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The Cultural Shift Away from Opera Production in the United States

By

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A Thesis Submitted to

Department of Economics

Skidmore College

In Partial Fulfillment of the Requirement for the B.A Degree

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May 3, 2016

Abstract

Using data from the 2004-2015 opera house seasons in the United States and Germany, I use an ordinary least squares regression with demographic data and Google Trend search data to show that the decline of opera in the United States is due to a cultural shift in attitudes. Previously, there has been minimal empirical research done on this topic, indicating it is a topic worth considering. I find that the demographic data is surprisingly insignificant. More importantly, I find that the Google Trend search data is significant for Germany's regression. These results suggest that there is no decline in the opera in Germany, as predicted, and the cultural shift is toward the opera rather than away. There is no significant data that shows a decline in the opera industry in the United States.

1. Introduction

There have been several studies done on different genres of the music industry, from classical music, to rock and roll and popular music. Some studies have looked into the decline in repertory leading to the decline in opera (Heilbrun, 2001; Heilbrun and Gray, 2001). Other studies have looked at the decline in philanthropy, with data backing, but no analysis (Cobb, 2002), while others have looked at the declining support of the government and increased taxation problems (Towse, 2003; Molenaar, 2005). There have been ones done that looked into the effect of substitute products (Connolly and Krueger, 2005), as well as cultural shifts away from other genre industries (Peterson, 1978). Studies have even looked at growing and declining industries, but none have analyzed the empirical evidence for any genre decline, which there have been many. This is one of the large gaps in the literature that I hope to fill through the course of this paper. The reasons for this lack of literature are seemingly unknown, but could be attributed to two main ideas that provide very significant difficulties when analyzing this data: the scarcity of data throughout the industry and the challenge of quantifying cultural aspects of the industry. The lack of empirical knowledge may even account for the problem of the decline going unnoticed or unsolved. The question I will be attempting to answer with the empirical information I have collected is if the decline of opera production in the United States is due to a decline in cultural value. I hypothesize that the decline in the opera industry is credited predominantly to the decline in its cultural value. If opera houses could take into consideration some of the statistics involved in this decline, there could be specific places for improvement on an individual opera house scale. Why is this decline going unsolved? Is it because minimal data is available, or is it solely because of a lack of interest and value in this 400-year-old industry? Either way, there may be something Americans can do on a household or individual level to help

or slow the decline, including increased philanthropy, especially if the government continues to not help.

In their broadest sense, the arts are a very economically influential category not just in the United States, but around the world. They provide countless jobs and an exorbitant stream of revenue, while providing philanthropic, cultural, and social outlets for many individuals. Furthermore, the opera provides an aesthetic that no other art form can do. It combines vocal, choral, and instrumental music, with all that theatre production provides – acting, a story (often tragic), scenery and sets, makeup and hair, and often remarkable costume designing. One is often transcended into what may feel like another world; an escape from much of the “ugliness” that many people see on a daily basis, especially when being attached to our phones and technology, and simple things such as watching the news. While sitting through a six-hour Wagnerian opera might sound like torture to some, to others it is a dream come true. People who can value the amount of hard work it takes to make that kind of beauty are the ones who will be able to reestablish the value of the opera. In Germany and other European countries, people still value this art form, but as the baby boomers and their parents get older, the audiences are diminishing, and may eventually disappear if nothing is done. Although opera houses generally have discounted student admission, something else needs to be done to draw in the next generation. To that end, the literature does show that opera has become more accessible to everyone, without the emphasis of the socialite attitude and expense.

The unfortunate truth is that arguments about taxation, specifically on international artists, and the local and federal economies, related to government aiding the arts as a whole and spending on music education, seem to flow seamlessly into opera discussions, in place of the value and the beauty opera creates. This is detrimental to the industry because the value of opera

is being overlooked. The problem is that opera production *used* to be a thriving industry in the United States, as will be discussed in the next section, and is the main driver behind this paper. As opera production has become less valuable to the United States population, opera companies are closing, jobs for orchestra members, singers, and stage hands have become scarce, and revenue streams are ending. Even the largest opera house in the United States, the Metropolitan Opera House in New York City, is currently on the verge of bankruptcy, but it does not have to be this way. As quickly as opera production has been declining in the United States, in places like Germany it has continued to thrive. Why is this happening? Through the paper I will provide data and literature proposing answers to this question. In addition to this current concern, philanthropic declines are contributing considerably to the decline which will also be talked about in section 2.2.

Other than being a large factor in the economic world, opera production is also valuable in many other ways. If all of the factors were to be grouped into one category, it would be under the umbrella of culture. These factors include music education and a decline in music education spending, intellectual curiosity, emotional value, and the organic and social impact an event like the opera holds. In section 2.6 I will provide a review of the literature relating to this idea of culture, and I will try to quantify the factors that may have been found unquantifiable in past studies.

Some statistics will come from Operabase and Opera America, as explained in section 3.1, in hopes of showing the decline of the industry is due primarily to cultural factors. I will also be adding in to these statistics yearly demographic data, such as the country's population, gross domestic product, and overall spending on music education. The two countries I have chosen to address are the United States and Germany. The reason for these two countries are

because they have vastly different demographics and attitudes toward the opera industry. The United States is more than two times the size of Germany in population, and has more than four and a half times the gross domestic product in the twelve years that I will focus on, 2004 to 2015. The two countries are also very different in regard to opera production capacity and music education spending from the government. As will be mentioned later in the paper, Germany produces about eight times the number of operas per year and spends over one billion dollars more than the United States on the arts, specifically in music education. The skill level of the musicians is very similar, but international taxation problems have arisen, making the data used in my model, potentially skewed. When looking at cultural trends, Germany and the United States are much more comparable. Although they differ significantly with the degree to which they enjoy and value opera production, popular music is well liked in both countries. This is beneficial to my study because the cultural aspect will be measured by Google Trend data, specifically focusing on popular and country music search ratings compared to opera search ratings, as explained in sections 2.6 and 3.1. Literature and data on the opera industry has difficulty showing a decline, but rather shows a stagnation in the United States. As will be discussed in section 3.2, the cultural data in Germany is statistically significant, and shows how there is an inverse correlation between the number of opera performances and the cultural rating of popular music, which is as predicted.

The next section presents a brief history of the opera industry, followed by section 2, where I will provide a review of the literature relating to the question of the decline. Section 3 will look more closely at the methodology behind the model, followed by subsections addressing the variables, data, the regression, and my analysis. There will be some concluding remarks at the end of the paper.

1.2 – History of the Opera

The opera industry has been around for many years. The first opera was written in Italy, in 1597, under the influence of the Florentine Camerata. The Florentine Camerata was a group of individuals ranging from amateur musicians, philosophers, scientists, artists, to astrologers. The initial purpose of the Florentine Camerata was to revive ancient Greek drama. While they did that by reforming ornaments in the music, they also brought out a more expressive style of singing. What they really did was make way for the emerging opera genre. The first opera influenced by this group was by Jacopo Peri, which was more of a chamber opera, with minimal instrumental parts. Peri continued to compose and in 1600 wrote *Euridice*, an opera still being performed today. Claudio Monteverdi became another one of the most influential composers in the industry, with the first mature opera, or one that is still regularly performed, *L'Orfeo* in 1607. The Baroque era (a period of a certain artistic style) had begun, and spanned about 150 years. Publicly attended operas, instead of privately performed operas for the court, began in 1637, with ticket sales flourishing in Venice. The intrigue of the opera spread quickly through Italy, Germany, France, England, Russia, Spain and other nations, until finally reaching the United States in 1825, when the first opera, Rossini's *The Barber of Seville*, was performed. Through the years, the opera has remained relevant in Germany, and despite hardship at times, the opera managed to thrive in the United States in its early years for many years to follow. But the Italian word opera means "work," and to perform good work, you need money. During the 20th century, cost-cutting became an integral part of opera production. This was substantially due to the decline in private funding and government support, which will be discussed in sections 2.2 and 2.3. This had a significant negative impact on the opera in the United States, from which production has not been able to fully recover. There are several other issues to note outside the

scope of my paper surrounding the decline especially in the late 20th century. Issues include orchestras becoming so large that they overshadowed the lead and singers on stage, opera leads becoming “divas,” and translation issues among countries and languages. Though there were rises and falls of the industry over the last 400 years, after 1637 it was still an event that anyone could attend because the socialite aspect was subdued (although revalued in the 1900s). Modern ticket and opera house subscription prices are very high, so professional operas are not accessible to everyone, especially in the United States. The impacts of this background relate directly to the topic being studied for reasons discussed primarily in the literature review, due to the lack of empirical data. The social aspect of the opera was one of the main reasons it flourished and was supported by so many individuals. As I will discuss further in section 2.6, the trend now has become more of a disconnect from people and social interaction, toward people and technology.

2. Literature Review

The arts, especially opera production, have had a large impact on the United States overall economy over the years. According to the Bureau of Labor Statistics, in 2014, the musicians alone in operas in the United States provide over 22,000 jobs, and when opera production’s business model is effective it provides a large amount of revenue for the country’s economy. In addition, the philosophy of philanthropy surrounding the opera has played a major role in its continued production, but philanthropists today have slowed their giving to the opera. Although the United States model worked for many years, it has recently stopped functioning at the level it once was, leading to a drastic decline in opera production. This is a problem because it eliminates many jobs, forces artists to work internationally, and decreases revenue for the

country, as well as adding to the cultural loss. On the other hand, Germany, and other European countries still value opera production, which has continued to thrive and increase. There is a cycle created by supporting the opera that can help the economy and the individuals of the country. Is there a way to remedy the value of opera production that is left in the United States? Not many authors have addressed the question of the decline of opera production from an economic standpoint, although it has surfaced several times in literature and data as a declining industry in the United States. Through this review I will share pieces of literature that correlate to the decline of the opera. First, I will discuss how the decline in repertory could have an impact on the overall opera industry. I will then briefly touch upon the decline in philanthropy and taxation problems being a reason for the decline. Ideas such as substitutable goods, music education, cultural shifts, and opera trends in the United States and Germany will all fall under an umbrella of the culture surrounding the opera and what the value of that culture is.

2.1 – Decline in Repertory

Heilbrun (2001) speaks about when the opera was still a growing industry, but had a looming decline much like the decline the industry is dealing with now. Heilbrun (2001) uses the DiMaggio-Stenberg Index of conformity and the Herfindahl index of concentration to examine the shift from opera houses performing classic operas, such as *La Bohème* and *La Traviata*, to more contemporary operas. The DiMaggio-Stenberg index of conformity model shows the degrees of conformity between operas produced by one company compared to all companies as a decline – meaning the higher the number of operas produced, the higher conformity. The Herfindahl index showed that there was a statistically significant reliance on popular productions, which also led to the decrease in the classic operas.

Heilbrun (2001) also suggested that budgetary pressure is to be considered when thinking about this decline. The shift away from classic operas have caused this budgetary pressure that is irreversible. Since older, classic operas take much more time and money than contemporary operas, the opening of new opera houses can cause a shift away from classic operas due to this high cost of production. This leads to a decline in diversity of repertory, which can lead back to budgetary pressure. Heilbrun (2001) said that budgetary pressure on the supply side was referred to as productivity lag, which relate cost and price level. With this productivity lag, the idea that opera houses must raise ticket prices is introduced, which can have a negative effect on the lower-income ticket buyers – which also contributes to the decline. Another factor of the productivity lag is the idea that domestic artists are going abroad (although being double-taxed, which will be discussed in section 2.3), leading to a decrease in supply of artists.

Heilbrun and Gray (2001) also mention that opera decline could be due to repertory problems. They say that only one-fifth of repertory comes from the twentieth century, and in the eighteenth and nineteenth centuries it was the opposite – people listened to operas of their own generation. This shows that the reason people may not be going to the opera is because of the decline in repertory. If this is even partially the case, there could be solutions to revive the opera, the most basic being for the opera house to take the extra time and money to produce shows opera-goers want to pay for and support. If new opera houses performed even one classic opera, they could better fill their houses, and try to slow this decline. Although Heilbrun and Gray's decline of repertory study does not relate directly to my study, it is a salient point to mention, since culture is a large factor in the overall declining opera scenario. In Heilbrun and Gray's study, it is relevant in the individuals who will only support operas from their generation – cultural ties to those operas, genres, and ideas of those times.

2.2 – Philanthropy

Another large issue that hurts the opera, and the arts as a whole, is the current situation with philanthropy. In addition to governmental help, which will be discussed in Section 2.3, philanthropic endeavors have been the driving force of the opera since its inception. When opera first came to the United States, it was primarily funded by private donations from philanthropists. At one point, private donations and philanthropy consisted of almost 90 percent of opera's revenue. According to the National Philanthropic Trust, although the number of entrepreneurs and philanthropists in the United States has risen over the past decade, these individuals are giving much less to the opera. Cobb (2002) wrote about the decline in the funding of the arts (opera, and the arts culture in general), and said that the private sector has provided 35-40 percent of the arts and cultural organization's funding. Cobb (2002) pointed out that even a decade before she wrote the article, 7.3 percent had been the average annual growth rate for private giving as a whole, while there was only a 3.9 percent average annual growth rate for the arts and cultural organizations. This is down from 10.4 percent as a whole between 1995 and 2000, but the arts still only received 2.9 percent.

An interesting report put out by the National Philanthropic Trust shows philanthropic giving was very high in 2014, with 358.38 billion dollars given in the United States, and the arts received 9.2 percent more of that overall amount than they received in 2013. Although this growth seems rather large, it is just one year out of a multi-year decline. The National Philanthropic Trust had statistics that showed how 41 trillion dollars will change hands in the United States by 2055, as accumulated assets are passed on to the new generation. The opera only needs a fraction of that 41 trillion dollars to get back on their way to the institution it used to

be. If that trust could only share some of the money with the failing opera houses, the institution could perhaps find its way back to the days when it was thriving.

2.3 – Taxation and Government Support of the Arts

Government support of the arts has been a very influential topic recently with the decline of the opera and classical music sectors. The United States is one of the only countries that has a declining opera industry, and it could be due in part to government spending problems. When the opera thrived, even as recently as the 2001-2002 season when arts and cultural production was about five percent of the United States' gross domestic product, the government spending on this sector was almost thirty million dollars less than it is now, but now provides almost 0.7 percent less gross domestic product for the country. In 1994 the United States government spent six dollars per capita – the least amount per capita for funding of the arts. Germany, on the other hand, spent ninety dollars per capita, and Finland 112 dollars (Towse, 2003). The United States still currently only spends six dollars per capita, while Germany has fallen to eighty-five dollars. Although Towse's (2003) study is dated, the figures have not changed significantly. Since private donations have been falling, now would be a crucial time for the government to step in and help fund the arts, but sadly that has not been happening.

In addition to Towse's study, Molenaar (2005) also wrote about taxation in the opera and performing arts industries, predominantly pertaining to international artists. Double taxation on these artists lead to a very small amount of disposable income being made, which leads to less spending in the United States when they return after a performance. Reasons artists tend to work abroad, especially in Germany, is for the increased income, but after taxation there are times when they make less money than if they had stayed and worked in the United States. The artists

from the United States are paying taxes to the country in which they are working, for instance, Germany, and then paying the United States taxes after that; although, in Germany, the government is helping fund their jobs much better than the United States. That being said, the argument could be made that after looking at Towse's article, the lack of government support in the United States could be a large reason the opera industry is no longer thriving.

2.4 Substitutable Goods

Within any competitive industry there are substitutable goods, and the music industry is no exception. Although I will expand more on the trend aspect of these goods in section 2.5, the analysis of the music economy will be addressed here. When the opera thrived, there were few substitute products from which the people in the United States could choose. Though not directly substitutable, some of those choices included ball games and other types of concerts. That being said, none of these substitutes had the same status as the opera. The difference now is that many people, especially young people, seem to prefer going to concerts for other music genres that are considered more popular. Going to a "popular" music concert will garner the concertgoer with prestige as he/she posts photos on social media sites. It is rare that one sees posts of the latest Metropolitan Opera. As I will mention later, this could have something to do with the human to technology connection on which Americans have begun to thrive.

In a study by Connolly and Krueger (2005), it was mentioned that in the United States, the value of recording sales (CDs, singles, LPs, etc.) was 11.8 billion dollars in 2003, while the value of live concert ticket sales was only 2.1 billion dollars. This is interesting because opera does not normally have this debate. In opera production, it is typically only live performances that generate revenue. The popular music industry seems to be making such little money on live

performances, but they are still leading the music industry as a whole. If the opera could use recording sales to their advantage, could the decline of opera production be slowed? This could be both helpful and harmful for the opera industry, in the sense that many people may not purchase recordings, due to the fact that opera was/is a live, personal experience. In addition to the use of recording sales in the popular music industry, they also have the added benefits of producers, advertisers, and managers. While operas have these groups of help, it is nothing like what it is in the popular music industry. On the other hand, this should benefit the opera because it provides less people to pay before the artists get paid.

Another argument that can be made regarding substitutes is ticket pricing. Connelly and Krueger (2005) present the ticket pricing argument with this statement:

As an economic good, concerts are distinguished by five important characteristics: (1) although not as extreme as movies or records, from a production standpoint concerts have high fixed costs and low marginal costs; (2) concerts are an *experience good*, whose quality is only known after it is consumed; (3) the value of a concert ticket is zero after the concert is performed; (4) concert seats vary in quality; (5) bands sell complementary products, such as merchandise and records (p. 10).

Other than the fifth argument, these can apply directly to the opera. Number four brings up a noteworthy idea. As there are two types of seats with any concert, performance, game, production, etc. where a ticket is needed, there can always be a discrepancy between seat prices. Tickets for popular music concerts are usually sold as either expensive seats, close to the front, or less expensive seats farther back. In the case of the opera, there is almost a two-tier pricing experience. Although the front to back ticket price strategies are still utilized, individuals can buy subscriptions to the opera house itself. Thus, there are cheaper tickets and subscriptions and more expensive ones to pull in different income level consumers. The ticket aspect could be playing a large role in the decline of the opera, such that substitutable goods may have become

less expensive. Connolly and Krueger (2005) showed that both price and quantity are factors of popularity. If opera house tickets and subscriptions decreased (currently they are anywhere from about sixty to two hundred dollars for an opera performed in New York City's Metropolitan Opera House), they would be affordable for more people, and the decline of the industry could potentially slow.

2.5 Music Education

Individuals belonging to the baby boomer era and earlier have passed down the importance of giving to the arts, but the tradition may have stopped there. I have mentioned how important the arts are to have in one's life, and music education in the United States needs to teach that. Music education is another field that can be overlooked quickly in many instances, especially with small-town budgets. When budgets are low and cuts have to happen, the first item cut on the ballot is often the music program. In reality, music, art, and physical education are all grouped together. But when it comes down to it, with the health shifts in the United States, physical education has moved to the forefront of the school's minds, so when a program has to be cut, unfortunately music is often on the chopping block. If teachers would be able to bring children to operas when they are younger, the value of this art form could be learned from an earlier age.

In the United States in 2015, only twenty-five million dollars were spent on music education. For a country with over 318 million individuals, twenty-five million dollars is not enough. In a report done by the National Endowment for the Arts (NEA), it is shown that as individuals get further educated, the frequency of their attendance also increases. The NEA (1996) writes that out of the individuals who attended graduate school, thirty-five percent

reported theater attendance, while individuals with a high school education, reported only four percent theater attendance. Although this does not speak directly to music education, but education in general, it is still something to consider. The NEA found that the strongest demographic predictor of theater participation was education. If the United States could spend more on music education in public schools, individuals would be more informed on the impact the opera can have. Income can relate to this as well, since usually more schooling leads to higher income. Higher income leads to higher spending, which could lead to more spending on the opera. The cultural shift of higher education for everyone in the United States could also help remedy this decline. The debate about funding for music education relates to the cultural aspect of my study. The focus in the United States has culturally shifted within the music education industry, and outside of the music education industry, toward physical education. If music education spending is further decreased, children will not learn about the value associated with classical, and even current music. If a lack of knowledge accounts for at least part of the decline of the opera industry due to minimal funding, the problem will not be able to be solved if not addressed and contributed to monetarily.

2.6 Cultural Shifts and Trends

As with any other industry, music is subject to cultural shifts. The opera thrived when people valued social interaction without computers, phones, and tablets. This is one of the two main cultural shifts surrounding the opera. Recently a major shift in consumer preference within the opera industry has been to watch HD Operas (Live from the Met) at local theaters around the world. YouTube, and other streaming sites, have become an even more simplistic way of getting people to leave the opera houses and listen from home. One can simply look up one aria (an

accompanied vocal solo) – from one character – from one performance – of any opera they want, without having to purchase tickets or sit through an entire opera. This simplification of the industry could be one of the major causes of the decline, especially in opera house terms. A cultural point to consider when looking at the 2001-2002 season specifically, is the collapse of the World Trade Center in New York City. The need for human to human connection could have had a huge impact on why the gross domestic product of the opera increased that season. People were looking for places to be together that would give them more of a sense of community – especially in New York City. The Metropolitan Opera House actually had a special opera event following the attacks on the World Trade Center that was sold-out and raised over two and a half million dollars for the World Trade Center victims. This connection could not have been made with a human to technology connection so many Americans thrive on today. The intellectual curiosity that can be regained through going to the opera houses, through a human to human connection, provides discipline, communication, and thought.

The opera is not the only music genre that has been affected by a cultural shift at some point. A study done by Peterson (1978) on cultural changes regarding the shift away from the country music industry in the 1970s mentioned by the critics of the Academy of Country Entertainers that changes were inevitable due to new creative artists or because a changing of audience taste. The two ideas backing this statement were that change is a product of innovation of creators, and that change occurs from evolving consumer demand, due to a natural back and forth of cultural attitudes by the changing of social-structural imperatives. This provides an example that relates well to all cultural shifts in any industry, as it really is a result of “evolving consumer demand.” As the opera industry changed when substitutes like YouTube and even live popular (other genre) music came about, the country music industry changed when substitutes

like “new artists” and streaming on the radio began. This proves that cultural shift and demand have a significant impact on any industry, and can lead to the decline, especially, of an older industry like the opera.

Unfortunately, there is little consistent data on the status of the opera industry, especially over a constant period of time. Google Trends, one of Google’s many analytics tools, is a very useful source of information for looking at the decline of opera due to changing cultural attitudes in the United States, especially in comparison to Germany, where it continues to remain popular. Since it may be impossible to quantify culture, the data presented by Google Trends is very useful in showing the decline of this industry. In a study on racial animus, Stephens-Davidowitz (2014) used Google Trends search data as his primary source of data. Through the trend data, he found significant results for his study which consisted of showing how racial animus affected politics during the 2008 and 2012 Presidential elections. His results clearly showed that the racially charged search rates was a robust negative predictor of Obama’s vote share. He also found that there is more racially charged searching in Republican parts of the country than in Democratic parts of the country. Stephens-Davidowitz’s study fortunately had other methods and data to compare results with. As will be discussed in the coming sections, there is no data on the opera industry that could relate to my Google Trends search data, so the relationship with the overall trend in opera will have to be compared. Although this study has nothing to do with the opera industry, it shows how trend data can generate significant results. In my study, the trend data surrounding the opera and other music genres has a clear correlation with the numeric statistical data. Although the regressions of these finding are not significant, the graphical representation from the Google Trend data is telling. These trend numbers are a way to quantify the overall idea of culture – they show that people are actually influenced by these changing

global attitudes, and in the United States the shift from opera music to specifically popular and country music. A further discussion of the Google Trends data used in my study will occur in section 3.2. Stephens-Davidowitz is able to show demographics and comparisons with other known surveys and data, with the trend data. In my data section I will be looking at the trend search data for opera and other music genres, primarily popular music and country music, as well as top artists, top songs, and the top operas from the United States and Germany. Since individuals do not realize that these searches have a large impact on showing an actual rise or decline of an industry, it is probably one of the rawest data sources one could use to analyze the decline of the opera industry, and provides a solid numeric ground for the cultural aspect of the decline. A further question involving the cultural shift away from the opera industry are the actual factors involved. Is it because there are better substitutes? Or are there underlying factors that could potentially be resolved to increase opera attendance and increase the value that has deteriorated over the years?

2.7 – Discussion of Literature

Current literature shows how culture has played a significant role in the decline of the opera industry over the years. Under the “umbrella” of culture there have been many factors that have had an impact. Philanthropy, government, and artist taxation problems have become large factors to look at, as well as music education. In addition, substitutable goods have far surpassed the thought of going to the opera. But after reading this, is there a way to bring value back to the opera? Are cultural values so different now than they were thirty years ago that it is too late? If the government could support the arts more by increased funding of the opera and even music education, children may be more likely to develop an appreciation for the opera. If older generations chose to give just a fraction more of their philanthropic outlays to the opera and

consider it a big enough part of their life to pass on the legacy of giving and going to the opera, there could be substantial repairing of the industry. With the help of the government and private donations, the decline in repertory could be an issue easily solved. With more money, new opera houses can perform older, costlier operas, that could bring in a specific group of individuals and supporters. Unfortunately, the importance of the organic, human to human, social connections made by attending operas is being taken by streaming services and substitute products. Although culture is always changing, the history behind the opera should be passed on through generations. Without the opera, Americans lose a significant piece of culture. With just a little help from the government and private donors, the decline of this industry could cease.

That being said, no aspects of the decline have been addressed quantitatively. My study will contribute to the literature for that reason. If there were figures available to justify the literature discussing the decline, there could be a more cohesive argument to fix the structure, or support of the industry. I will quantify the cultural attitudes toward the opera in both the United States and Germany, and look at the decline through demographic statistics as well. As previously mentioned, the data does not show a significant decline, although one can infer from the Google Trend data and graphs that the industry is not growing. The rest of this paper will discuss the methods and data I used to conduct my research, the results, and concluding remarks.

3. Methodology

Factors such as the decline in repertory, philanthropy, taxation and government support problems, high substitutable goods, low support for music education, and overall cultural shifts and trends have led to the decline of the opera industry. Some of the factors are not able to be

quantified, so to narrow the focus of the regression I will look at the effect on the industry relative to substitute goods and cultural shifts. In addition to the regression, I will show the decline of the opera industry using Google Trend data. Google Trend data shows raw data from Google searches from 2004 to the present, and in the majority of the countries around the world. I will be looking at the trends between the United States, where opera production is declining, and Germany, where opera production is still thriving. This will graphically show how individuals are moving away from the opera toward other, more popular, genres in the United States, while continuing to value opera in Germany.

3.1 – The Model

The opera is a declining piece of a very competitive music industry, routinely facing the challenge of staying relevant. While popular music, specifically country music, has continued to grow in the United States, the opera has become almost irrelevant. In Germany on the other hand, the opera has continued to stay more relevant than most genres. In the United States, the cultural shift toward substitutable goods such as popular music and country music, and the value of live concerts, have had a large impact on opera production overall. Although current literature discusses the declining industry, empirical work has been very minimal. Through regression analysis and Google Trend search data analysis, I will show that the opera is declining in the United States, particularly due to cultural shifts.

The variables in my first and third regressions are demographic, with the use of performance and production variables of opera houses in the United States and Germany as the dependent variable. The performance variable measures the number of total performances, while the production variable measures how many entire operas were produced. My second and fourth

regressions consist of the Google Trend search data that will be the proxy for the cultural variable, meaning the shift in cultural values and substitutable goods. Since no empirical research has been done on the decline of the industry for any music genre, experimenting with regressions was necessary. I chose to use an ordinary least squares (OLS) regression, in which I compare the United States and Germany over multiple years. Since the United States and Germany cannot be compared directly with one another, especially when looking at the Google Trend data, each regression was run for both countries individually, but with the same variables. To make the data for each country more cohesive, I used the log function for all of the variables in regressions 1 and 3, and did not use the log function for the Google Trend data in regressions 2 and 4.

1. $N1_i = \beta_0 + \beta_1 P1_i + \beta_2 G1_i + \beta_3 M1_i + \epsilon_i$
2. $\#ofperformances_i = \theta_0 + \theta_1 Opera_i + \theta_2 Pop_i + \theta_3 G_i + \mu_i$
3. $No1_i = \Lambda_0 + \Lambda_1 P1_i + \Lambda_2 G1_i + \Lambda_3 M1_i + \rho_i$
4. $\#ofproductions_i = \Gamma_0 + \Gamma_1 Opera_i + \Gamma_2 Pop_i + \Gamma_3 G_i + \kappa_i$

For the two demographic regressions, the data obtained for these countries consists of opera house performance data (NI), and opera house production data (NoI) as the dependent variables. The individual country's population (PI), gross domestic product (GI), and music education spending (MI) are the independent variables, hoping to address a cause for the decline. These variables are measured by country (i). The use of Google Trend data to address the cultural shifts away from opera are shown in regressions 2 and 4, above. For regression 2, the dependent variable is the number of operas performed in a given year, and is the unlogged version of NI ,

#ofperformances. For regression 4, the dependent variable is the unlogged version of *NoI*, *#ofproductions*. Keeping in mind that the Google Trend data was not logged, the *Opera* variables were the rating for the search term “Opera,” *Pop* was the rating for the search term “Popular Music,” and *G* was the search rating for the term “Country Music.” This will be discussed further in the results section.

To analyze the correlation between the independent and dependent variables in these regressions and their relevance to the overall topic, I predicted the following for each β , θ , Λ , and Γ . For regressions 1 and 3, β_1 , β_2 , and β_3 and Λ_1 , Λ_2 , and Λ_3 should all have positive relationships, meaning that as population, GDP, and music education spending increase, so too should the number of performances and productions. This is intuitive because as population increases, demand should increase, and as GDP increases, support of the opera should increase leading to growth in performances and productions. As music education spending increases, as shown in the literature, performances and productions should increase as well. This is proven by the drastic difference in music education spending in the United States and Germany, where Germany spends much more and consequently has a much higher number of performances. In regressions 2 and 4, θ_1 , and Γ_1 should have a positive relationship, where θ_2 , θ_3 , Γ_2 , and Γ_3 should have inverse relationships. This is because as the search rating for “Opera” increases, so too should the number of performances and productions. In contrast, as the search ratings for the terms “Popular Music” and “Country Music” increase, the number of performances and productions should decrease, due to a lack of interest and, therefore, demand.

Data for all regression models regarding the number of performances and productions for the United States and Germany were collected from Operabase, an opera production statistical database. The number of performances in general has been declining in the United States, but

continues to stay relatively stagnant in Germany. The independent variables for the first regression model were found through the World Bank and the National Endowment for the Arts databases. The problems with this model arise in many places, specifically with the music education spending variable – The National Endowment for the Arts did not supply Germany's educational spending data for all twelve years.

For the Google Trend data on the other hand, there are significant limitations when running regressions, especially due to Google's algorithms not being the same across countries. Google Trends calculates their ratings, according to Google, that show the frequency a search term ("Opera") is entered, relative to the total search volume per country. Although there is no definitive solution to this situation, there could be a problem with the scale of this rating system. In addition, as I gathered my data I did not account for discrepancies in language. To keep the data unified, I used English words as the search terms for both the United States and Germany. This could result in an extension of my study, where a country's native language is used, rather than the English language for all countries.

As mentioned in the literature review, there is no outside source of data to compare with the results found in the Google Trends data set. In the most basic sense, not all music genres are comparable, or able to be compared on the same scale. This leads to another downfall with this data, such that opera in Germany versus opera in the United States are most likely unable to be compared accurately. For example, in 2010, the opera's data point for Germany is 30.25 (on a scale from 1-100) and the United States is 17.85. For example, the United States has 286,942,362 internet users, while Germany only has 71,016,244 users. This would be a limitation because the populations are not even comparable. Because of this limitation, analyzing the data will be done primarily by looking at the regressions graphs of the trends,

rather than the individual scaled search rating numbers. Although there are limitations with the Google Trend data, it is an effective way of analyzing data, as shown by Stephens-Davidowitz (2013), and is especially helpful with quantifying this cultural shift away from opera in the United States. These graphs show a signal to noise ratio, as described by Stephens-Davidowitz, incorporating the term as the independent variable and overall percentages using clicks versus total traffic as the dependent variables. In his study, Stephens-Davidowitz used the racially charged search rate as the independent variables, while I will be using the search words Opera, Popular Music, Country Music, etc., again, divided by the total number of Google searches. The significance of the results will be outlined in the next section.

3.2 – Results

The OLS estimates showing factors of the declining opera industry between 2004 and 2015 are shown in Tables I through VIII. Tables I, II, V, and VI show that population, gross domestic product and music education spending are not significant at any level when addressing the decrease in the number of opera performances or productions throughout each year in both the United States and Germany. This could be due to the limitations of the data collection or the demographic factors chosen to be analyzed. An additional limitation is that the time trends have not been controlled, which could lead to a stronger model for future research to utilize. Another explanation for the insignificance of these demographic variables could be attributed to multicollinearity throughout the variables. Interestingly, nothing is significant with respect to the demographic data in either country. I believe the insignificance may be contrary to what one would expect, especially because it does not show any correlating demographic factors. Although this lack of significance is not helpful in illustrating the decline of the industry, it shows what factors the decline is not due to. Tables II and VI show only three observations and

do not show a value for population correlating to the number of performances or productions in Germany. This is due to the lack of availability of data on music education spending during each year for Germany. This lack of data could be something to look into and expand upon in future projects, and would most likely be more telling if a more complete dataset could be used.

Due to the way the regression has been run, the number of performances as an independent variable unfortunately are not shown. In each of the twelve years, although statistically stagnant numbers, Germany has produced almost eight times as many operas as the United States each year and, as mentioned in the literature review section, has spent almost nine times more on government spending as the United States. Since the data does not address this factor specifically, and none of the demographic variables are significant, the decline of the opera can be credited to cultural factors rather than these numeric demographic factors. In addition to Tables I, II, V, and VI showing insignificance, Tables III, VII, and VIII are also not significant. This could have multiple explanations, but the lack of correlation between the search terms “Opera,” “Popular Music,” and “Country Music” and the number of opera performances per year show that although these categories are increasing in relevance (as shown in Graphs I and III), they are not affecting the number of performances in the United States. Looking at the United States alone to further analyze the lack of significance, the total attendance of performances in music genres outside of the opera has continued to increase, while the total attendance of opera production has remained relatively stagnant, as shown in Table IX. The trend is explained further in the conclusion where a suggestion for extended research regarding this topic is proposed. Tables X through XVIII shows the summary statistics for each regression. Table X, the statistics for the statistically significant regression is a good indication that the results for this regression are accurate, as there no outstanding or unforeseen numbers.

Considering results outside of the regression analysis shows an interesting observation in Table IX is that Opera America, one of the other major arts reporting databases (next to Operabase), stopped reporting their attendance after 2011. This is impactful in itself for the sole reason that these professional companies are not allowed to conceal their data, especially attendance data, in this setting. Even professional theaters (these theaters do not fall into the Opera America umbrella, but still produce professional operas) have continued to publicize their results through this source, regardless of their own decline. I believe these are interesting factors to show the decline, especially since the most public opera companies are declining to post statistics on their business. (Although not shown in Table IX, Opera America has failed to report the number of companies reporting and expenses for their companies, as well since 2011).

Table IV, on the other hand, shows the results for regression 2, which looked at Germany's Google Trend data relative to number of performances, and this data was not logged. Both of the terms, "Opera" and "Popular Music", were statistically significant in this regression. It is interesting that the cultural significance is shown in the regression analysis of Germany, rather than the United States. I think the most interesting variable to address in this table is the *Pop* variable, which is the Google Trend data variable for the term "Popular Music." It is a very statistically significant variable within the model, and it speaks to both the trend in the United States and Germany. This output is negative, so there is an inverse relationship between popular music and opera production in Germany. This makes sense seeing as though opera is still more relevant there than in the United States. As the number of Google searches for the term "Popular Music" decreases, the number of opera performances in Germany increases. Since the average number of performances in Germany is around 7300, the *Pop* variable is a significant number, because it could increase the number of performances by three percent for one unit of decrease,

potentially one less search rating point. I did not expect an inverse relationship with the term “Opera” and the number of performances in Germany. That may be an outlier, or people are not searching the term “Opera” as much. This could be due to many factors, but an assumption can be made that since the opera is still very relevant in German people’s lives, the frequency of searching that word could decrease. The significance of the popular music aspect has an impact on the United States cultural trends as well. While I would assume another inverse relationship of significance in the Google Trend data for the United States with any of the independent variables, the fact that there is not one, leads to the assumption that the way Google computes their scores (as previously discussed) might not be influential in this scenario, or with regard to the number of opera performances.

That being said, Graphs I and II show the cultural shift and comparison in the most simplistic form between Germany and the United States. The Google Search words “Opera,” “Popular Music,” and “Country Music” alone show a significant impact on both the United States and Germany over the twelve-year span. Currently, the popular music genre is the most influential in the United States. That may be surprising with the magnitude of Graph I, where the term “Country Music” is much more regularly searched than the term “Popular Music.” Until around 2008, the term “Opera” was searched more frequently than “Pop” or “Popular Music.” Germany’s Google Trend search words in the music industry have been dominated by the word “Opera.” This could be because of the more frequent opera productions in Germany, or because the culture still has not shifted away from the opera as it has in the United States. In addition, an awareness variable has not been added due to a lack of data. In this scenario, I would consider the music education spending variable to be somewhat determinant on awareness, and for the United States that number is very low, especially when compared to

Germany. In Graphs III, IV, V, and VI, similar results persist. While Graphs III and IV are similar, Graphs V and VI are less similar, but still primarily show the same result. Germany has “Opera” as the highest search rating, while the United States has “Opera” as the lowest in almost every comparison. Surprisingly in Graph V, the term “Opera” in the United States has a higher search rating than the number one song in the United States. Although the top song was released very recently in July of 2015, the search rating came close to being higher than the term “Opera” during that month. If Google Trends showed recent data, it would be interesting to see if the top song has surpassed the opera term. Even so, Graphs I and V show a significant decline in search rating in the United States, whereas in Graphs II and VI, the Germany “Opera” search rating has remained steady. To reinforce this point, Graph VII clearly shows the continuous decline in the search rating of the word “Opera” in the United States, compared to Graph VIII which shows a relatively stagnant search rate in Germany from 2009 to today. Although the actual search ratings are not comparable between the United States and Germany, the graphic representation alone shows the trends through each country’s music history. As not all four of the regression analyses support my broad hypothesis of the operas decline, I believe that each of the individual graphs do. The graphs clearly show that there has been a cultural shift (declining trend) away from the opera in the United States over the last twelve years, as well as a positive or predominantly stagnant trend in Germany. Though there are limitations with the data used in the regressions, it has proven to be an extension of the existing literature, where empirical analysis has not been addressed, particularly with a focus on the declining opera industry.

4. Conclusion

The studies done on the decline of the opera industry have not consisted of, or considered, empirical research. Many studies have theories of the decline consistent with those outlined in

my paper, most importantly repertory problems, philanthropy declines, government spending decreases, taxation increases (specifically on international artists), and cultural trends. From this literary point, is where my paper expands. In my regression, I tried to contribute further to these studies by looking at aspects that could affect the decline quantitatively rather than just hypothetically and theoretically.

To briefly summarize my results, the demographic variables are all insignificant in both countries relative to the number of opera performances. Google Trend data was significant for the Germany regression and insignificant for the United States regression. This could be due to many factors, but especially the intangible aspects of any declining cultural industry. Unfortunately, there are not any other empirical studies in any genre of music industry to compare methods, data, and results to, only theories. This could be a reason the industry is declining and no one is aware, or if they are aware, no one is stopping it. I believe that although the results of the two out of the four regressions were not significant, the graphic representation of the Google Trends data was.

There are a few areas that could be improved upon, as mentioned in section 3.2. In addition to the above mentioned, if more data or factors were realized and/or available, there may be more significant results to show. Since I only have data from 2004 to 2015, there is a good chance data from earlier in the decade and from the previous decade, would show a greater significance. Finding more numeric data and other factors relating to the decline of the opera industry, as well as factors that could have a correlation with the number of opera performances per country in general, would also make for a much stronger model. There could be a database formed from older statistics and statistics going forward, and if this is possible, it would be another tool one should use to strengthen this model. Another factor that could lead to a stronger

model would be to include opera revenue as the dependent variable. Unfortunately, my model cannot account for this factor because the data is not available for many German opera houses, and is only accessible in the United States for few companies, and only for the 2014 season. Initially I had planned on using revenue for the dependent variable in my model, which was difficult do to a lack of data. The opera houses used in this initial revenue-dependent regression were the Santa Fe Opera House and the Metropolitan Opera House for the United States dataset, and the Deutsche Oper and the Semperoper Dresden, for Germany's dataset. While these opera houses are not identical in characteristics, they are a couple of the most prestigious opera houses in each of the two countries. The Santa Fe Opera House is relatively the same size as the Deutsche Oper, and the Metropolitan Opera House is roughly three times the size of the Semperoper Dresden, making them easily comparable companies. With that being said, United States' opera houses have historically had significantly higher revenues than German opera houses, potentially because of the extreme difference in population of each country, although the German opera houses value still remains dominant. If there were a way to collect more streamlined data on the revenues of opera houses in the United States and Germany, or just on the opera industry as a whole, a stronger and more in depth, and likely significant model could be used to analyze the decline. A solution could be to use total attendance as a dependent variable. Doing this would likely lead to creating many assumptions, and holding constant factors such as education level, economic status, ticket prices, and location. The assumptions one could make if using this theory, would be primarily based on all individuals acting in the same manner. For example, if the majority of operagoers are middle aged women, and only twenty percent of them go to the opera, and there are around fifty-four million middle aged women in the United States, one could use those numbers and the ticket price constant to find the

hypothetical total ticket price revenue, as well as the hypothetical total number of tickets sold. That being said, there are many assumptions that must be kept visible, and most factors will vary from year to year, so the constant assumption may be an invalid stretch. Ticket sales and number of tickets sold for operas in the United States and Germany may have a significant impact on the regression, and could even show declining numbers before utilizing the regression. Going further than providing a stronger economic model, this could have opera house policy implications and lead to changes in ticket pricing for operas, and overall, the way operas market to the United States and who their target audience is.

If researchers could extend the number of countries analyzed to outside of the United States and Germany, there could be room for more comparisons across cultures and people. Opera companies could use these factors to create a stronger model to fix the way they conduct their businesses, and to foreshadow future industry declines in the United States and abroad.

Due to the cultural shift away from the opera, there have been a few attempts to revive the industry, that have helped, but not nearly well enough. These could also be considered as policy implications, and how the industry should continue to address the decline, as to not further it. Three of the most well known and successful attempts have been the production of *Oh My Son*, a modern opera composed by Marcos Galvany of Spain, *La Bohème* as a featured film, and, as previously mentioned, in the summer of 2006, general manager Peter Gelb at the Metropolitan Opera House in New York City created The Metropolitan Opera Live in HD.

To begin with, the productions of *Oh My Son* has been sold out everywhere it has been performed. Although selling out is a measure of success and is what people want to see, there have still been downfalls. *Oh My Son* was supposed to be performed for the Pope at the Vatican, and although that may still come to fruition, it has been postponed numerous times. Venues have

fallen through, and they have not been able to perform everywhere they had hoped. In a positive light, *Oh My Son* has captured many audiences, and is even in line to be nominated for a Grammy. Would it be possible for one opera turn the industry around? If this opera is so widely accessible, it may draw more supporters in and lessen the severity of the declining industry.

The famous opera *La Bohème* was composed by Giacomo Puccini, performed first in 1896. In 1926 there was a silent film produced based on the original opera, that made a profit of 377 thousand dollars. Furthermore, in a probable attempt to regain supporters of the opera, *La Bohème* was made into a feature film in 2008. Although not popular in the United States, where it needed to be the most, the feature film produced a tremendous amount of revenue for foreign countries. If the *La Bohème* feature film could have become more known in the United States, the slowing of the decline could have occurred.

Lastly, and perhaps the most two-sided case of success and failure, is the “Metropolitan Opera Live in HD.” This is a program where live Metropolitan Opera House productions are streamed to movie theaters and performance venues around the world. This is especially fitting to the new generation, as the need for screens, technology, and innovation take over social connections. As humans need these new technologies, if the opera can innovate with them, it could provide a significant advantage in slowing the decline of the industry overall. In addition, if an opera house subscription is too expensive, these Live in HD shows are usually much more affordable for everyone, once again making accessibility a key to their success. While this is greatly beneficial to The Metropolitan Opera, they are still having trouble with their bottom line. They are on the verge of bankruptcy, and something needs to happen quickly to turn around their opera house, the United States largest classical music organization.

The decline of the opera industry in the United States is essentially due to a shift in cultural preferences. Many Americans have found substitute goods such as other music genres to overshadow the opera industry, and the government has done so as well. Future studies in this area could be done using more complete data, and by looking at many more years. If quantifiable, a big question that must be looked at in the future to help save this incredibly important industry is what are the actual cultural factors that are leading to the decline of the opera industry in the United States, and how are other countries combating this problem?

Table I. US Performance Data

VARIABLES	(1) N1
P1	42.89 (37.45)
G1	-10.77 (10.91)
M1	-0.143 (1.818)
Constant	-206.6 (189.9)
Observations	10
R-squared	0.198

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

Table III. US Google Trend Data

VARIABLES	(1) #ofperformances
Opera	35.41 (48.83)
Pop	39.54 (76.00)
G	-52.46 (49.70)
Constant	3,753 (4,788)
Observations	12
R-squared	0.224

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

Table II. Germany Performance Data

VARIABLES	(1) N1
o.P1	-
G1	0.764 (0)
M1	0.0326 (0)
Constant	7.297 (0)
Observations	3
R-squared	1.000

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

Table IV. Germany Google Trend Data

VARIABLES	(1) #ofperformances
Opera	-63.74* (34.01)
Pop	-197.0* (96.68)
G	529.8 (380.8)
Constant	9,116*** (670.1)
Observations	12
R-squared	0.799

Standard errors in parentheses
 ***p<0.01, ** p<0.05, * p<0.1

Table V. US Production Data

VARIABLES	(1) No1
P1	-1.359 (1.676)
G1	0.485 (0.488)
M1	-0.0722 (0.0813)
Constant	13.86 (8.495)
Observations	10
R-squared	0.432

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

Table VII. US Google Trend Production Data

VARIABLES	(1) #ofproductions
Opera	-8.003 (4.363)
Pop	-22.61 (12.40)
F	67.03 (48.85)
Constant	1,395*** (85.97)
Observations	12
R-squared	0.748

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

Table VI. Germany Production Data

VARIABLES	(1) No1
o.P1	-
G1	0.665 (0)
M1	0.0123 (0)
Constant	6.012 (0)
Observations	3
R-squared	1.000

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

Table VIII. Germany Google Trend Production Data

VARIABLES	(1) #ofproductions
Opera	-8.003 (4.363)
Pop	-22.61 (12.40)
F	67.03 (48.85)
Constant	1,395*** (85.97)
Observations	12
R-squared	0.748

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

Table IX. Total Attendance, Opera vs. Live Nation Performances (Genres Excluding Opera).

	2000	2005	2009	2010	2011	2012	2013	2014
Opera	6.7	N/A	4.3	6.8	6.6	N/A	N/A	N/A
Live Nation	N/A	51.82	50.42	47.36	54.3	58.68	-	-
Professional Theaters	-	-	30.0	31.0	34.0	36.7	34.9	32.8

Table X. Summary Statistics for Significant Regression (Germany's Google Trend Data).

Variable	Obs	Mean	Std. Dev.	Min	Max
Opera	12	35.37706	7.425455	28.71154	49.13462
Pop	12	15.36427	4.162614	10.55769	23.86538
G	12	6.402637	1.302497	4.788462	8.769231
#ofperformances	12	7226.667	663.5022	5510	8054

Table XI. Summary Statistics for US Demographic Data.

Variable	Obs	Mean	Std. Dev.	Min	Max
N1	12	7.379238	.6328604	5.375278	7.649216
P1	12	5.728782	.031395	5.67949	5.779199
G1	12	2.711656	.1126965	2.509599	2.884801
M1	10	17.30481	.1900831	16.951	17.50439

Table XII. Summary Statistics for Germany Demographic Data.

Variable	Obs	Mean	Std. Dev.	Min	Max
N1	12	8.881269	.098971	8.61432	8.993924
P1	12	4.402862	.0091904	4.387387	4.413041
G1	12	1.234853	.1152393	1.036737	1.360977
M1	3	19.4869	2.915772	16.12041	21.21185

Table XIII. Summary Statistics for US Google Trend Data.

Variable	Obs	Mean	Std. Dev.	Min	Max
Opera	12	18.8942	5.557782	12.38462	27.75
Pop	12	25.76058	3.775391	20.58491	31.65385
G	12	69.73258	4.429447	64.69231	76.98077
#ofperformances	12	1782.333	501.6589	216	2099

Table XIV. Summary Statistics for Germany Google Trend Data.

Variable	Obs	Mean	Std. Dev.	Min	Max
Opera	12	35.37706	7.425455	28.71154	49.13462
Pop	12	15.36427	4.162614	10.55769	23.86538
G	12	6.402637	1.302497	4.788462	8.769231
#ofperformances	12	7226.667	663.5022	5510	8054

Table XV. Summary Statistics for US Demographic Production Data.

Variable	Obs	Mean	Std. Dev.	Min	Max
P1	12	5.728782	.031395	5.67949	5.779199
G1	12	2.711656	.1126965	2.509599	2.884801
M1	10	17.30481	.1900831	16.951	17.50439
No1	12	6.137016	.0337389	6.095825	6.228511

Table XVI. Summary Statistics for US Google Trend Production Data.

Variable	Obs	Mean	Std. Dev.	Min	Max
Opera	12	18.8942	5.557782	12.38462	27.75
Pop	12	25.76058	3.775391	20.58491	31.65385
F	12	69.73258	4.429447	64.69231	76.98077
#ofproductions	12	462.9167	16.04799	444	507

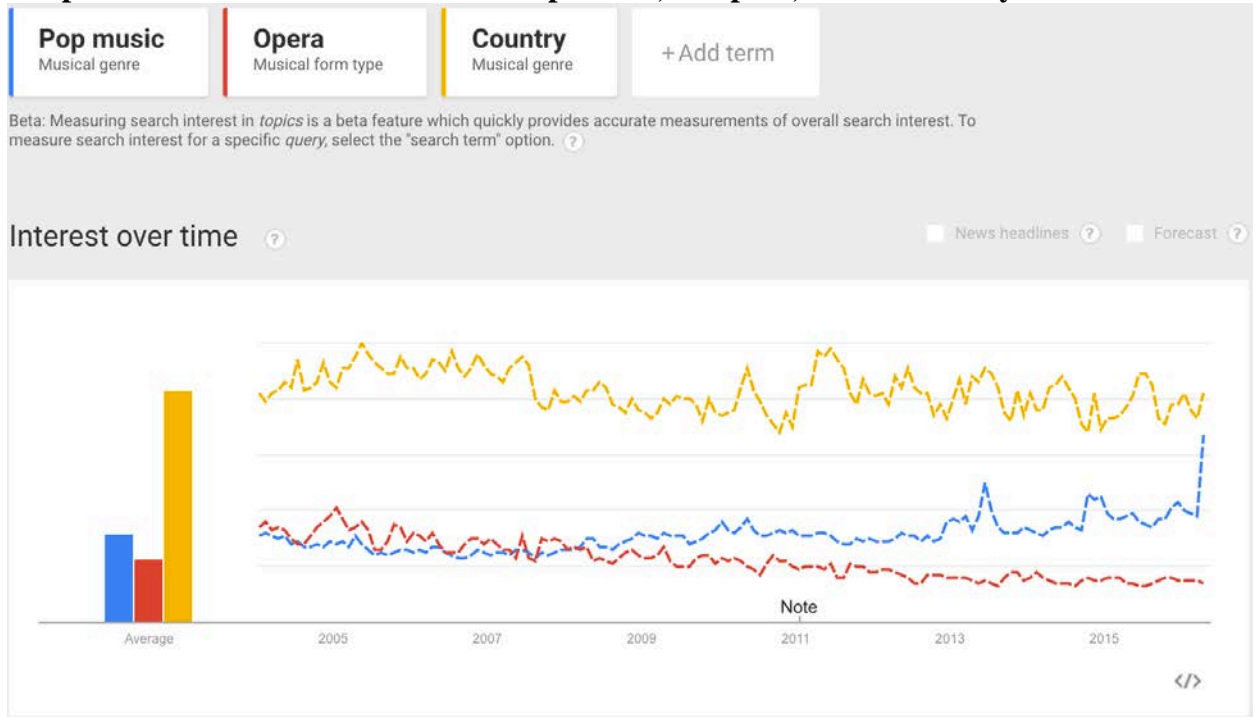
Table XVII. Summary Statistics for Germany Demographic Production Data.

Variable	Obs	Mean	Std. Dev.	Min	Max
P1	12	4.402862	.0091904	4.387387	4.413041
G1	12	1.234853	.1152393	1.036737	1.360977
M1	3	19.4869	2.915772	16.12041	21.21185
No1	12	7.082647	.0672851	6.899723	7.148346

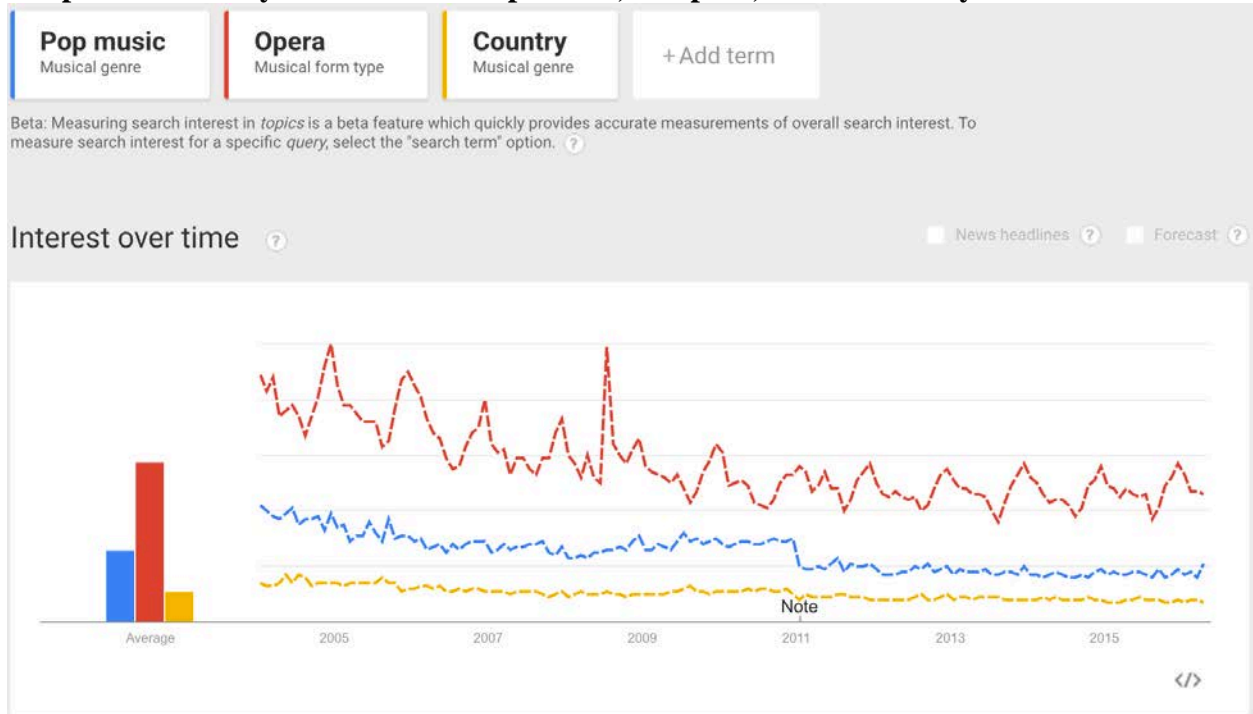
Table XVIII. Summary Statistics for Germany Google Trend Production Data.

Variable	Obs	Mean	Std. Dev.	Min	Max
Opera	12	35.37706	7.425455	28.71154	49.13462
Pop	12	15.36427	4.162614	10.55769	23.86538
F	12	6.402637	1.302497	4.788462	8.769231
#ofproductions	12	1193.5	75.93717	992	1272

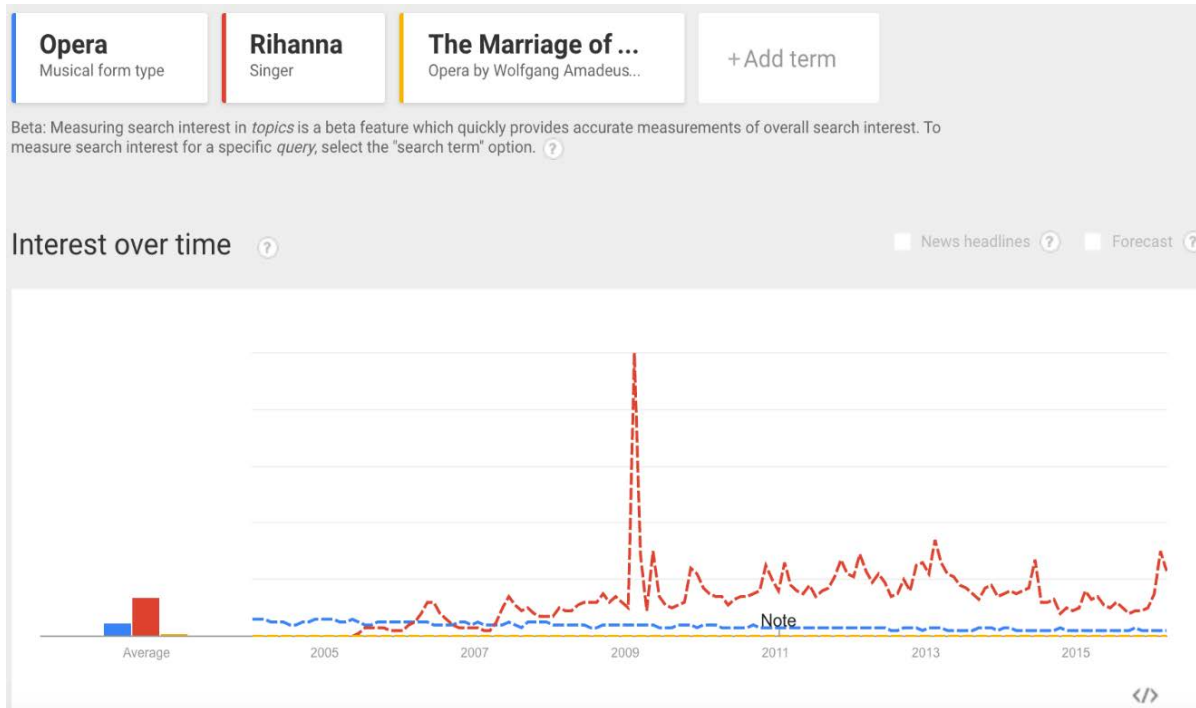
Graph I. United States searches for “Pop Music,” “Opera,” and “Country.”



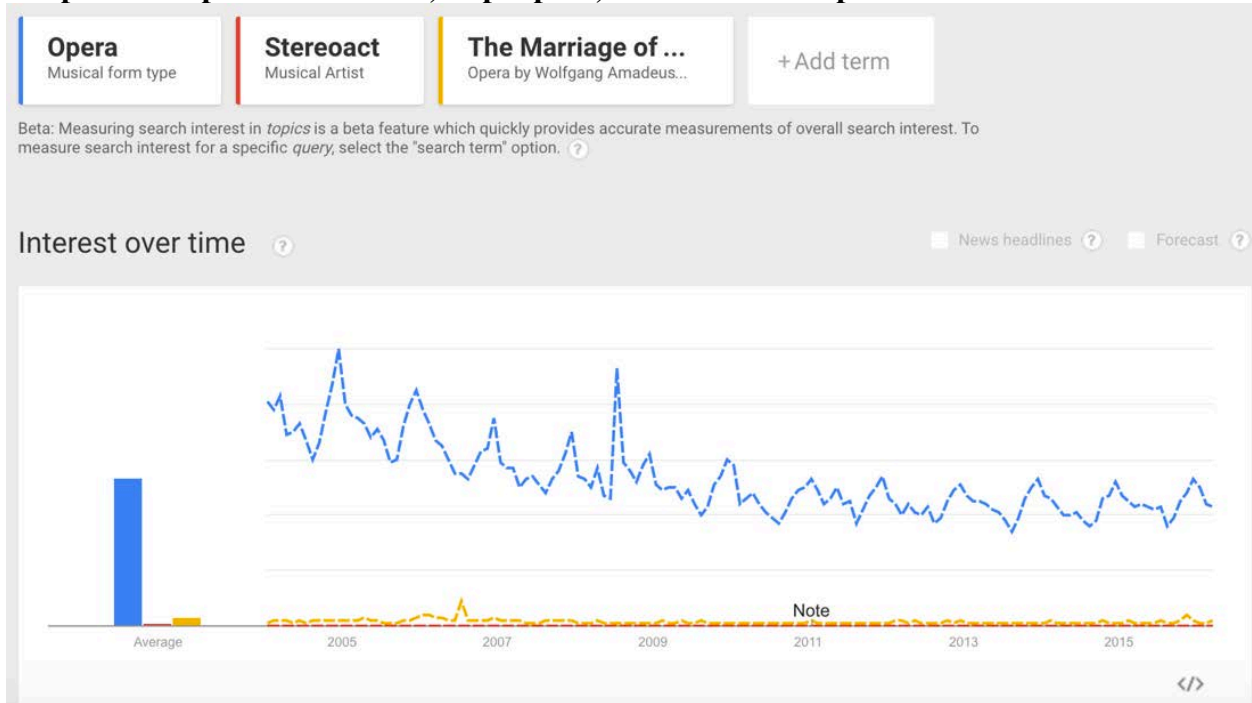
Graph II. Germany searches for “Pop Music,” “Opera,” and “Country.”



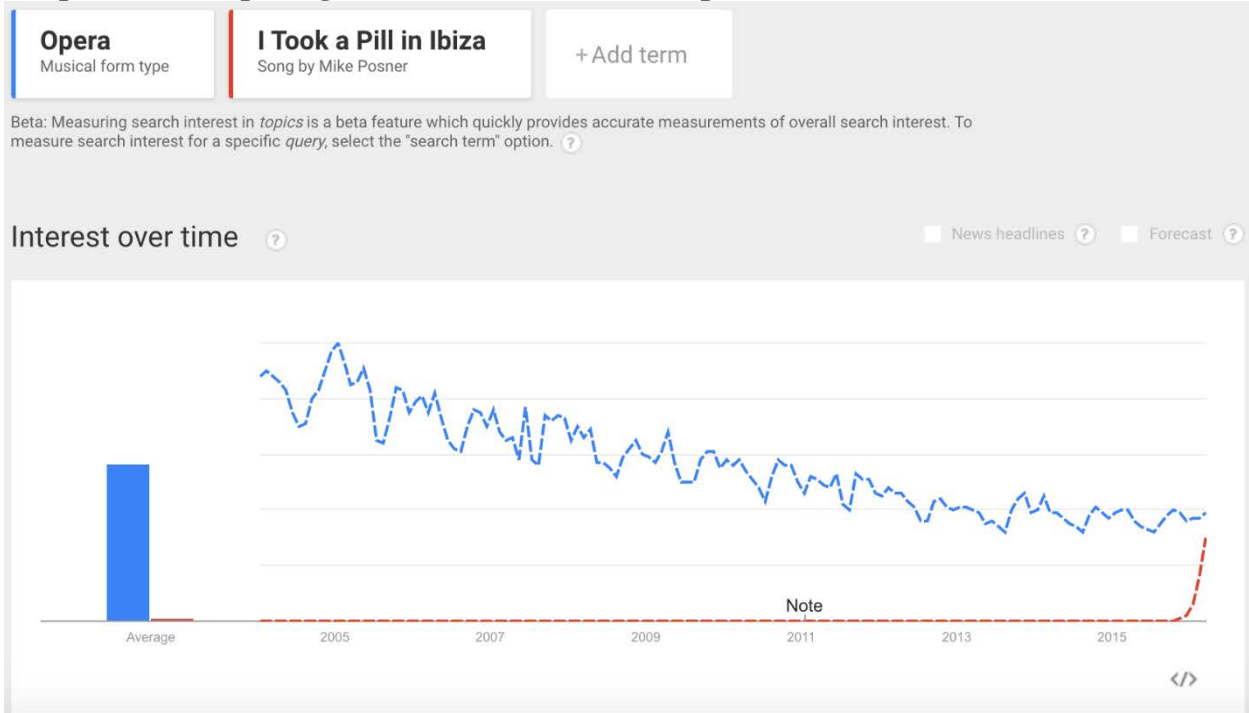
Graph III. Top US Artist, Top Opera, and the term “Opera.”



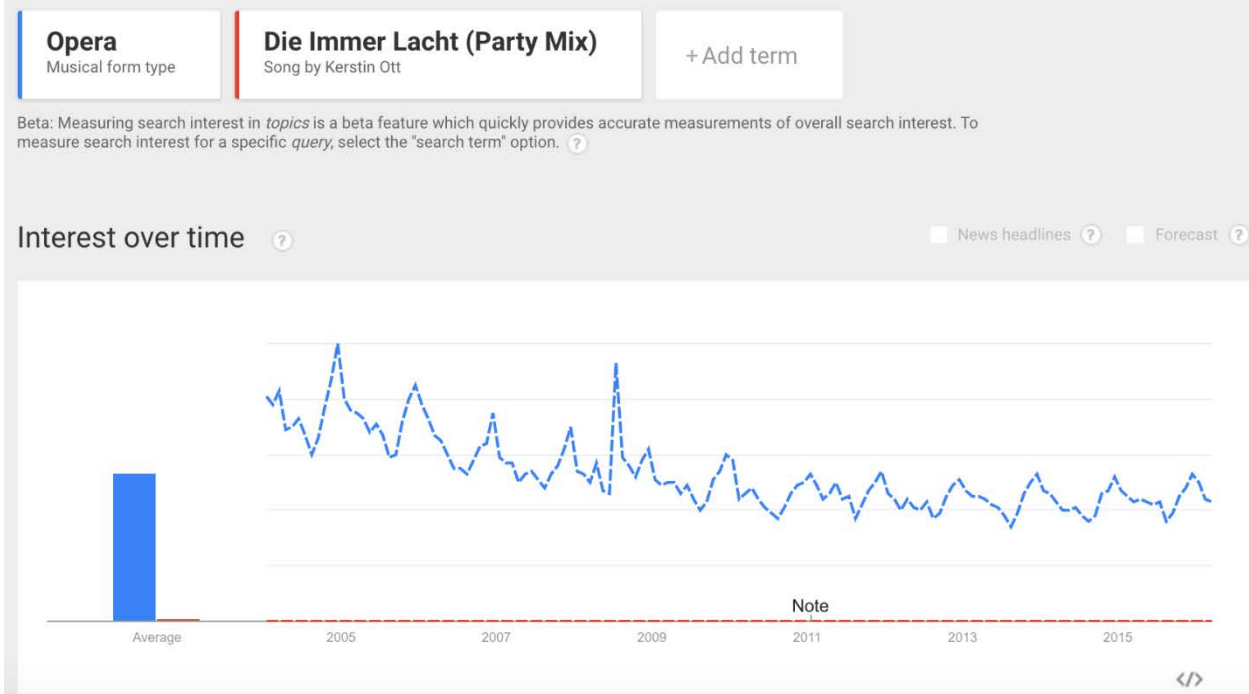
Graph IV. Top German Artist, Top Opera, and the term “Opera.”



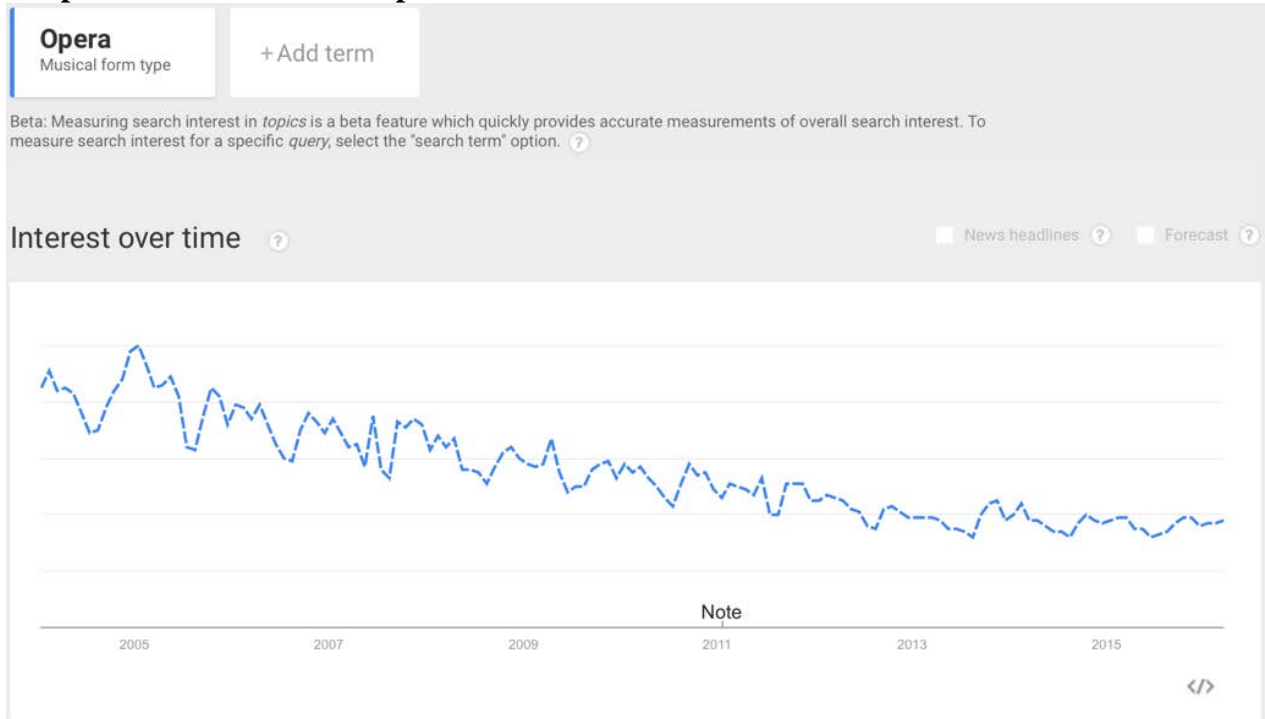
Graph V. The Top Song in the US and the term “Opera.”



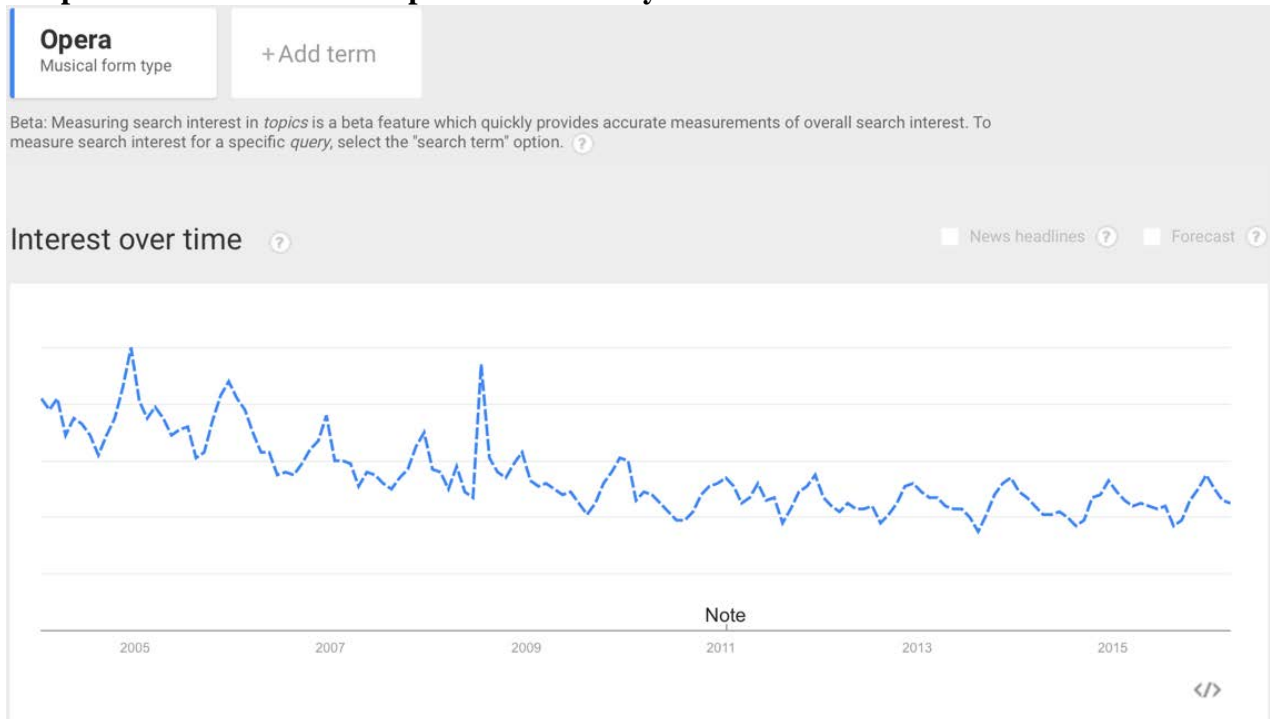
Graph VI. The Top Song in Germany and the term “Opera.”



Graph VII. Search Term “Opera” in the US.



Graph VIII. Search Term “Opera” in Germany.



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