The Impact of Right to Carry Laws

“The only thing that stops a bad guy with a gun is a good guy with a gun"

Wayne LaPierre, EVP, NRA

A point made by many gun rights proponents is that firearms are essential for self-defense. Many have argued that removing firearms from the public would result in higher crime rates as criminals would be less concerned about potentially lethal consequences. To demonstrate this, gun rights advocates will point to the introduction of “right to carry” legislation; laws that defend the rights of gun owners to carry and conceal weapons on their person in public. Supporters of right to carry legislation will point to crime statistics from states that have either banned concealed weapons or to crime statistics from those states that have instituted right to carry legislation to support this argument..

I started researching these statistics online. The first site I was pointed to was justfacts.com. justfacts.com is a site that provides data and some analyses on a range of social topics. While the mission statement of the site is to present unbiased reporting of facts, the authors of the site openly admit to conservative perspectives. The authors indicate that they intentionally do not provide analyses or assessments of their findings so as to not persuade readers in a specific direction. They prefer that the facts speak for themselves.

There are three graphs on the JustFacts site that I selected for analysis. These graphs depict the homicide rates (homicides per 100,000 people) of three states: Michigan, Florida and Texas; three states that have enacted right to carry legislation in the past twenty-five years. I have pulled the following images from their site:

* On July 1, 2001, Michigan's right-to-carry law became effective.[116]

* This law requires that concealed carry licensees be at least 18 years of age (or 21 years of age if purchasing a handgun from a licensed dealer), have clean criminal/mental health records, and pass a written firearms safety test.[117]

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* Since the outset of the Michigan right-to-carry law, the Michigan murder rate has averaged 4% lower than it was before the law took effect, while the U.S. murder rate has averaged 2% lower.[119]

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* In 2009, Texas had 402,914 active licensees,[112] constituting roughly 2.4% of the state's population that is 21 years of age or older.[113]

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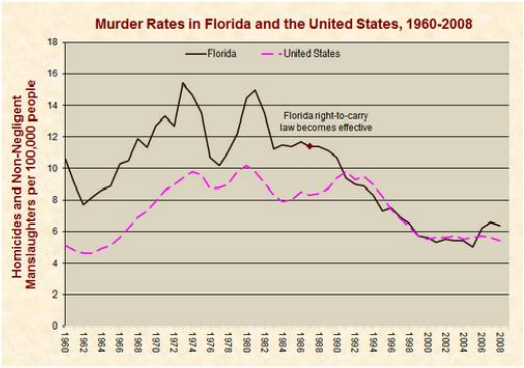

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Note that in all three cases, the authors pointed out that each state's homicide rate was, on average, some percentage lower after the right to carry law was put in effect. Furthermore, that reduction was greater than the average drop experienced in the US overall. These statements would seem to imply that the introduction of right to carry laws has had a positive impact on the homicide rate in three states. Note that the authors do not explicitly make a conclusion, they only point out this difference in each case.

I decided to test if there is any validity to such a conclusion. Was the reduction in homicide rates experienced in these states statistically meaningful? Could a causal relationship be implied (not necessarily proven, just implied) from the changes that occurred after the right to carry laws went into effect?

Before continuing I must point out that justfacts.com is using overall homicide rates and not specifically firearm-related homicides. Optimally justfacts.com would only employ firearm-related homicide rates for this analysis. Changes in the rate of other methods of homicide such as blunt force trauma could skew the overall homicide rate. However, I have observed that the ratio of firearm-related homicides to total homicides in the US has remained consistently at 65% over the past 30 years, only deviating significantly due to the events of 2001. Given this, and that my goal is to assess the validity of the findings given the data employed by justfacts.com, I continued using total homicide statistics.

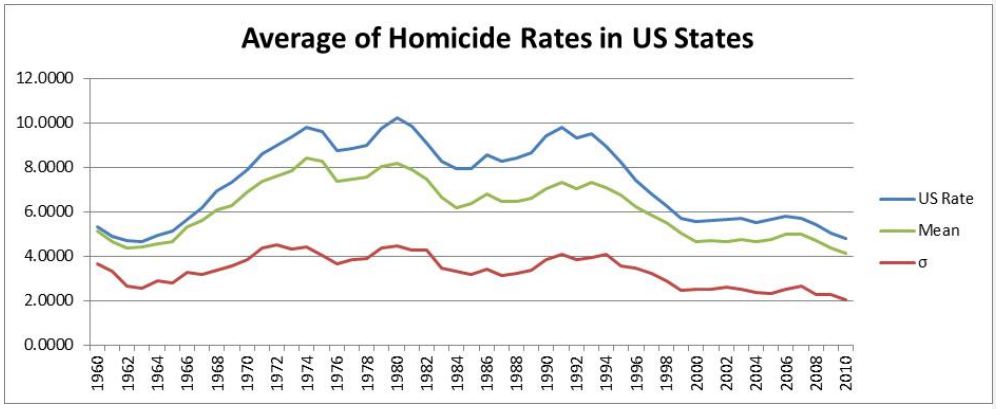
Looking at the three graphs, I immediately noticed the following:

1. All three states appear to have experienced higher homicide rates than the overall US homicide rates until the early to middle part of the 1990's
2. By 2000, these three states were much more closely aligned to the US homicide rate

My objective was to measure this change in relation to the dates that Right to Carry laws were enacted in each state.

I started by seeking to duplicate the work done by justfacts.com and producing the graphs depicting the individual state homicide rate per 100,000 residents against the US homicide rate over the past 50 years. The justfact.com authors thoroughly site their data sources. In this case, the data was provided by the US Justice Department's Uniform Crime Reporting Statistics site. Using this site I was able to extract violent crime statistics for each state from 1960 to 2010. I generated this comparison for each state and committed graphs with these comparisons to the Sandy Hook project repository.

Having produced the same results as justfacts.com, I then sought to compare the trends experienced in Florida, Michigan and Texas to the remaining US states. From the US homicide rate, I could see that there had been a peak in homicide rates in the early 1990's followed by a steady decline to 2010. I wanted to understand how consistent this pattern was across states. This would allow me to assess if the rates experienced in these three states were anomalous or not.

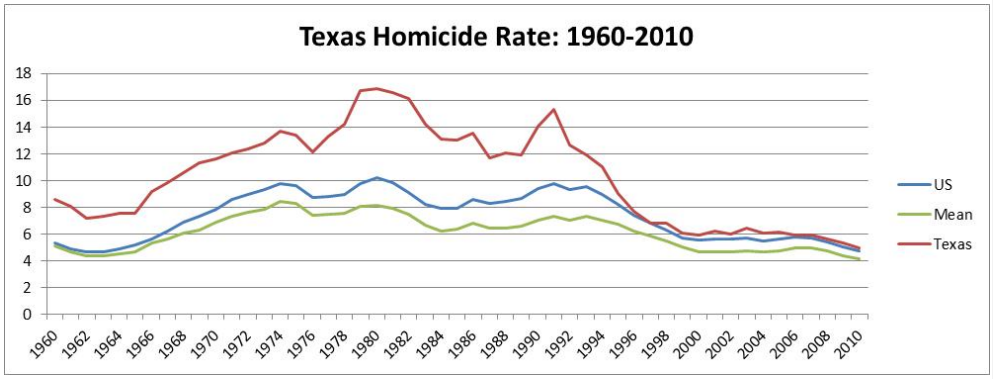


This graph depicts the overall US rate (a weighted average), the mean homicide rate for the set of states (an un-weighted average) and the standard deviation from that mean for each year.

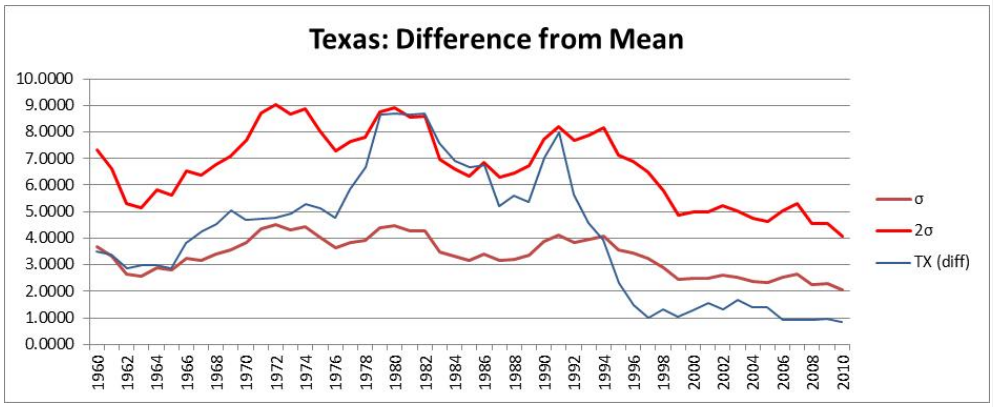
I then calculated the difference between the homicide rates experienced each of the three states and the mean over the fifty year period. This would provide the following information:

- How the fluctuations in the homicide rate deviate from the rest of the country. The difference from the mean should identify the occurrence of trends that are potentially significant.
- Whether the differences displayed are statistically significant. I have included the standard deviation to provide a frame of reference. Over the course of the fifty years plotted, one standard deviation contains between 54% and 70% of the states in a given year. Two standard deviations contain between 94% and 100% of the states in a given year. This provides a good reference for what is statistically relevant behavior and what is a natural variation.

I started with Texas. This first graph is similar to the graph published on justfacts.com This graph demonstrates that until 1996, the homicide rate in Texas was substantially higher than the national average. This is the same year that Texas enacted the right to carry law.

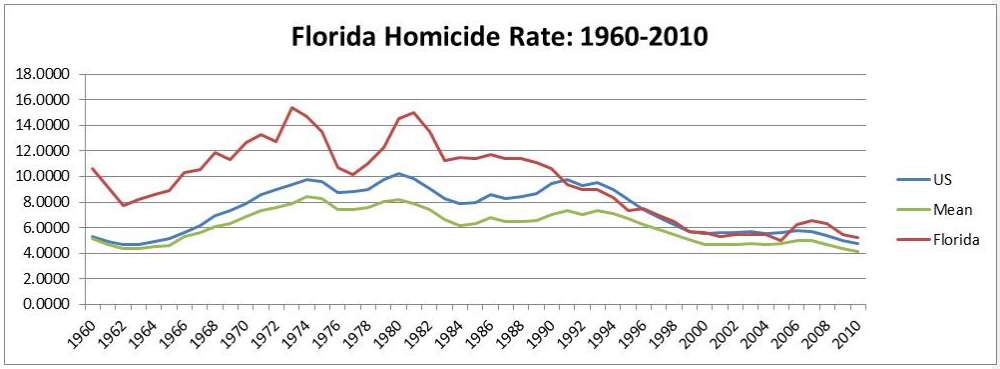


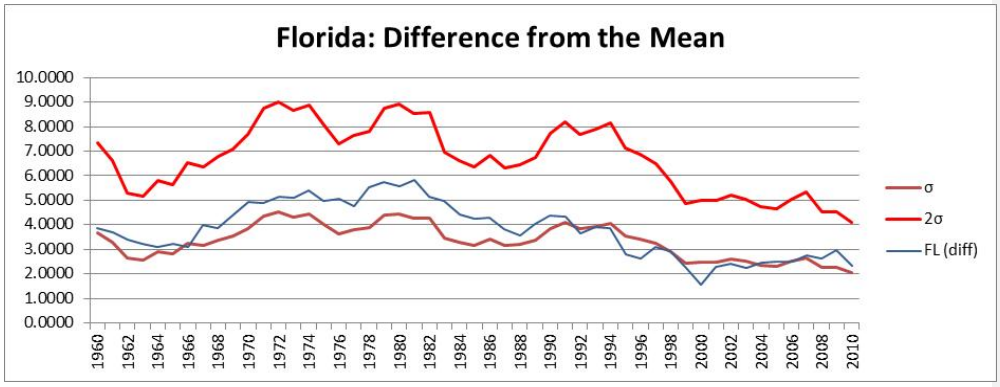
However, when we look at how Texas differs from the mean homicide rate, we get a different picture:



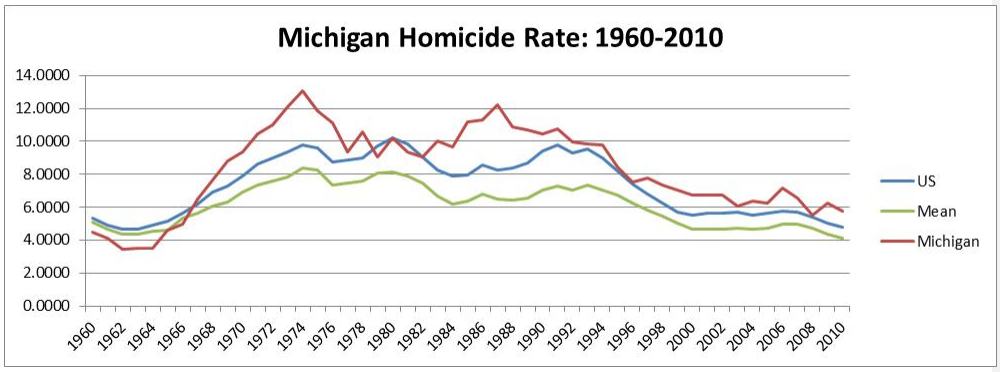
We can see that the real downward trend preceded the implementation of the right to carry law. Once the law was in effect, the homicide rate for Texas remained relatively consistent with the mean homicide rate. It even trends very slightly higher. The point made by justfacts.com that the "…Texas murder rate has averaged 30% lower than it was before the law took effect, while the U.S. murder rate has averaged 28% lower" is due to the fact that the homicide rate in Texas was considerably higher to begin with. During the period of 1976 through 1991, Texas was in the top 10% of homicide rates in the nation. There is no statistical evidence that indicates the right to carry law has had a measurable impact on homicide rates in Texas.

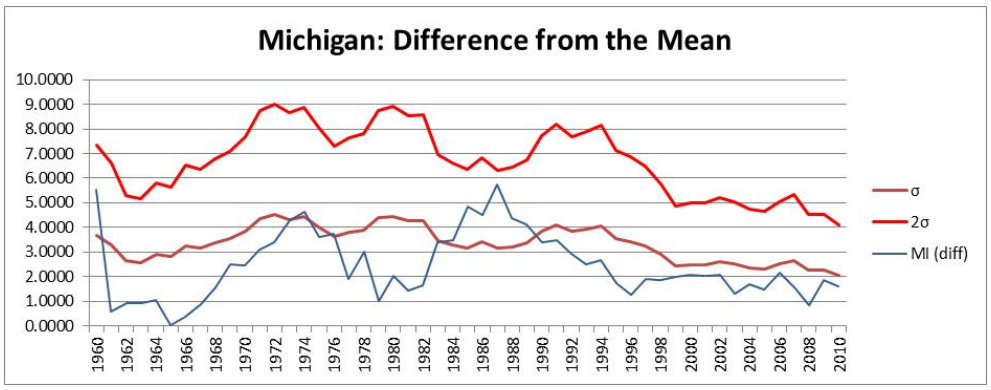
The findings for Florida were similar.





Florida experienced a general downward trend starting in 1980, seven years prior to the introduction of the law, but still remains above the mean homicide rate and consistent with the national average homicide rate.





Michigan enacted the right to carry law in 2001. That was five years after the homicide rate experienced a consistent eight-year downward trend. Since the enactment of law, there have been some isolated dips but the homicide rate has remained statistically consistent.

Based on this analysis, I see no evidence indicating that the right to carry law has had a material impact on these three states. As of 2010, these states all remain at or above the national average and above the mean homicide rate among the fifty states. While their respective homicide rates have improved, in every case these improvements preceded the introduction of the right to carry law. While the data provided by JustFacts.org is accurate and the statistics they have generated is correct, their analysis is lacking and paints a somewhat misleading picture about the impact of right to carry legislation.

In my next analysis, I will be looking at the statistics of those locations where right to carry has been restricted or temporarily banned.

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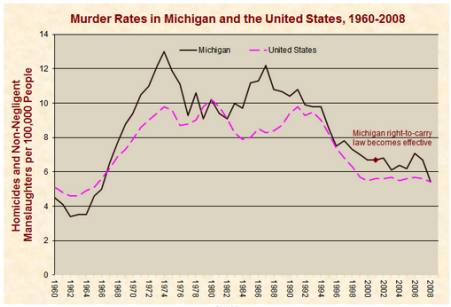

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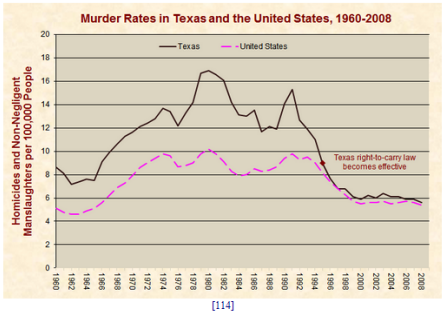

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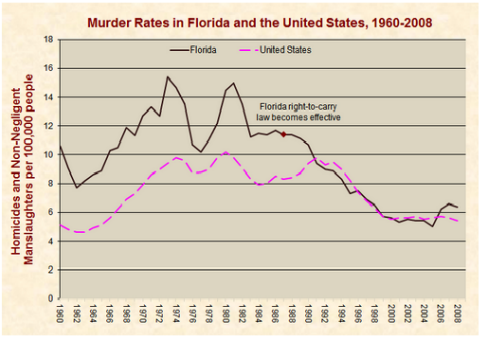

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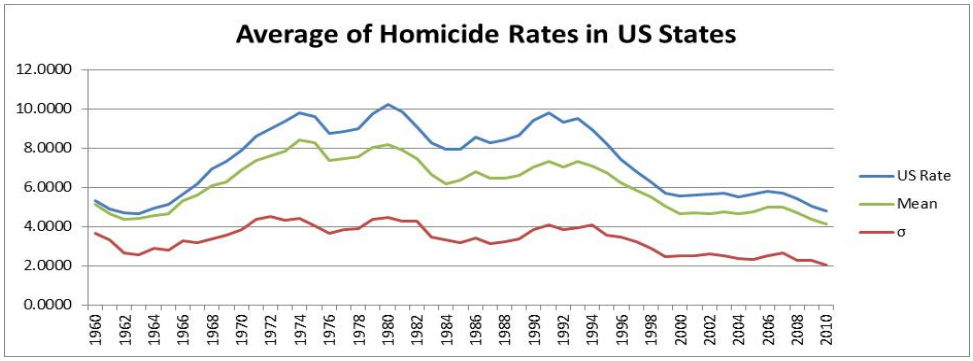

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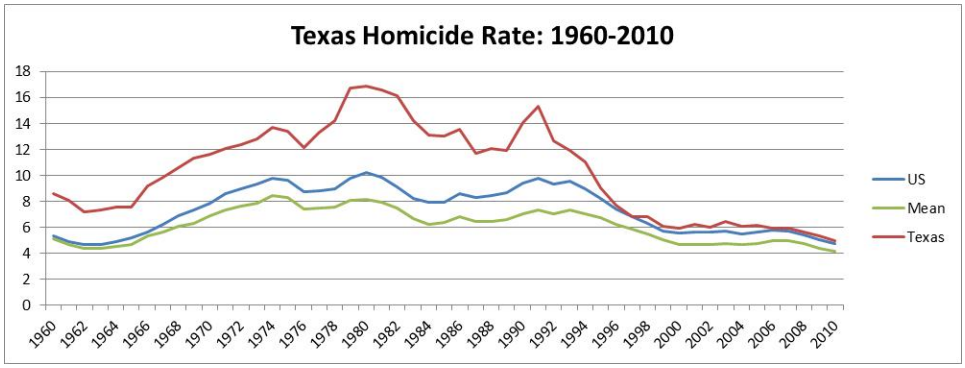

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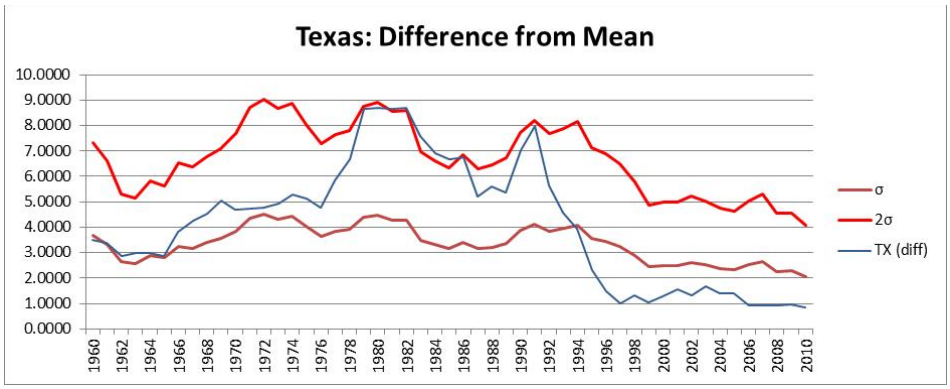

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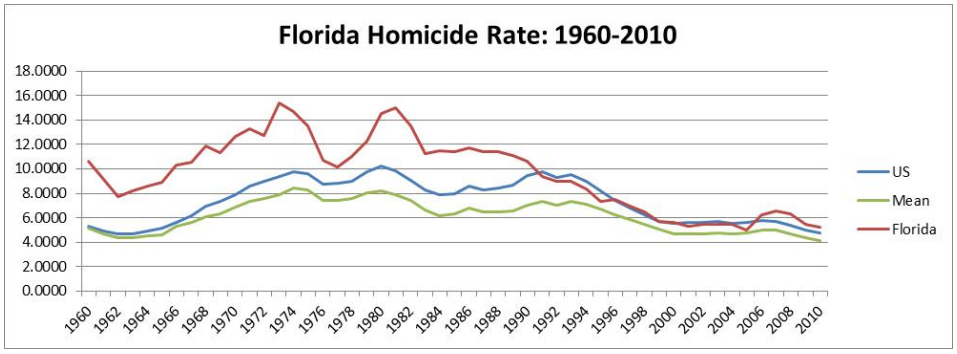

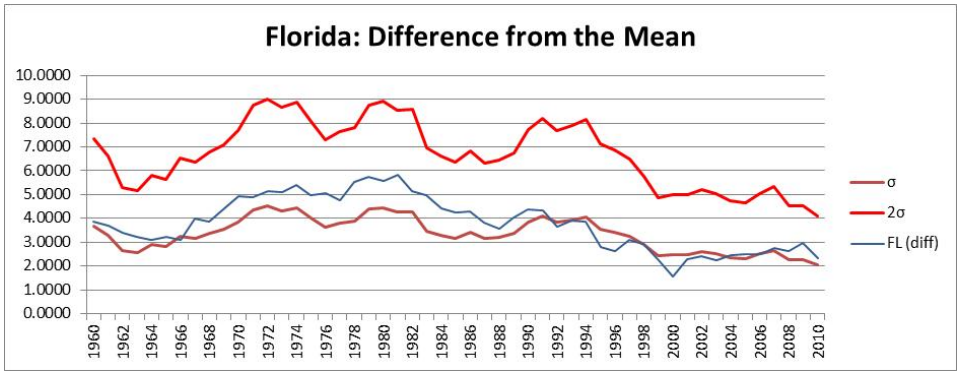

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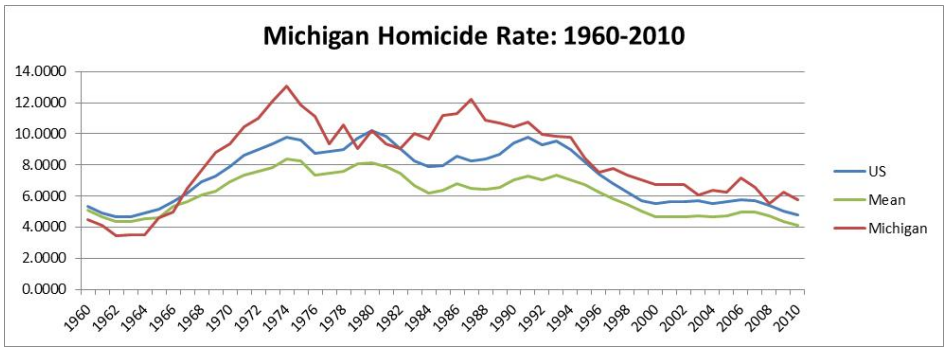

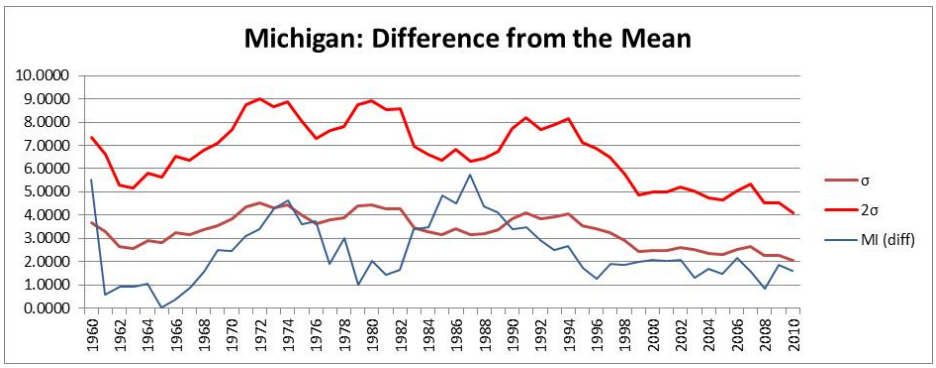

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