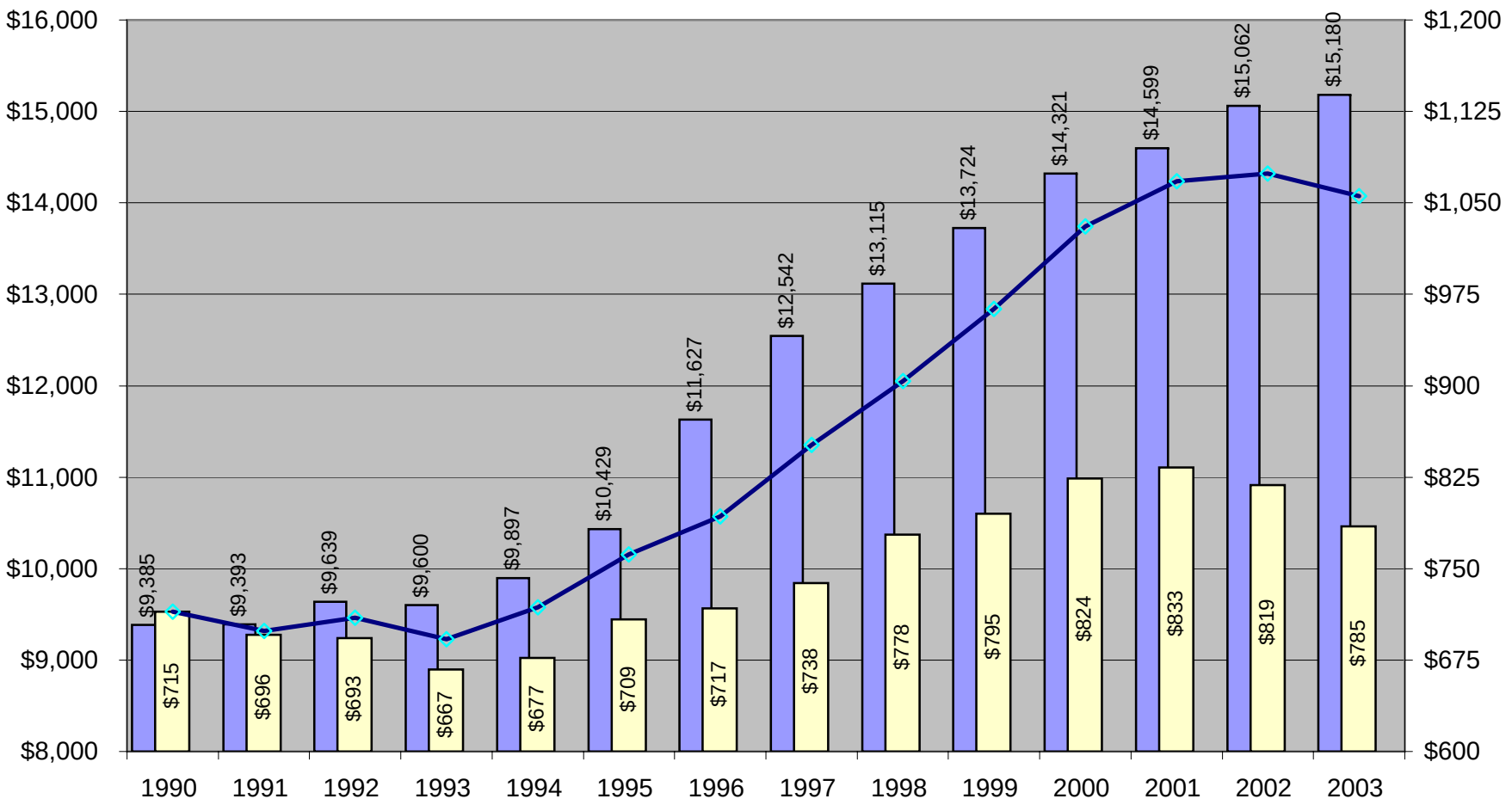
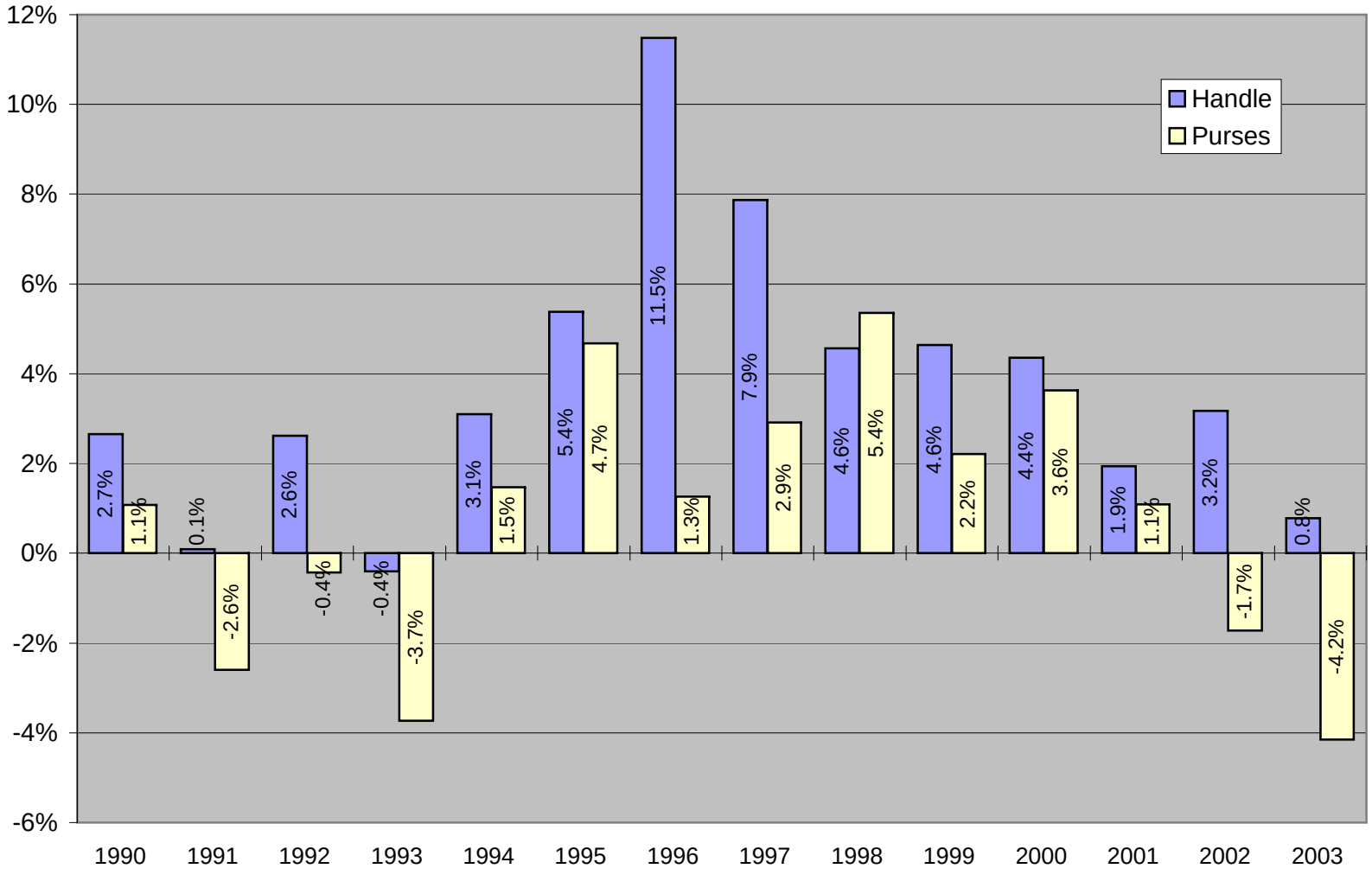
Exhibit 20: Total US Handle and Purses w/o Slots & Tax Reductions ($ million)



Handle bars in blue, to the left; purse bars in yellow, to the right. Black line indicates total purses, including subsidies and tax reductions.

Exhibit 21: Year-to-Year Changes in Handle and in Purses Net of Slots and Taxes



Handle change bars in blue; purse change bars in yellow. Purses are net of tax reductions and slot subsidies.

Exhibit 22: Purses Net of Slot Subsidies and Tax Reductions as % of Handle

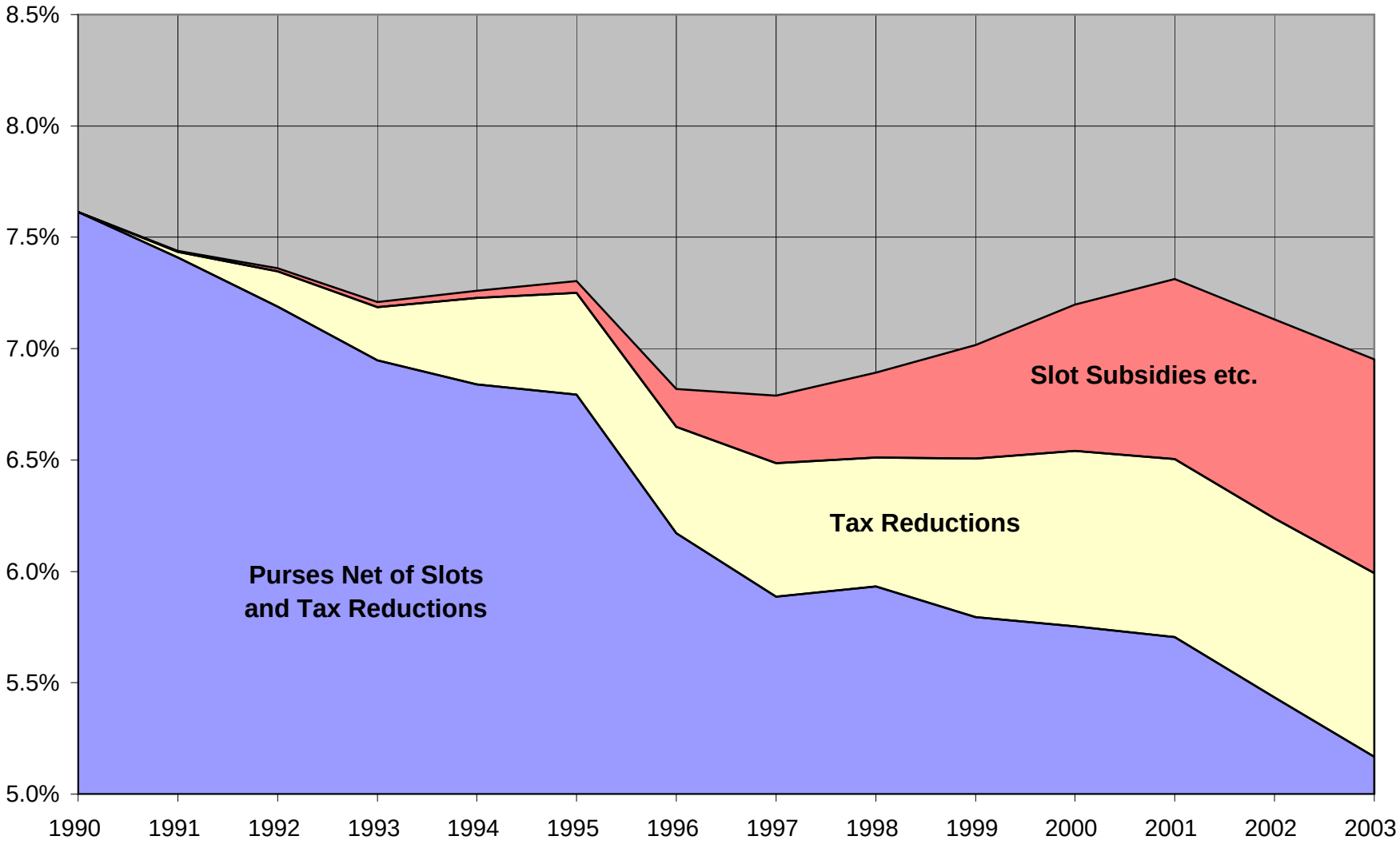


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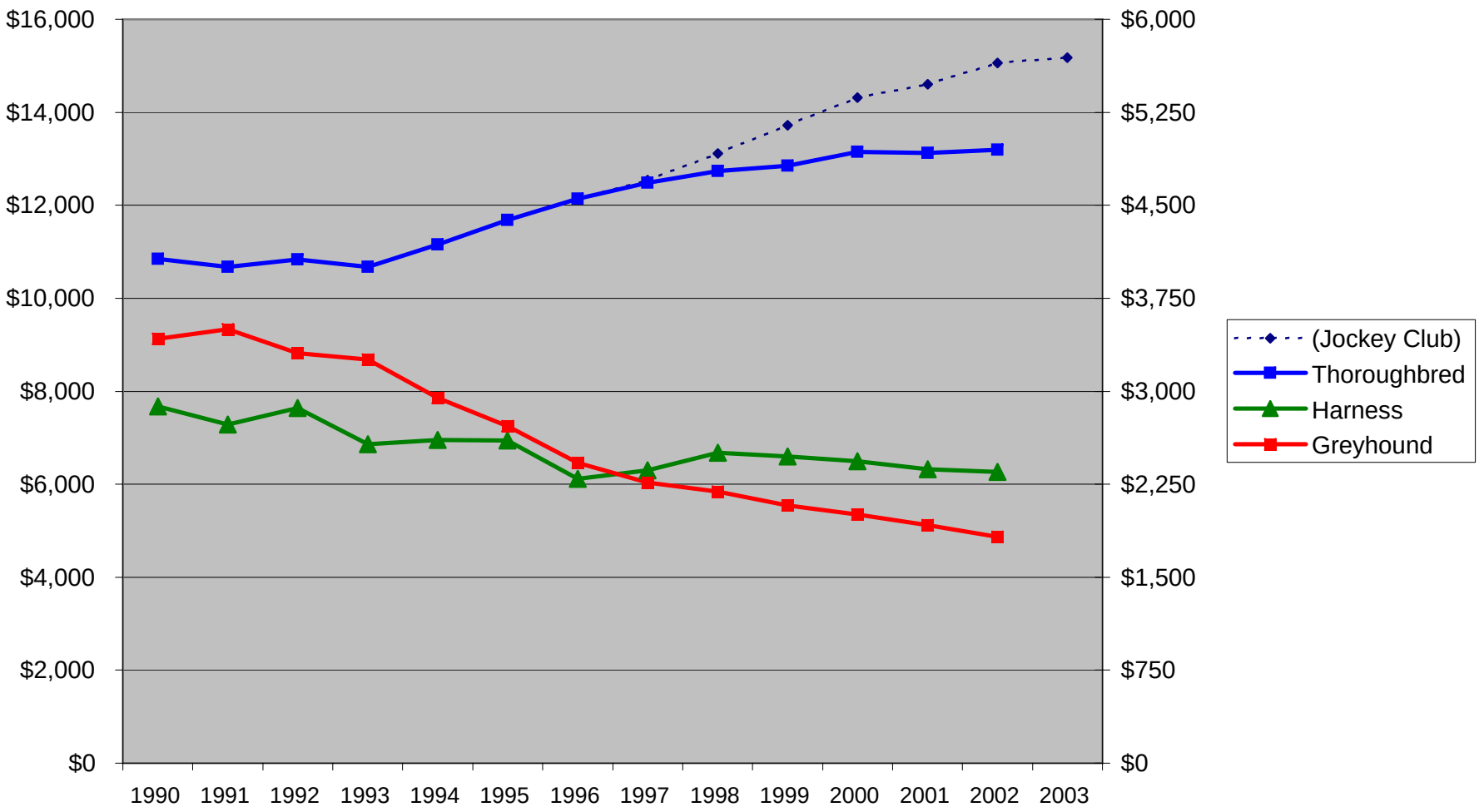
Exhibit 23: Pro Forma Financial Statement for a New Off-Track Facility in Podunk, Alberta

(Handle, Revenues and Expenses per Week)

Handle	**$10,000**	
Revenues:		
Pari-Mutuel Commissions	$2,300	
Programs (breakeven)	$0	
Total Revenues	**$2,300**	
Direct Expenses:		
Federal Tax (CPMA)	$80	
Totalizator	$70	
Host Fees	$250	1
Mutuel Payroll	$750	
Payroll Taxes & Benefits	$100	
Rent	$50	
Telco	$200	
Equipment	$200	2
Marketing	$100	
Depreciation	$100	3
Miscellaneous	$100	
Total Expenses:	**$2,000**	
Net Margin	**$300**	

1. Host fees paid for imported racing only.
2. Rental and/or depreciation of A/V equipment.
3. Depreciation on leasehold improvements / 5 years.

Exhibit 24: Comparison with Trends in Handle for Other Breeds ($ million)



Left scale applies to Thoroughbreds, right scale to other breeds.
Except as indicated, data from Racing Commissions.

Exhibit 25: New York City OTB Handle/Shop/Week in 1974 ($000)