



University of Kentucky  
UKnowledge

---

Lewis Honors College Capstone Collection

Lewis Honors College

---

2015

## The Effects of Economic Conditions on the Sport Horse Industry in Kentucky and Nationally

Elizabeth Lampert  
*University of Kentucky*, [elampert4@gmail.com](mailto:elampert4@gmail.com)

Follow this and additional works at: <https://uknowledge.uky.edu/honprog>



Part of the [Agricultural Economics Commons](#)

[Right click to open a feedback form in a new tab to let us know how this document benefits you.](#)

---

### Recommended Citation

Lampert, Elizabeth, "The Effects of Economic Conditions on the Sport Horse Industry in Kentucky and Nationally" (2015). *Lewis Honors College Capstone Collection*. 17.  
<https://uknowledge.uky.edu/honprog/17>

This Article is brought to you for free and open access by the Lewis Honors College at UKnowledge. It has been accepted for inclusion in Lewis Honors College Capstone Collection by an authorized administrator of UKnowledge. For more information, please contact [UKnowledge@lsv.uky.edu](mailto:UKnowledge@lsv.uky.edu).

The Effects of Economic Conditions on the  
Sport Horse Industry in Kentucky and Nationally

Elizabeth Lampert

University of Kentucky

Abstract

The horse industry in Kentucky is larger than thoroughbreds and racing. Competing sport horses is an increasingly popular form of riding and showing in the bluegrass and nationwide. Sport horse disciplines include dressage, eventing, and hunter-jumper horses. In Kentucky, sport horse enthusiasts are fortunate enough to be near the Kentucky Horse Park, a park known worldwide for its shows and courses. In 2010, the park hosted the World Equestrian Games, marking the first time that the World Equestrian Games had been held outside of Europe. Focusing mainly on the bluegrass and the nation as a whole, the effects of the 2008 recession, and the World Equestrian Games on the sport horse industry were studied extensively. This study seeks to show that the recession did have an impact on people involved in the sport horse market, including trainers, competitors, and owners, as well as later a boost to the local and national sport horse industry in the years following the World Equestrian Games.

The Effects of Economic Conditions on the  
Sport Horse Industry in Kentucky and Nationally

Kentucky is largely known for the role it plays in horse racing. Many weekends through the fall and spring, Kentuckians' schedules revolve around post times and opening dates for racetracks. In Lexington, we are lucky enough to be home to Keeneland Race Track, which meets in April and October, encouraging social events statewide. While racing is a staple to many Kentuckians' social calendars, most other equine disciplines go unnoticed, such as sport horse competitions.

Sport horse disciplines can be thought of as the Olympic disciplines. For this study, the particular disciplines under observation were dressage, hunter jumpers, and eventing. Dressage is defined by Merriam Webster's dictionary as "the execution by a trained horse of precision movements in response to barely perceptible signals from its rider." (Merriam- Webster) Dressage is explained by many as "horse ballet". Judges look for the subtlest cues from riders to get the most precise and expressive movements from their horses while being judged on a scale from 1 to 10. Hunter horses are modified and refined fox hunt horses, which require sound minds, an "up for anything" mentality, and a type of movement that could be ridden for hours on end (Horse & Country T.V.). Hunt horses are judged on their "calm disposition, good manners, smooth gaits, steady way of going, and pleasant and efficient jumping ability..." (Hunter) Jumper horses are horses that jump fences inside of arenas in the least amount of time and leaving the most rails in

the cups. Speed and agility are their most important assets because each second over the allotted time is penalized, as is lowering fences by knocking rails. The horse with the fastest time and fewest rails down wins the competition. Eventing can be described as an equine triathlon emphasizing the precision and discipline of dressage, the speed and agility of jumper horses and courage and heart required for the third phase, cross country. For the cross-country phase of eventing, horses are asked to gallop over terrain including hills, dirt, mud, and water while jumping sequentially numbered jumps throughout the course. The lowest overall penalty score wins the event.

The sport horse industry in Kentucky is constantly changing and evolving. Events, such as the 2012 World Equestrian Games and 2008 recession, change the degree of participation within the sport. The sport horse industry has many assumptions associated with the sport, athletes, and owners. People both familiar and unfamiliar with the sport accuse riders and owners of having too much money to be affected by the 2008 recession. Through the use of charts and statistical analysis, the study will build a case to disprove that people within the sport horse market are above being affected by the recession by looking at the membership, horse registration, and competition sanction numbers for national and local level associations. People within the sport horse environment are subject to market changes that affect their spending within the sport horse market.

Less known than Keenneland to Lexingtonians, but more known world wide, is the Kentucky Horse Park's annual event, Rolex. Generally held the last weekend of

April, Rolex is the only four-star event run in North America. Attendance is over 30,000 per day and the sheer excitement of being on grounds is enough for most eventing enthusiasts. Rolex has a larger impact on Lexington's economy. When Rolex attendees, riders, grooms, horse owners, event officials and all other people required to make the event a success get done at the horse show in the afternoon, they need something to fill their evening. For most, this includes eating dinner at a local Lexington favorite or seeing what the city has to offer after hours, such as Thursday night live. Because the event is the only one of this caliber on the continent, people come not only from around the state, but from around the world. A spike in plane ticket sales, restaurant sales, vineyard and bourbon distillery tours, among other activities, leads to a jolt in Kentucky's economy each year around the time of Rolex.

Another world-class event hosted at the Kentucky Horse Park is the World Equestrian Games. In 2010, the World Equestrian Games received the attention of horse people and non-horse people alike from across the globe. The World Equestrian Games (WEG) is the equivalent of the Olympics for horses. While many horse sports are included in the Olympics, the World Equestrian Games are solely for horse riders and allows the absolute most elite riders from all across the globe to compete together, at a higher level than the Olympics, in one competition, to determine the best in the world. The World Equestrian Games are held every four years, two years after the Olympics. Since 1990, the year of the first WEG, the competition had never been held outside of Europe. In 2010, that changed, when Lexington, Kentucky was chosen to host the games. Fifty-eight countries,

represented by 752 horse and rider combinations, came to the United States to compete for the title of the best in the world (2010 Lexington, KY). The impact of the World Equestrian Games in Lexington can still be felt as the stadiums built for the competition continue to bring in events, therefore contribute continued business to the area.

### Methods and Materials

Sport horse organizations at the national, state, and regional levels were contacted regarding obtaining specific numbers that were determined to be the best measures of the health of the industry. The requested data included membership numbers per year, horse registration numbers per year, number of sanctioned shows per year, and number of horse and rider combinations per show, per year for 2004 through 2014.

Organizations including the United States Equestrian Federation (USEF), United States Hunter Jumper Association (USHJA), United States Dressage Federation (USDF), United States Eventing Association (USEA), United States Pony Club (USPC), MidSouth Eventing and Dressage Association (MSEDA), Kentucky Dressage Association (KDA), and Kentucky Hunter Jumper Association (KHJA) were contacted regarding data collection via email and phone calls. Email addresses were obtained via the Internet and personal connections within the sport horse industry. For each organization, the most suitable staff member or officer of the association was chosen, most often the member coordinator or secretary, and his or her contact

information was found via the association's website. Also included in the emails was a clause asking the original recipient to forward the email to anyone that may have useful information. Most recipients could provide some information and supplied contact information for others that would potentially have the remainder of the information.

Once data had been provided, it was organized into charts using Excel. Organization methods include structuring data by national, state, and association groups as well as grouping all of a certain category together. For example, all horse registration numbers from every association that provided them were put together so they could be compared easily. The use of graphs was beneficial in seeing how the numbers moved in relation to each other and overall movement over the course of time. Linear regressions were utilized to display exact measurements of how the numbers compared. Regressions were run with time as the independent variable and member numbers, horse numbers, and show numbers run as the dependent variables. Regressions with multiple variables and dummy variables were utilized to consider the changes in numbers before and after the 2008 regression and before and the 2010 World Equestrian Games in Lexington, Kentucky.

### Empirical Methodology

To find the exact relationship between the variables, linear regressions were run. For each of these regressions, a model was developed and the p-value, adjusted r square, coefficient estimate, and standard error were all calculated to find the



degree of correlation between the variables. The following models were developed through the use of data provided by the associations to run linear regressions.

These particular models were chosen because they proved to be statistically significant based on the measure set at the beginning of the study. The statistics derived from the regressions were then used to develop conclusions drawn and explained at the end of this paper.

USEF Dressage Membership compared to time:

$$\text{USEFDRESSMEM} = 287795.71 - 137.6429 * \text{Year}$$

USEF Eventing Membership compared to time:

$$\text{USEFEVENTMEM} = -623884.1548 + 314.1310 * \text{Year}$$

USEA Membership compared to time:

$$\text{USEAMEM} = 620718.0636 - 302.6636 * \text{Year}$$

USDF Membership compared to time:

$$\text{USDFMEM} = 1343564.6727 - 642.8727 * \text{Year}$$

USEF Membership using a dummy variable to compare before and after the 2008

Recession:

$$\text{USEFMEM\&REC} = 60104.5000 + 7488.6667 * \text{REC}$$

REC=0 (Before Recession)

REC=1 (After Recession)

KDA Membership using a dummy variable to compare before and after the 2010 World Equestrian Games

$$KDAMEM \& WEG = 156.000 + 37.7500 * WEG$$

WEG=0 (Before the World Equestrian Games)

WEG=1 (After the World Equestrian Games)

The following table shows the dependent variable tested as well as the coefficient estimate, standard error, adjusted r<sup>2</sup>, and sample size.

Independent Variable: Time

Dependent Variable	Coefficient Estimate (Standard Error)	Adjusted R <sup>2</sup> , sample size
USEFDRESSMEM	-137.64286** (38.3737607)	0.62893, 8
USEFEVENTMEM	314.13095* (128.46598)	0.41566, 8
USEAMEM	-302.66364*** (55.34676)	0.74296, 11
USDFMEM	-652.87273*** (124.95276)	0.72452, 11
USEFMEM&REC	60,104.5*** (1,495.52564)	0.7178, 8
KDAMEM&WEG	156.00** (9.60221)	0.31602, 11

\*\*\* p<0.01

\*\* p<0.05

\* p<0.10

### Results

Data provided was compared through charts and statistical analysis. Numbers measured include horse registration, membership levels, and show numbers over the course of several years, depending on the amount of data available from the organization. The p-value of .05 was used as a determination of statistical significance. Several regressions were run on the data including using

variables such as time and comparison between before and after the 2008 recession and before and after the 2010 World Equestrian Games in Lexington, Kentucky.

United States Equestrian Federation dressage membership numbers were highly correlated with time. A p-level of 0.01155 is well within the accepted alpha level range. Unfortunately, the trend over time is negative. Each year the USEF can expect to lose 137.6429 members per year in the dressage sector. As the ruling body for equestrian sports, including the disciplines mentioned in this study, the USEF should be worried about these numbers and the decline of the sport horse industry that revolves around the sport.

The USEF Eventing division was also concluded to be statistically significant, given the p value of 0.05011. While it is not directly within the parameters established at the beginning of the study, it is being considered as additional information of the overall health of the market. Based on the model, the USEF should expect to see an increase of 314.1310 members in its eventing division.

One of the strongest correlations was between United States Eventing Association (USEA) membership numbers and the course of time. Time, being the independent variable, was compared to the number of membership registrations per year for the years 2007-2014. The p value for this data was 0.0004, a very high relevance. Based on the model, the USEA can expect to see a decrease in membership by 302.6636 people per year. It is interesting to note that there was an increase in the USEF division of eventing in comparison to the expected decrease of USEA membership. A decrease in membership signifies potential problems with the

health in the sport, therefore the sport horse industry which revolves around the sport.

The USDF membership time trend was very significant, with a p level of 0.00055. The model shows that the USDF can expect to see a decrease in membership by 652.8727 people per year. It is important to note that the dressage division of the USEF also had a downward trend over the course of years studied. The decline in both national sectors emphasizes the reality of the decline of membership by dressage riders, either by new members not being recruited or the loss of old members, another potential signifier of problems within the industry.

Another regression was run comparing total USEF membership numbers for the three sport horse disciplines studied before and after the 2008 recession. The p value was 0.00489, meaning it is highly significant. The dummy variable of 0 represented the time prior to and including the year of the 2008 recession and the dummy variable of 1 represented the time after the 2008 recession. The statistics found by running a linear regression on this data show that there was an average of 60,104.5000 total USEF members in the years prior to the recession. The second number in the model signifies an, on average, 7488.6667 person increase in membership following the recession.

The final statistically significant comparison mentioned by the study was between the numbers of riders the Kentucky Dressage Association had at each show compared before and after the World Equestrian Games. The p value of 0.04186 signifies that the data is significant based on the previously established cutoff alpha

level of 0.05. Based on the model, the average membership level was 156 members. The positive 37.5000 signifies that on average, there is a 37.5000 increase after the World Equestrian Games.

The next method of comparison was the use of graphs. Horse registration numbers from all studied sectors of the USEF were most easily compared through the use of charts. Figure 1 illustrates the relationship between the three divisions. As can be seen, horse registration held steady or increased slightly in all categories. The dressage division seems to be the least affected by the World Equestrian games and recession. The numbers from the start date of 2007, marked as year 1 on the graph, until the final numbers in 2014 are fairly consistent hovering just below the 15,000 mark over the course of the years studied. The hunter jumper division saw the largest increase with 5,832 horses added to the registration between the years of 2007 and 2014. Neither the World Equestrian Games nor the recession are shown to be making a change in the numbers on the graph for the hunter jumper horses. The final division studied, eventing, saw the most turmoil in the years studied. When looking at the graph, one can see that there was an exact opposite reaction to the recession and WEG on registration levels. In the eventing division of horse registration for the USEF, there was an increase in horses registered in 2008 (signified as 2 on the graph) and a decrease of horses registered in 2010 (signified by 4 on the graph) at the time of the World Equestrian Games.

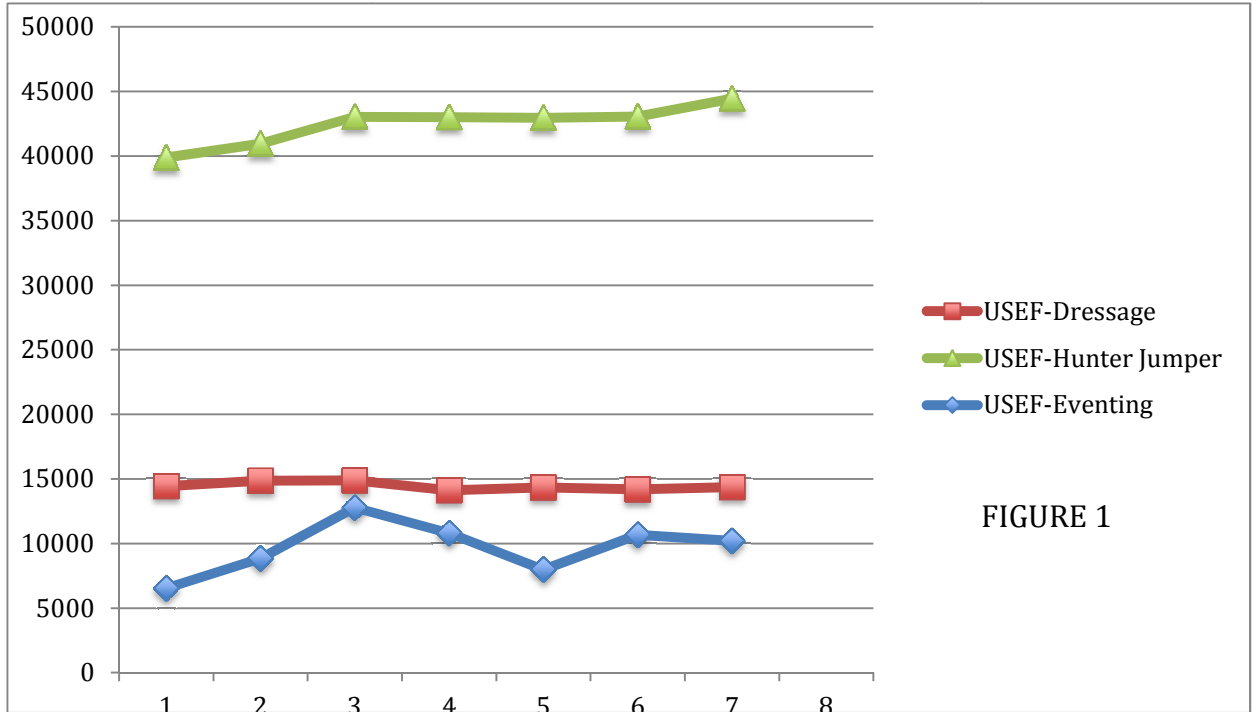


FIGURE 1

Conclusions

The data collected for this project partially supported the hypotheses that the sport horse industry would be affected by the recession and that the World Equestrian Games would boost the sport horse market in Kentucky. The data also showed some correlations that were not initially intended to be studied within the project, such as the total increase and decrease of the sport horse disciplines.

Concluding that the sport horse market was not greatly affected by the recession stems from the linear regression run comparing the data before and after the recession as well as considering the horse registration data. The data shows that an increase, on average, should be expected after the years of the recession. If the sport had been reeling from the recession, a decrease in the number of registrations would be expected. Also to be considered is the number of horse

registrations the United States Equestrian Federation (USEF) had over the course of 2007 to 2014, a timeframe including the 2008 recession. Numbers increased by nearly 10,000 horses, from 59,354 horses in 2007, to 69,021, the total horse registrations in 2014. A large indicator of how the equine market is doing involves the continued support of national organizations independent from the USEF to aid in the continued training and competition of horses nationwide. Unfortunately, these numbers decreased in both the USEA and USDF categories significantly from 2004 until 2014 as well as an overall drop in the total USEF memberships from 2007 until 2014. Because the USEF is a national organization and governing body of the United States sport horse competitions, the health of that organization relates to the health of the industry as a whole.

In all categories, the membership time trends for the national level followed those of the USEF trend except for the USEA and USEF-Eventing division trend. Some explanations for the discrepancies between these two similar organizations include the requirements placed on event riders when competing. All riders at the novice level and above are required to be USEA members. The novice level is an introductory level that includes many children and young horses that are just learning the ropes of eventing. At the preliminary level, an intermediate level that many horse and rider combinations do not reach, you are required to be a USEF member. One conclusion that can be drawn from an increase in membership numbers of USEF-Eventing and a decrease of membership numbers in USEA is that riders that are already competing are sticking to it and moving up through the levels, requiring new USEF membership, while there are fewer new members

joining the national association to begin competing. If that is the case, it is very bad news for the sport horse market. A lack of new members joining means a lack of clientele to sell sport horses to, giving the breeding sector a hit, as well as fewer horses that need training, giving yet another sector of the sport horse market a hit.

Overall, the sport horse industry does not need to panic about the decline of numbers, but instead be aware of their significance. The sport horse disciplines will not be stomped out by a few years of declining membership. These numbers should, however, be used as a wakeup call for the industry as perpetually declining membership will mean the end of competition as we know it. Changes are required within the sport to turn membership numbers around and put them back on the rise.

### Limitations and Future Research

The shortcomings of the study involve the difficulty in finding certain information. The United States Equestrian Federation, the organization holding most of the desired national data, was unable to provide complete data for 2004 through 2006, three of the years within the study. When contacted about this data, the organization responded that they changed servers in 2006 so that data is incomplete and that data prior to that is inaccessible. As the ruling body of national horse competitions, members and staff should be able to easily access this data so that the trends can be studied within the organization to see the health of the disciplines within the USEF are doing. Seeing that the membership has declined or



increased over a year or two is not enough data to see the big picture of the overall health of a discipline or industry. Often, by the time someone inside an organization realizes that it is declining, the organization has been declining for too long and it is too late to turn the numbers around. The USEF should use the realization of a lack of available information as a wake up call to make changes and improvements to better suit the industry to allow for continued growth of both the industry and the organization.

Another problem was inaccessibility of information at a smaller level. The plan at the conception of the study was to have as much horse show data and information at the national and state level as possible. When trying to make the contacts necessary to obtain this information, the person with the data was either unavailable, unable to be contacted, or did not have the data requested because a lack of time, unavailability to the data, or nonexistence of the data. The people that do have access to this data, if the data exists, are often volunteers that are not paid for their time and have more pressing issues to attend to rather than keeping the organization's records up to date from past years.

Show organizers were listed online for each sanctioned show, which allowed an email to be sent or a phone call to be made requesting the desired information. Most of these emails and phone calls went unanswered. One of the few horse show organizers that replied explained that while most shows do not keep records of past years, especially spanning back to 2004, each show is required to pay a fee for each horse and rider combination to USEF to have their sanction recognized. Thus, the

USEF should have all of the desired data. Requests for this and other data, including data dating further back, from the USEF were met with only half the requested data or, which was more often the case, no answer at all.

In the future, it would be beneficial to getting a comprehensive view of the health by study other aspects of the market studied. For example, a study of the changes of ownership of equine properties and the years the change of hands occurred could be used to make a link between the 2008 recession and the sale of property. It would also be potentially useful to see new barns that have been recently erected and the years that they surfaced. Were many of them in 2011, after the World Equestrian Games came to Lexington? A third consideration for future researchers is the safety changes in each of the sports and if there has been an impact on riders and trainers due to these changes. For example, more helmets in dressage or frangible pin rules in eventing. Both of these are changes away from traditional patterns of each respective sport leading to a potential change in the industry.

Overall, the sport horse industry is a turbulent and evolving industry. As changes move through the industry, it must adapt to stay relevant in an ever-changing market. The trends found by this study are current and are not so set in stone that they cannot be reversed or used in the future. It is not too late for the associations and organizations that represent the sport horse disciplines to grow to

stay current in an effort to better serve their members, the people they represent, and the horses they ride.

Works Cited:

"2010 Lexington, KY (USA)." *FEI*. N.p., 03 Aug. 2012. Web. 08 April 2015

"Horse & Country TV." *Show Hunter Classes Explained*. N.p., 8 Apr. 2009. Web. 30  
Apr. 2015.

"Hunter." *United States Equestrian Federation*. N.p., n.d. Web. 08 Apr. 2015

"Dressage Definition." *Merriam-Webster*. Web. 1 May 2015.