The Economic Impact of the Arts

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This Honors paper by Taryn Burgess has been read and approved for Honors in Economics.

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ABSTRACT

The Economic Impact of the Arts

by

Taryn Elaine Burgess

It is especially important today to understand the true economic impact of the arts on our communities, as many are still trying to Recover from the last recession. This paper seeks to understand the effect the arts have on human capital and social capital, and determines if the arts can successfully be used to attract the creative class and aid in the growth of other industries. Measuring the influence of the arts with data assembled using the North American Industry Classification System (NAICS), this work examines a cross sectional comparison of United States counties using fixed effects regressions to eliminate unobserved effects. We found significant evidence that the arts increase social capital, attract the creative class, and aid in the growth of other industries, but we failed to establish a relationship between the arts and human capital.

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Taryn Burgess

Date May 11, 2015

The Economic Effect of the Arts

Introduction

General trends demonstrate that Americans, over the past few decades, have increased their consumption of cultural entertainment, particularly, theatre and live non-profit entertainment (Beyers 12). Basic macroeconomic theory indicates that increased consumption stimulates economic growth. Thus, understanding the implications of this trend will aid communities who are still recovering from the last recession. Americans for the Arts CEO Robert L. Lynch said, "America's artists and arts organizations live and work in every community coast-to-coast—fueling creativity, beautifying our cities, and improving our quality of life" (AEP IV.4). I am a firm believer that the arts can change individual lives, but I was curious if it could change communities. This paper seeks an answer to that question.

Four theories of economic growth inform my research: the existence of (1) human capital, (2) social capital, (3) creative capital, and (4) agglomeration economies. This paper understands growth as the increase in employment and in the number of industries in a county, not just as an increase in goods and services produced, per usual. Rather than accepting one specific theory as true, this paper seeks to understand the influence of the arts on our communities through all four. I will outline each theory as they pertain to this paper.

Human capital refers to the education, training, and experience of individuals. An investment in human capital increases productivity just as an investment in a new piece of equipment increases the productivity of that material capital. It is assumed that investments in education raises one's efficiency and therefore wage as a worker (Becker

p85-88). When wages increase, disposable income follows, increasing household consumption, and stimulating economic growth. I will test this hypothesis that the arts have a positive effect on the economy because the art industry increases human capital, which is known to increase efficiency.

The social capital theory is based on an understanding that social interactions have value (Putnam, 200 p19). Jane Jacobs, an urban theorist, is said to have coined the term "social capital" in her novel, *The Life and Death of Great American Cities*. There are many ways that social capital adds value, but this paper focuses on two. First, social capital adds value by adding "eyes upon the street" (Jacobs 107). Thriving communities can exhibit reductions in crime when there are consistent streams of people on the street as opposed to a deserted street where there are no witnesses. Second, social capital is a network that establishes relationships of trust and "generalized reciprocity", according to Putnam. "Generalized reciprocity" is the idea that I will do something for you and one day someone else will do something for me (Putnam p20-21). In his book *Bowling Alone*, he says that "Our economy, our democracy, and even our health and happiness depend on adequate stocks of social capital" (Putnam p20-21, 28).

Putnam asserts that there are two kinds of social capital: bridging and bonding. Bonding is an exclusive form of social capital that is a valuable form of support, especially for ethnic minorities. However, it can foster "out-group antagonism," as a byproduct of its strong sense of in-group reciprocity (Putnam 22-23). Bridging, on the other hand, connects two circles and is of great value from an economic point of view (Putnam 22-23). In this paper I argue that the arts is a form of bridging as it bring people of all backgrounds together in a common place. I will test my claim that the arts have a

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positive effect on the economy because the art industry increases social capital, which increases trust, and reduces crime.

The theory of creative capital agrees with the theory of human capital, but rather than accepting knowledge as the main source of economic growth, it argues that "shared creativity" leads to economic growth (Florida, 2014 p197). Creativity can be developed through human interaction, experience, and higher education, and it cannot be exhausted like other inputs (Florida, 2014 p197).

There are two main tenants of Richard Florida's creative class theory. First, the creative class, which is a specific kind of human capital, drives economic growth. The creative class, which makes up approximately one-third of the US workforce is defined as those who work in "knowledge-intensive industries" but focus on the creation of new ideas and products (Florida, 2014 p197). Florida empirically defends his claim about the prosperity of the creative class by comparing the incomes of those belonging to the creative class with the rest of the workforce during the Great recession. Florida explains that having a job as a member of the creative class can lead to even greater benefits than a college education (Florida, Gabe, and Mellander, 2014 p199). As expected, college graduates, on average, earned 50% more during the last recession, while members of the creative class earned an additional 16% more (Florida, Gabe, and Mellander, 2011)" (Florida, 2014 p199).

The second tenant maintains that there are characteristics cities can embrace to draw the creative class (Florida, 2003 p7). Florida found three characteristics of cities that attract the creative class: Tolerance, Technology, and Talent. A.C. Pratt, however, says that Florida is missing something in his explanation of what attracts people to cities.

Pratt believes culture can also make a city attractive, especially considering the recent growth of cultural consumption (Pratt, 2008 p115).

Ultimately, Florida found that a cycle of prosperity forms when cities actively try to attract the creative class. Talented people then attract industry, which brings new jobs, and with them more talented people. Florida explains, "Companies cluster in order to draw from concentrations of talented people who power innovation and economic growth. The ability to rapidly mobilize talent from such a concentration of people is a tremendous source of competitive advantage for companies in our time-driven economy of the creative age" (Florida, 2003 p5).

I hypothesize that the arts have a positive effect on the economy because the art industry attracts the creative class, who is highly educated. As, Gary Becker noted, the well educated have a greater appreciation for the arts, and thus I believe the arts can successfully be used to attract the creative class (Becker p89).

Fourth, this paper analyzes the agglomeration economy with respect to the art industry. Urban economies have long been studied for their benefit to the global economy due to the increased productivity with which they are associated. Cities originally developed in locations that allowed them to take advantage of production and demand forces. With the advance of technology, cities are no longer restrained by transportation and climate, and there has been a recent shift in scholarly thinking away from the agglomeration of industry in cities, to the individuals who inhabit a city. This is clear within the previous three theories that were outlined. I believe, however, that we have strayed too far from the idea that industries can also drive growth. This paper also seeks to analyze the effect of the arts on other industries' growth in a community. I will

Data

This paper used a panel of data consisting of information from all counties in the United States. The data set consists of 5,078 observations including data from 2005 to 2012. The information was collected from the Census Bureau, the United States Department of Justice, and the Bureau of Labor Statistics. This study measured the presence of the arts in a community with employment and establishments in the Arts, Entertainment, and Recreation Industry (NAICS 71) as detailed by the North American Industry Classification System (NAICS). The arts, entertainment, and recreation industry, as defined by the Bureau of Labor statistics includes "(1) establishments that are involved in producing, promoting, or participating in live performances, events, or exhibits intended for public viewing; (2) establishments that preserve and exhibit objects and sites of historical, cultural, or educational interest; and (3) establishments that operate facilities or provide services that enable patrons to participate in recreational activities or pursue amusement, hobby, and leisure-time interests". As shown by the table below employment in the arts various from 0% to 65% of the employed population of a county. The terms art industry and arts, entertainment, and recreation industry will be used interchangeably throughout this paper. Five other NAICS industry classes were researched: NAICS 23: Construction, NAICS 44_45: Retail, NAICS 53: Real Estate, NAICS 54: Profession Sciences and Technology, NAICS 61: Education, and NAICS 72: Accommodation and Food Service. Median household income as measured by the US Census Bureau and median house price were used to limit bias in the model. In order to calculate median house price I took a weighted average of the number of houses in price categories using the mean price of the range included in the category. Most models also

¹ NAICS 71: Arts, Entertainment, and Recreation does contain information regarding NFL, NBA, and casinos. This at first raised concern about overstating the impact of the arts. But after multiple

controlled for gross domestic product by state (GSP). GSP was constant across all counties in a state but varied over time in order to control for swings in the economy. All variables used are summarized below.

	Tab	le 1A: Summa	ry Variables		
			Standard		
Variable	n	Mean	Deviation	Min	Max
year	37,814	2008.50	3.44	2003	2014
GSP	27,963	311,915.70	320,184.40	20,244.62	1,628,202
Civilian Labor Force					
Unemployed	6,241	16,617.91	215,341.30	668	16,900,000
Total Houses Over					
200K	4,802	40.58	24.88	4	97.80
Total Population	4,801	322,164.90	565,651.10	62,971	9,962,789
Human Capital:					
Percent with College					
Degrees	6360	0.44	0.12	0.14	0.82
Percent with High					
School Degrees	6,360	0.83	0.07	0.51	0.98
Percent with Four Year					
Degrees	6,360	0.26	0.10	0.07	0.72
Total Current					
Education Spending	21,847	180,939.50	3291,651	91	4,780,000,000
Crime:					
Murder or Non-					
Negligent					
Manslaughter	1,068	8.98	13.46	0	135
Forcible Rape	1,051	53.41	51.11	0	372
Aggravated Assault	937	322.07	239.49	7	999
Burglary	556	571.15	234.83	9	994

			Alter at any		
Table 1B: V	ariables Si	ummary			
			Standard		
Variable	n	Mean	Deviation	Min	Max
Industry (%):					
Arts, Entertainment, & Recreation					
Employment	12,717	0.02	0.02	0	0.65
Arts, Entertainment, & Recreation					
Establishments	23,983	0.02	0.01	0	0.33
Construction Employment	25,165	0.11	0.05	0	0.50
Construction Establishments	21,525	0.06	0.04	0	0.47
Retail Employment	23,892	0.16	0.05	0	0.61
Retail Establishments	25,256	0.17	0.04	0	0.50
Real Estate Employment	15,340	0.01	0.01	0	0.24
Real Estate Establishments	24,291	0.04	0.02	0	0.15
Education Employment	8,879	0.02	0.03	0	0.53
Education Establishments	20,585	0.01	0.01	0	0.33
Accommodation and Food Service					
Employment	22,815	0.11	0.05	0	0.90
Accommodation & Food Service					
Establishments	25,088	0.09	0.04	0	1.00
Professional Sciences & Technology					
Employment	19,370	0.04	0.03	0	0.54
Professional Sciences and Technology					
Establishments	25,110	0.07	0.03	0	0.33

Results

Human Capital:

Human Capital was measured using three dependent variables. The percent of high school graduates in a county was tested for a relationship with the arts, which was measured as the number of art establishments as a percentage of total establishments.

Using a fixed effects regression, I eliminated the unobserved effects that are constant across time in a county. As shown in the following table, there was no significant effect of the percent of establishments in the art industry on high school graduates, as a percentage of total population, during this time period.

	luman Capital Regressio	on
High S	School Graduates (%)	
	Coefficient	Standard Error
Art, Entertain, and Recreation		
Establishments (%)		
	0.12	0.22
GSP (in millions)	0.00	0.00
Total Population	0.00**	0.00
Median Household Income (in		
millions)	.96*	0.00
2006	0.00*	0.00
2008	0.00***	0.00
2009	0.01*	0.00
2010	0.01*	0.00
2011	0.02*	0.00
2012	0.02*	0.00
Total Current Spending	0.00**	0.00
Constant	0.78	0.01
n 5498	R ² Between	0.17
R ² Within .25	R ² Overall	0.18

Using the same fixed effects model, the effect of the arts on the number of college graduates was tested. College graduates includes graduates with either an associates or a bachelors degree. The percent of college graduates in a county was found to be unaffected by an increase in the arts. The percent of graduates with four-year degrees was tested using the same model. There was a weakly significant relationship suggesting that, as the percent of art establishments increase in a county, the number of individuals with four-year degrees rises as well. The following table outlines the results of these regressions by highlighting the key independent variable, arts as a percent of total establishments.

Table 2B: Human Capital Results								
		Standard		R ²	R ²	R ²		
	Coefficient	Error	n	Within	Between	Overall		
High School								
Graduates (%)	0.120	0.220	5498	0.25	0.17	0.18		
College								
Graduates (%)	0.140	0.310	5498	0.34	0.20	0.20		
Four-Year								
Degrees (%)	0.45**	0.22	5498	0.19	0.32	0.31		

Social Capital:

In order to measure the arts' effect on a community's social capital, a fixed effects model relating crime and the number of arts establishments was used. Various crime rates were analyzed including murder, non-negligent manslaughter, forcible rape, aggravated assault, and burglary. The relationship between murder and non-negligent manslaughter and the arts resulted in a significantly negatively sloped regression line, as shown below. This suggests that an increase in arts institutions is related to decreases in crime.

Table 3A: Social C	Capital Regression		
Murder and Non Neg	gligent Manslaughter		
	Coefficient	Standard Error	
Number of Arts, Entertainment, and Recrea	ntion		
Establishments *	-0.03*	0.000	
GSP (in billions)	0.00	0.01	
Percent of High School Graduates	16.11	9.24	
Median Household Income (in thousands)			
Manufacture of the state of the state of	0.07	0.06	
2007	-0.22	0.36	
2008	-0.16	0.54	
2009	-0.93***	0.48	
2010	-1.20**	0.51	
2011	-2.15	0.54	
2012	-1.80*	0.57	
Constant	1.18	8.67	
n 1068	R ² Between	(0.46
R ² Within .20	R ² Overall	(0.41
2012 Constant n 1068	-1.80* 1.18 R ² Between	0.57 8.67	

The same result was established for the relationship between forcible rape and the arts, detailed in the following table. The table highlights the key independent variable, the number of arts establishments, as a result of the same regression previously outlined.

Table 3B: Social Capital Results									
Dependent Standard R ² R ² R ²									
Variables	Coefficient	Error	n	Within	Between	Overall			
Forcible Rape	-0.03*	0.01	1051	0.06	0.08	0.07			
Burglary	0.98	0.68	556	0.02	0.01	0.01			
Aggravated									
Assault	-0.66	0.46	937	0.09	0.01	0.03			

Creative Capital:

To analyze the theory that the arts can attract the creative class, this paper first evaluated the relationship between the arts and total population. Using a fixed effects regression, the arts proved to have a positive and significant effect on total population. Further, there is evidence that the arts offer a unique environment that other industries such as retail do not. The retail industry also has significant effect on total population, but the magnitude by which the retail industry affected total population was less than one-twelfth the effect of the arts.

Table 4A: Creative Capital Regression Total Population						
	Coefficient	Standard Error				
Arts, Entertainment, & Recreations						
Establishments	67.56*	15.28				
GSP (in billions)	52.85	29.27				
Number of Retail Establishments	5.01***	16.87				
High School Graduates (%)	-31748.85*	8217.75				
2008	3661.70*	591.47				
2009	7976.66*	1196.40				
2010	9607.65*	1199.13				
2011	12282.71*	1308.92				
2012	14596.69*	1322.41				
Constant	304273.10	26189.24				
n 4802	R ² Between	0.69				
R ² Within .17	R ² Overall	0.62				

To further test this result, housing prices were studied in order to understand if there was an increased demand for housing in counties with an increasing arts presence.

The data was divided into two groups: houses under \$200,000 and houses over \$200,000.

It was found that as the arts in a county increased, the number of houses over \$200,000 increased, demonstrating an increased demand for housing.

	tive Capital Regression	
Total Number o	f Houses Over \$200,0 Coefficient	Standard Error
Arts, entertainment, and Recreation	Cocincient	Standard Error
Establishments	0.04*	0.01
GSP (in billions)	0.09*	0.00
Retail Establishments	0.00	0.00
Median Household Income		
(in thousands)	0.33*	0.00
2008*	2.30*	0.17
2009*	1.71*	0.21
2010**	0.81*	0.29
2011**	-0.65**	0.37
2012*	-2.42*	0.45
Total Population Over 55		
(in thousands)	-0.22*	0.00
Constant	-5.38	4.64
n 4802	R ² Between	0.0
R ² Within .34	R ² Overall	0.0

Additionally, the real estate industry was analyzed using a fixed effects regression. The model was used to test the effect of the number of art establishments in a county on many different industries. It controlled for unemployment by county and education levels in a county, as both are thought to affect industry growth. Changes in the number of art establishments was measured against changes in employment in the industry and changes in the number of establishments in the industry. It was found that employment in real estate and the number of real estate establishments were both positively impacted by growth in the arts industry.

Table 4C: Creative Capital Regression: Industry

Employment in Real Estate							
	Coefficient	Standard Error					
Arts Entertainment & Recreation	· · · · · · · · · · · · · · · · · · ·						
Establishments	0.71	0.21					
GSP (in billions)	1.6539*	0.28					
Civilian Labor Force Unemployed	-0.04*	0.00					
Number of High School Graduates	0.01*	0.00					
Median Household Income	0.01**	0.00					
Number of College Graduates	-0.02*	0.00					
2006	22.66	20.90					
2007	12.55	22.50					
2008	26.91	23.80					
2009	114.88*	22.46					
2010	67.33*	22.50					
2011	4.88	23.14					
2012	-17.62	24.62					
Constant	1907.64*	149.25					
n 6099	R ² Between	0	52				
R ² Within 0.53	R ² Overall	0.	42				

Using the same regression, the effectiveness of using the arts to attract the creative class specifically was measured using the science and technology industry as a proxy for Florida's creative class. Although it is not all encompassing, the arts were found to increase employment and the number of establishments in the industry as outlined below.

	Table 4D: Creative Capital Industry Results									
Depende	ent Variables	Coefficient	Standard		R ²	R ²	R ²			
			Error	n	Within	Between	Overall			
Real Estate	Employment	.71*	0.21	6099	0.53	0.52	0.42			
	Establishments	.56*	0.02	6240	0.56	0.62	0.62			
Science &										
Technology	Employment	5.23*	1.17	6172	0.05	0.78	0.78			
	Establishments	.55*	0.03	6240	0.36	0.90	0.89			

Industry Growth:

In order to test the theory that the arts can increase consumption and stimulate growth, the arts effect on other industry growth was tested using the same industry regression. The regression lines for the number of arts establishments and employment in the accommodation and food service industry, the retail industry, the education industry, and the construction industry were all positively sloped. Also, the effect of the arts on the number of establishments in the accommodation and food service industry, the education industry, and the construction industry was positive and significant.

Table 5: Agglomeration Economy Industry Results						
Dependent		Standard		R ²	R ²	R ²
Variables	Coefficient	Error	n	Within	Between	Overall
Accommodation						
& Food						
Employment	12.22*	0.59	6228	0.40	0.82	0.81
Accommodation						
& Food						
Establishments	0.31*	0.02	6240	0.60	0.96	0.95
Education						
Employment	1.23*	0.45	5457	0.41	0.68	0.68
Employment	1.25	0.45	5457	0.41	0.08	0.08
Education						
Establishments	0.05*	0.01	6240	0.66	0.98	0.98
Retail						
Employment	5.93*	0.64	6233	0.60	0.81	0.80
Retail						
Establishments	-0.12*	0.03	6240	0.39	0.51	0.50
Construction						
Employment	20.16*	0.99	6220	0.66	0.42	0.32
Construction	1.04*	0.04	62.40	0.60	0.00	0.02
Establishments	1.04*	0.04	6240	0.69	0.03	0.02

Conclusion

Overall this study was not able to find a significant impact of the arts on human capital. I believe the effect of the arts may be a long-term effect that was unable to be captured by the short run approach, which I took in this study. Additionally, as there are often many school systems in a single county, I believe the effect on graduation rates may be better understood when analyzing the impact of the arts within a school system rather than a county. The weakly significant effect of the arts on four-year degrees should not be assumed to be a direct result of arts industries increasing education levels. As Becker said, the arts attract the well educated who have a greater appreciation for the arts. Thus it is difficult to determine if the number of people with four-year degrees in a county increased due to the intellectual nature of the arts increasing college graduation rates in that county or if the arts attracted the higher educated to the county. I believe that the latter is more likely.

Social capital is more difficult to evaluate empirically because it measures the intangible relationships that exist in a community. My empirical analysis showed that the number of art establishments in a county has a negative effect on violent crime. Although the result seems practically small at first, the mean number of murders in a county is less than nine in total, and thus the magnitude of the effect is reasonable. These results support the trends that are suggested by existing research. The arts can increase social capital in a community by bringing together communities in environments ranging from live theatre to adult art classes. As social capital increases, trust increases, and violent crime decreases. This demonstrates that arts can aid in economic growth through the elimination of violent crime, which plagues US cities.

There is significant evidence that the arts attract the creative class to communities. First, the increase in total population speaks to the overall attractiveness of the arts, especially when compared to the attractiveness of the retail industry. Second, the increase in house prices suggests that the increase in population stems from an inflow of higher income households who are interested in buying houses rather than renting. Third, the positive relationship between the art industry and the real estate industry demonstrates the magnitude of this effect. The increase in employment in the real estate industry shows that as a result of the increasing arts community, there was a significant change in demand for housing. Fourth, there is solid evidence that the arts attract the creative class specifically, shown by the increase in employment and the increase in the number of establishments in the science and technology industry. I believe this result is most interesting and most convincing. Richard Florida's theory of the arts attracting the welleducated, creative class faced much criticism. But there is strong empirical evidence that it is correct. One new arts establishment increased employment in the sciences by more than five individuals. This is especially significant as on average, less than 4% of the population in my sample was employed in the sciences.

The growth in the art industry can be viewed as a catalyst for economic growth in many other industries also. As the number of arts establishments increased there were significant increases in employment in retail and accommodation and food services and in the number of accommodation and food service establishments. This relationship is easily understood, as all fit in the tourism sector. When an individual buys a ticket to a show they may also make a dinner reservation and stop in a boutique before enjoying the performance. Thus a positive regression line was expected. The positive relationship

between education and the arts may be due to correlation rather than causality. The relationship is unclear because many arts establishments also educate. The increase in the both employment in construction and the number of construction establishments demonstrates true physical growth in a community, caused by growth in the arts. It was found that one additional arts establishment only increased employment in construction by 20.4 people. Thus it is clear that growth in the arts industry stimulates growth in other industries and creates a demand for new construction in a county.

In conclusion, there is a tangible effect of the arts on our communities. An increase in arts is related to reductions in violent crimes and growth of other industries. Industry growth enhances the attractiveness of communities to outsiders as it provides new job opportunities. The extent to which the arts impact our economies, however, should not be over exaggerated. While these results are significant, this does not mean that the arts can solely pull communities out of decay. But the positive effect of the arts on our communities and on individuals is indisputable.

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