

**BEFORE THE CORPORATION COMMISSION OF OKLAHOMA**

IN THE MATTER OF THE APPLICATION OF )  
OKLAHOMA GAS AND ELECTRIC COMPANY )  
FOR AN ORDER OF THE COMMISSION )  
AUTHORIZING APPLICANT TO MODIFY ITS ) CAUSE NO. PUD 201700496  
RATES, CHARGES, AND TARIFFS FOR RETAIL )  
ELECTRIC SERVICE IN OKLAHOMA )

Direct Testimony

of

Dr. Russell R. Evans

Associate Professor of Economics, Oklahoma City University,  
Executive Director of the Steven C. Agee Economic Research and Policy Institute, and  
Director of the Center for Regional Economic Forecasting and Policy Analysis

on behalf of

Oklahoma Gas and Electric Company

January 16, 2018

Russell R. Evans, Ph. D.  
*Direct Testimony*

1 Q. **Please state your name, business address, and occupation.**

2 A. My name is Dr. Russell R. Evans. My business address is Meinders School of Business  
3 Ste. 301, Oklahoma City University, 2501 N. Blackwelder, Oklahoma City, OK 73106. I  
4 hold multiple positions in the school of business including: associate professor of  
5 economics, executive director of the Steven C. Agee economic research and policy  
6 institute, and director of the center for regional economic forecasting and policy analysis.  
7 Outside of the university I am a partner with the firm the Economic Impact Group and a  
8 distinguished fellow at the E Foundation for Oklahoma.  
9

10 Q. **Please describe your educational background.**

11 A. I hold a Bachelor of Science degree in economics and a Ph. D. in economics from  
12 Oklahoma State University.  
13

14 Q. **Briefly summarize your academic and business career.**

15 A. My academic interests are in applied economics and public policy with a specific interest  
16 in public finance. I have published academic articles on the changing economic burdens  
17 of the residential property tax both between school districts and within a given school  
18 district over time. I have also published an academic article on the fiscal impact of the  
19 Oklahoma City Thunder as well as numerous articles in multi-disciplinary journals and  
20 outlets on the role of the energy industry, Native American enterprise, and other activities  
21 on the state's economy. Both inside and outside of the university I use economic analysis  
22 tools to examine client specific questions of economic impact, economic forecasts, and  
23 economic policy. Additionally, I have provided expert witness services in personal injury,  
24 asset valuation, and policy analysis cases at both the state and federal level. Attached as  
25 Direct Exhibit RRE-1, is my curriculum vita.  
26

27 Q. **Have you testified previously before the Oklahoma Corporation Commission?**

28 A. No, I request that my credentials be accepted at this time

1 Q. **What is the purpose of your testimony?**

2 A. The purpose of my testimony is to provide my perspective as to the broad economic  
3 principles that will be considered by the Commission in this case and to discuss the broad  
4 importance of the decision in this case to both OG&E's customers and the entire state. My  
5 testimony supplements and supports that of Dr. Roger A. Morin and Mr. Stephen E. Merrill  
6 by elaborating on economic considerations that are essential to completely and accurately  
7 assess the "public interest" that the Commission seeks to satisfy in this case.  
8

9 Q. **Your background is in economics, what is the study of economics?**

10 A. Economics is a social science that studies behavior. Alfred Marshall defined economics  
11 as "a study of mankind in the ordinary business of life." Because economics is a study of  
12 behavior we are like the fields of psychology, sociology, and geography. But because we  
13 are interested in the behavior of the ordinary business of life we are often housed in  
14 business schools with disciplines like finance, management, and marketing. Economics  
15 tends to be more quantitative than the other behavioral social sciences and economic  
16 models tend to be built around the assumption that people are deliberate, strategic, and  
17 intentional in their behavior.

18 Economics is a study of behavior with an interest in observing the resulting  
19 allocation of scarce resources. Our economy is characterized by a finite amount of land, a  
20 fixed labor supply, and a fixed stock of productive capital and it is the many individual  
21 ordinary business of life decisions that ultimately results in an allocation of these resources  
22 across competing uses. For example, economics would study behavior with an interest in  
23 observing how an economy divides its land between agricultural and industrial uses or how  
24 it assigns some workers to produce goods and other workers to produce services.  
25 Ultimately, economics is a study of how society allocates its productive resources.  
26

27 Q. **How is the study of economics relevant in this context?**

28 A. Since OG&E is a regulated utility, the productive resources that society allocates to OG&E  
29 are largely determined by the outcome of these rate cases. In fact, an economic argument  
30 could be made that this cause should be referred to as a "resource allocation case" instead

1 of a “rate case.” The challenge facing the Commission is to determine an outcome that  
2 correctly allocates scarce productive resources to the firm.

3  
4 **Q. Broadly speaking, why do regulated utilities such as OG&E exist?**

5 A. Regional monopolies are allowed and even encouraged to exist because it allows large,  
6 upfront costs of production to be spread across high levels of production. Spreading the  
7 fixed cost across high production levels allows the firm to charge a lower price per unit of  
8 production while still covering costs. The challenge facing the regulator is to find the  
9 outcome where the regional utility recovers all costs of production and earns a reasonable  
10 risk-adjusted profit, thus ensuring that the utility has full and competitive access to the  
11 productive resources (labor, materials and capital) needed for operations.

12 Customer rates are set by the Commission equal to the utilities total cost of  
13 production. As the average cost of production falls, so too does the firm’s economic profit  
14 breakeven price and the price customers pay.

15 To again put it simply, society (and in this case, the Oklahoma public) benefits from  
16 granting a regional monopoly to a single large producer and then efficiently regulating its  
17 exercise of monopoly power.

18  
19 **Q. In your opinion, what is the regulatory objective of cases such as this?**

20 A. From an economist’s perspective, the overarching regulatory objective is to identify the  
21 rates that OG&E is allowed to charge for services that results in an optimal allocation of  
22 resources to the firm. Alternatively, the objective could be stated as identifying the rate or  
23 price that allows the firm to earn a normal economic profit. Within the regulatory  
24 framework the normal economic profit can be viewed as the return on equity (ROE).

25  
26 **Q. In stating the regulatory objective you referenced both an *optimal allocation of*  
27 *resources* and a *normal economic profit*. What is meant by an optimal allocation of**  
28 **resources?**

29 A. An optimal allocation of resources is a distribution of scarce resources across competitive  
30 uses in such a way that it maximizes social well-being. Another way to think about optimal  
31 allocation of resources would be to say that an optimal allocation distributes scarce

resources across competitive uses to the highest and best value as defined by society's preferences.

**Q. What is meant by a normal economic profit?**

A. The term *normal profit* conveys a specific economic meaning but the general idea of a normal profit is closely related to the legal language of a fair, just, and reasonable return used in the context of utility regulation. A normal economic profit refers to a return on capital equal to the return that capital could earn in its next best use. The regulatory objective is to set a rate that allows capital to earn the return it would justify in a competitive capital market. In a competitive capital market, capital would earn a return equal to the return of its next best use and there would be no market forces driving either excessive capital flows into or out of an industry.

Again, the regulatory objective is to accomplish a competitive market allocation of capital to a company such as OG&E that has been granted a regional monopoly due to its production process being characterized by very large fixed costs of production.

**Q. In this context of pursuing the optimal allocation of resources, how important is it for the Commission to focus on a fair ROE?**

A. Establishing a fair rate of return relative to capital's next best use is critical to ensuring an optimal allocation of resources into the firm. Optimal in this context again refers to levels of an activity that maximize social well-being, so a suboptimal allocation of resources necessarily implies that the resulting production will be socially inefficient in some way.

A focus on a fair return on capital (and a fair ROE specifically) is just as important as a focus on a fair rate to the ratepayer. In fact, the two are inextricably linked. An optimal ROE allows for an optimal allocation of resources which allows for socially efficient production which is in the interest of ratepayers.

The focus of a rate case is often on things that are observable – recoverable costs, rates, ROE, etc. But these are also signals to the capital markets that allocate scarce capital. One way to view a rate case is to see it as a mechanism to signal capital markets.

The regulatory objective is an attempt to mimic the function of competitive markets and optimally allocate resources to the utility.

1 Q. **So are you saying rates, ROE, etc. aren't important and that it's all about the**  
2 **allocation of scarce resources?**

3 A. No, I'm suggesting those things are important precisely because they determine the  
4 allocation of scarce resources to the utility. At the end of the day it is the competitive capital  
5 markets that allocate scarce capital. The role of the regulator is not to protect ratepayers  
6 from high rates nor is it to protect utilities from low profits. The role of the regulator is to  
7 identify the rates and profit that signals for an optimal allocation of resources to the utility.  
8 The role of the regulator is to protect society from an inefficient allocation of resources.  
9

10 Q. **In this context of pursuing the optimal allocation of resources, is the Company's focus**  
11 **on ROE justified?**

12 A. Yes. The opportunity cost of equity is the return that equity gives up in its next best use.  
13 To allow the regulated utility to fully recover costs includes allowing the utility to fully  
14 recover the opportunity cost of equity. This cost recovery comes in the form of an  
15 authorized ROE, or risk-adjusted profit. The authorized ROE serves as an important and  
16 highly visible signal to capital markets to ensure optimal capital flows into the firm and,  
17 by extension, into the regional economy.  
18

19 Q. **Have you read the submitted testimony of Dr. Roger A. Morin?**

20 A. Yes I have.  
21

22 Q. **Are there any broad economic principles central to his analysis that merit additional**  
23 **consideration?**

24 A. Yes, there are at least two principles of significant importance. The first is the principle of  
25 opportunity cost and the second is the equi-marginal principle.

26 Opportunity cost is a measure of what is given up to pursue an activity. For  
27 example, the opportunity of allocating capital to distribution upgrades from the firm  
28 perspective might be the foregone opportunity to allocate that capital for plant  
29 modernization. From the investor perspective, the opportunity cost of allocating capital to  
30 the utilities sector is the foregone opportunity to allocate that capital to another sector.

1 Within the utilities sector, the opportunity cost of allocating capital to a specific utility is  
2 the foregone opportunity to allocate that capital to another utility.

3 The principle of opportunity cost combined with the reality of mobile capital gives  
4 rise to the equi-marginal principle. This principle concludes that an investor will allocate  
5 capital across uses such that the risk-adjusted return on the last dollar invested in each use  
6 is equal. This principle has an intuitive appeal in that it asserts that if one capital use  
7 generates a higher risk adjusted return at the margin than another, the investor would  
8 reallocate capital from the lower to the higher return use.

9 The conclusion is that a suboptimal ROE determination necessarily results in a  
10 suboptimal capital flow to the firm which necessarily results in a suboptimal operation of  
11 the utility. As stated previously, suboptimal in this context implies a capital flow and  
12 operation that does not maximize social well-being.

13  
14 **Q. How is the opportunity cost of capital, or the ROE, estimated?**

15 **A.** There are a handful of approaches to estimating ROE and they are thoughtfully presented  
16 in the testimony of the expert in this area, Dr. Roger A. Morin. But essentially ROE models  
17 are designed to estimate the return to equity for the utility that would be tolerated by a  
18 competitive market. It is worth emphasizing again that this view of ROE is consistent with  
19 the perspective of the regulator as trying to mimic a competitive allocation of resources.

20 ROE models range from comparing the competitive market tolerated ROE of firms  
21 of similar risk to market-based discounted cash flow (DCF) and capital asset pricing  
22 models (CAPM). Each approach is rooted in a handful of widely accepted financial and  
23 economic simplifying assumptions and each is populated with inputs determined based on  
24 the informed judgement of the modeler.

25  
26 **Q. You mentioned ROE model inputs determined at the discretion of the modeler – can  
27 you provide an example?**

28 **A.** Sure. In determining the risk-free rate employed in the CAPM model, for example, the  
29 modeler would need to use discretion. The modeler may determine the U.S. long-term  
30 bonds are the best proxy. The modeler may then determine that 30-year treasuries are most  
31 appropriate because they best match the long lifecycle of utility assets. The modeler may

1 further assume that the historical yields are a good indicator of future yields. The modeler  
2 may further assume that a particular set of years is the most appropriate historical window  
3 for estimating historical yields. At each step in the process described above, the modeler  
4 used his or her informed judgement to determine one input into the model.

5 Similar judgement would be used to determine the appropriate subset of proxy  
6 securities for use in DCF analysis. In every model, the output is determined by the inputs  
7 and the inputs require the careful consideration and judgement of the modeler. Alternative  
8 ROE models should be evaluated less on their output and more on the quality and  
9 thoughtfulness of the inputs.

10  
11 **Q. A key component of the capital asset pricing model is the risk-free rate reflected in**  
12 **long-term treasury yields. What is your outlook for long-term yields?**

13 **A.** Over the 18-year period from 1990 to 2007 leading up to the Great Recession long-term  
14 yields as reflected in 30-year treasury bonds averaged 6.5%. Over the 2008 to 2017 period  
15 yields averaged 3.5%. The current yields reflect years of unprecedented monetary policy.

16 The U.S. Federal Reserve expanded its balance sheet growing from an \$800 billion  
17 institution to a nearly \$4.5 trillion institution. Federal Reserve policymakers used the  
18 expanded balance sheet to make a market for untradeable mortgage-backed securities and  
19 to purchase disproportionate holdings in long-term government securities. These balance  
20 sheet initiatives were explicitly designed to suppress long-term interest rates.

21 The Federal Reserve recently announced its intention to gradually unwind its  
22 balance sheet by retiring rather than reinvesting a portion of the principle payment from  
23 maturing securities. While the official policy is proceed “gradually” the program as  
24 currently announced would effectively retire all (and reinvest nothing) of the maturing  
25 principal payments by the fall of 2018. In other words, the policy announced and being  
26 implemented will unwind the balance sheet at the fastest pace possible given the maturity  
27 schedule of assets without engaging in explicit asset sales.

28 The unwinding of this policy will remove the restraints suppressing long term  
29 interest rates. Most forecasts of long term rates assume the balance sheet unwinding will  
30 have only modest and gradual effects on long-term rates. This assumption is difficult to  
31 justify as the Federal Reserve is undoing a policy that has never before been implemented



1 (and therefore never before undone). It is my professional judgement that current forecasts  
2 of long-term interest rates carry unbalanced risk with the actual long-term rate much more  
3 likely to be higher than the baseline forecasted rate. The consequence of understating the  
4 long-term risk free rate would be to understate the risk-free baseline from which CAPM  
5 models begin in estimating a required ROE.  
6

7 **Q. Are the implications of getting the right amount of productive resources to the utility**  
8 **limited to impacts to the firm?**

9 A. No, there is also a broader importance to the regional economy. Because regulated utilities  
10 operate within the regional economy, regulatory decisions influence the allocation of  
11 productive resources into the economy.  
12

13 **Q. Are you saying the Commission's decision in this cause not only impacts the allocation**  
14 **of productive resources to the utility but also the productive resources available to**  
15 **the state and local economies?**

16 A. Yes. In unregulated industries firms are free to choose their optimal size and production  
17 level in order to maximize profit. In doing so, they signal resource markets as to the returns  
18 available in their industry and competitive resource markets allocate labor, capital, and  
19 other productive resources to the economy. A regulated utility is compelled to operate at  
20 a large scale in order to keep prices below the level that would otherwise maximize profit  
21 so it cannot signal resource markets effectively. It falls to the regulator to determine a  
22 reasonable signal via an authorized ROE. This signal in turn determines the allocation of  
23 productive resources allocated in the economy to the utility. Because regulated industries  
24 can be quite large relative to the size of the economy, sending the wrong signal can have  
25 broader economic consequences as it misallocates productive resources to the local  
26 economy.

1 Q. You mention that regulated industries can be large relative to the size of the local  
2 economy so getting the right allocation of resources is important for local economic  
3 activity. Can you speak to the economic importance of regulated utilities in their local  
4 economies?

5 A. Yes. Because regulated utilities operate at a large scale they often have a large direct  
6 economic contribution. In Oklahoma, the utilities sector is estimated to account for almost  
7 12,000 jobs with the electric power generation and transmission sectors accounting for  
8 approximately 80% of those jobs. A recent Edison Electric Institute commissioned  
9 economic impact report<sup>1</sup> concluded that nationally the employment multiplier for the  
10 industry is 1.7 (every 1 job in the sector supports an additional 1.7 jobs in the economy).  
11 In Oklahoma, the employment multiplier is a little over 2 suggesting that every 1 utilities  
12 sector job in Oklahoma supports 2 additional jobs in the economy. The larger multiplier  
13 reflects the economic reality that the industry in Oklahoma has tighter linkages to the  
14 broader state economy.

15 In addition to traditional direct and indirect economic influences, utilities can also  
16 contribute to the pace of economic development. An optimally capitalized utility is better  
17 able to provide an efficient mix of generation and a reliable distribution of generation that  
18 complements efforts to expand and attract economic activity in the state.

19  
20 Q. What does an optimal allocation of resources mean in terms of community and  
21 economic development?

22 A. Because the utility, as a regulated monopoly, relies on a regulatory body to determine  
23 capital flows into the utility, by extension, the city, and the state rely on the regulatory body  
24 to determine a portion of the capital flows into their local communities. Capital flows and  
25 strategic investments in a community and state can have spillover economic development  
26 impacts further emphasizing the importance of working towards an optimal capital  
27 allocation for OG&E. While the immediate focus in a rate case is on the short-term effect

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<sup>1</sup> *Powering America – The Economic and Workforce Contributions of the U.S. Electric Power Industry*, M. J. Bradley & Associates, LLC

1 on utilities bills, the long-term effects of optimal capital flows into the economy are much  
2 broader.

3 **Q. You mention that capital flows into a region can have spillover economic**  
4 **consequences. What types of spillover economic consequences?**

5 A. Spillover economic consequences could include development of industry linkages in the  
6 economy and efficiency spillovers from different industries located together. All industries  
7 require electricity, some more than others, allowing additional linkages between the  
8 utilities sector and the pace and makeup of economic growth in the community.

9 In the case of the utility as a corporate headquarter, spillover economic  
10 consequences are greater and likely extend to greater development of social capital in the  
11 community and higher rates of economic growth.

12  
13 **Q. Do you have an estimate of spillover economic consequences from OG&E's capital**  
14 **investments?**

15 A. Spillover economic impacts are estimated in input-output models. These models are  
16 commonly used and widely accepted as a source of low-cost but high value information on  
17 the linkages between a specific economic activity and the broader economy. The Edison  
18 Electric Institute commissioned impact study referenced in my testimony is a form of input-  
19 output modeling.

20 Over the last five years, OG&E's average annual capital investment is nearly \$656  
21 million. Using an input-output model structure of the Oklahoma economy and assuming  
22 the capital investment is primarily a mix of new construction and maintenance of power  
23 generation, transmission and distribution systems, it is estimated that the spillover  
24 economic consequences are more than 7,600 Oklahoma jobs supported, \$578 million in  
25 gross state product, and \$330 million in employee compensation.

26  
27 **Q. Can you explain further the potential economic consequences from the development**  
28 **of industry linkages and efficiency spillovers?**

29 A. Yes. The two economic spillovers are related and the economic term for these spillovers  
30 is agglomeration effects. Capital investment that allows a firm to maintain or expand its

1 base of production incentivizes the development of a local supplier and support network  
2 for the firm. Other firms, even firms in different industries, can benefit from the local  
3 supplier and support network. The presence of a local supplier and support network makes  
4 the economy more attractive to other firms who are considering expanding or locating  
5 there.

6 Capital investment that allows a firm to maintain or expand its base of production  
7 also incentivizes the increased development of the local labor pool. As the labor pool  
8 increases and becomes more diversely educated other firms benefit from the better labor  
9 matches available to them. Also, capital investments that support more densely  
10 concentrated economic activity through either channel just discussed provides an avenue  
11 for knowledge spillover between firms as discoveries in one industry are leveraged to solve  
12 production challenges in another industry.

13 A good introduction to agglomeration economies and the alternative paths by which  
14 agglomeration effects can occur is found in *Evidence on the Nature and Sources of*  
15 *Agglomeration Economies* (Rosenthal and Strange, 2004).

16  
17 **Q. What economic spillovers might be uniquely associated with a corporate**  
18 **headquarter?**

19 **A.** Corporate headquarters in an urban area are associated with greater development of social  
20 capital and consequently faster rates of economic growth. Capital in the most general sense  
21 refers to goods and services used to produce other goods and services. So physical capital  
22 refers to the tools used to produce other goods and services and human capital refers to the  
23 education and experience of workers used to produce other goods and services. Social  
24 capital refers to the relationships and trust that facilitates the production of other goods and  
25 services.

26 Corporate headquarters often exhibit greater philanthropy in the community and  
27 greater community participation from their employees, contributing to the social capital of  
28 the community. The philanthropy is not necessarily the direct actions of the firm. Rather,  
29 the literature suggests the greater philanthropic impact is the result of employee actions  
30 related to a greater sense of belonging in the community. These employee actions  
31 contribute to the development of social capital in the community – greater trust, inclusion,

1 sharing, partnership, etc. These social relationships facilitate economic activity and can  
2 lead to faster economic growth. A review of corporate headquarters and their philanthropic  
3 impact is found in *The Geography of Giving: The Effects of Corporate Headquarters on*  
4 *Local Charities*, (Card, Hallock, and Moretti, 2008).

5 Whether through social capital development, innovation spillovers, or other  
6 avenues, there is a relationship between changes in the headquarter population in a region  
7 and that region's share of economic growth. Direct Exhibit RRE-2 plots the change in  
8 headquarter counts in selected cities and that city's share of economic growth in the Bureau  
9 of Economic Analysis' southwest region. Direct Exhibit RRE-2 reveals both the  
10 relationship between headquarters and growth as well as the reality that Oklahoma City  
11 has experienced relatively little headquarter growth and therefore is responsible for a  
12 relatively small share of economic growth in the southwest region.

13 This discussion of economic growth underscores the potential negative impact to  
14 ratepayers in the local economy if the capital allocation to the utility is too low. The  
15 potential for negative impacts from a misallocation are greater when the utility is also a  
16 relatively large corporate headquarter.

17  
18 **Q. Are you aware of any studies that discuss the economic spillovers on a national level?**

19 **A.** Yes. Edison Electric Institute recently published a report on the US electric power industry  
20 and its impact on the US economy. The report defined the industry more broadly to include  
21 contractor and supply chain activity as well as activity supported by annual physical  
22 infrastructure investment and estimated that, in total, more than 2.2 million jobs are directly  
23 supported with an additional 4.5 million jobs supported through the multiplier process. The  
24 report also emphasizes the primacy of the industry in terms of providing the first essential  
25 input – energy – into nearly all of the other productive activities in the economy.

26  
27 **Q. How does a long standing, locally headquartered company benefit the State of**  
28 **Oklahoma?**

29 **A.** OG&E has a one hundred and fifteen year history in the State of Oklahoma, a Company of  
30 this caliber headquartered in Oklahoma creates spillover effects in the Oklahoma economy  
31 in the form of direct and induced job creation. As mentioned previously, headquarters

1 contribute to industry clusters that offer spillover benefits by encouraging supply chain  
2 concentrations, offering opportunities for innovation and entrepreneurship, and  
3 contributing to efficiency enhancing social capital in the community.  
4

5 **Q. Does this conclude your direct testimony?**

6 **A. Yes.**

**Russell R. Evans, Ph.D.**

Associate Professor of Economics

Executive Director, Steven C. Agee Economic Research and Policy Institute

Director, Center for Regional Economic Forecasting and Policy Analysis

Meinders School of Business

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**Education**

**Ph.D.** Oklahoma State University 2012

Economics: Major Field: Public Finance Minor Field: Industrial Organization

*Advisor:* Mary N. Gade, Ph.D.

*Thesis: Rethinking the Local Property Tax: An Examination of Reliance, Elasticity, Volatility, and Incidence Heterogeneity*

**B.S.** Oklahoma State University 2001

Economics

**Academic Experience**

**Oklahoma City University**

Associate Professor of Economics 2017 - Present

Assistant Professor of Economics 2015 – 2017

Exec. Director, Steven C. Agee Economic Research and Policy Institute 2011 – Present

Director, Center for Regional Economic Forecasting and Policy Analysis 2015 – Present

- *Teach a 2-2 load including undergraduate principles courses in economics and statistics, upper division electives in Public Finance, Labor Economics, and Environmental Economics, and graduate courses in Managerial Economics (MBA) and Energy Economics (M.S. Energy Management); conduct grant funded research for local business, regulatory, and policymaking bodies including: The City of Oklahoma City, the Greater Oklahoma City Chamber of Commerce, The Grand River Dam Authority, The Oklahoma State Auditor's Office, The Cherokee Nation, The Citizen Potawatomi Nation, 3M, The Central OK Humane Society, The Oklahoma Independent Petroleum Association, The Oklahoma Energy Resources Board, Bank SNB, Arvest Bank, The Alliance for the Economic Development of Oklahoma City, Devon Energy, and many others; represent the college of business to outside audiences offering approximately 35 speeches and keynote addresses per year with at least as many media interactions;*

Visiting Assistant Professor of Economics 2011 – 2015  
**Oklahoma State University**  
Director, Center for Applied Economic Research 2009 – 2011

- *Taught a 1-1 load in principles of economics including supervision of undergraduate research in fulfillment of honor's contracts; conducted grant funded applied research for local agencies including: The Tulsa Chamber of Commerce, The Greater Oklahoma City Chamber of Commerce, The Ponca City Development Authority, The Bartlesville Development Authority, The Oklahoma Tax Commission, and many others.*

**The University of Tulsa**

Visiting Assistant Professor of Economics 2008 – 2009

- *Taught a 3-2 load in undergraduate economics including courses in principles of economics, undergraduate econometrics, and intermediate microeconomic theory*

**Professional Experience**

**The Economic Impact Group, LLC.**

Principal and Co-Founder 2005 – Present

- *Leveraged the techniques of economic analysis to develop a client base benefiting from economic forecasting, impact analysis, and forensic economics; clients include: Spirit Bank, Rural Enterprises of Oklahoma, Fenton, Fenton, Smith, Reneau and Moon, Clean Line Energy, The Oklahoma Wind Coalition, and many others.*

**Teaching Experience**

- *Courses taught across all previous assignments include: Economics of Social and Contemporary Issues, Principles of Microeconomics, Principles of Macroeconomics, Principles of Business Statistics, Intermediate Macroeconomics, Intermediate Microeconomics, Managerial Economics (undergraduate), Public Finance, Labor Economics, Natural Resource and Environmental Economics, Econometrics (undergraduate), Applied Business Statistics, Essentials of Economics (graduate MBA), Managerial Economics (graduate MBA), Energy Economics (graduate M.S. Energy Management); teaching evaluations consistently above average and available upon request.*



## Intellectual Contributions

### Refereed Articles

- Evans, R. (2017). Thunder Up the Taxes. *Journal of Business Strategies*, 34 (1), 1-14.
- Evans, R. (2016). Rooting Against a Recovery? *Shale Shaker: The Journal of the Oklahoma City Geological Society*, 66.
- Evans, R. R. & Gade, M. N. (2013). Distinguishing Between the Capital Tax View and the Benefit View of the Property Tax at the Local Level. *Journal of Business Strategies*.
- Evans, R. (2012). Oklahoma Oil and Gas Economic Impacts. *OKC Biz Magazine*.
- Dean, K. & Evans, R. (2010). A Multi-Regional Input-Output Model for the Dallas and Oklahoma City Metropolitan Areas. *IMPLAN*.

### Non-Refereed Articles

- Evans, R. (2017). Oklahoma Economic Outlook: 2017-2018. *Greater Oklahoma City Chamber of Commerce*
- Evans, R. (2013). Greater Oklahoma City Economic Forecast 2013. *Greater Oklahoma City Chamber of Commerce*.
- Evans, R. (2012). Oklahoma Energy Today and Tomorrow. *The Oklahoma Academy for State Goals*.

### Presentation of Refereed Papers

- Evans, R. (2017). *Estimating the Localized Marginal Effects of TIF Proximity in Oklahoma City*. Missouri Valley Economic Association, St. Louis, Missouri.
- Evans, R. R. (2011). *Analyzing the Local Incidence of the Property Tax (Counted as IC in Journal of Business Strategies)*. Missouri Valley Economic Association, Kansas City, Missouri.
- Evans, R. R. (2008). *Economic Impacts of the Recently Enacted Oklahoma Citizen and Taxpayer Protection Act of 2007*. Coalition of Hispanic Organizations, Tulsa, Oklahoma.

### Research Reports

- 2017: Evans, R., Oklahoma's Oil and Natural Gas Industry Economic Impact and Jobs Report., submitted to Oklahoma Energy Resources Board.
- 2017: Evans, R., Morris, K., Smith, S., Loughney, K., & Tedeschi, P. Oklahoma Humane Society Compassion Center Economic Impact Study., submitted to Watershed Animal Fund.
- 2016: Evans, R., Dearmon, J., & Gade, M., Tax Increment Financing and Spatial Spillovers in Oklahoma City: Estimating the Localized Marginal Effects of Proximity to TIF Districts., submitted to The Alliance for Economic Development of Oklahoma City.

2016: Evans, R., Deck, K., & Mitchell, D., Arvest Consumer Sentiment Survey., submitted to Arvest Bank.

2016: Evans, R., Greater Oklahoma City Economic Forecast., submitted to The City of Oklahoma City and The Greater Oklahoma City Chamber of Commerce.

2015: Evans, R., Estimates of Statewide License Plate Registration Noncompliance: 2015 Update., submitted to 3M.

2015: Evans, R. & Dearmon, J., Efficiency Gains and Cost Savings from the FieldSavvy Platform: An Illustrative Monte Carlo Simulation., submitted to Gooden Group / J&L Trucking.

2015: Evans, R., Optometry Services and Market Restrictions in Oklahoma., submitted to CMA Strategies / Wal Mart.

2015: Evans, R., The Oklahoma Energy Index., submitted to Bank SNB / The Oklahoma Independent Petroleum Association.

2013: Evans, R. R., Tulsa's Energy Industry in 2012: Industry Definition and Economic Impact., submitted to Tulsa City Council.

2012: Evans, R. R., Economic Impact and Jobs Report: Oklahoma's Oil and Natural Gas Industry., submitted to Oklahoma Energy Resources Board.

2012: Evans, R. R., Dean, K.D., & Martin, L., Oklahoma City 2011 Performance Report Focus Groups., submitted to The City of Oklahoma City.

2011: Evans, R. R., Economic Impact and Jobs Report: Oklahoma's Oil and Natural Gas Industry., submitted to Oklahoma Energy Resources Board.

2011: Evans, R. R., Cherokee Nation 2010 Economic Impact., submitted to The Cherokee Nation.

2011: Evans, R. R., & Dean, K.D., Lawton / Ft. Sill Demographic Analysis., submitted to Hunt Properties LLC.

2011: Evans, R., Dean, K., May, D., Olson, K., Rodgers, J., and Larkin Warner, A Review of the Grand River Dam Authority: Operations, Structure, and the Public Interest, submitted to the Oklahoma State Auditor's Office

2009: Evans, R., Gerdau-Ameristeel: Annual Impacts of the Sand Springs Minimill

2008: Evans, R., A Computable General Equilibrium Analysis of the Oklahoma Taxpayer and Citizen Protection Act of 2007

2007: Evans, R., Estimating the Economic Impact of the Oklahoma Small Business Capital Formation Incentive Acts

2007: Evans, R., Rural Enterprises of Oklahoma, Inc., A 25-Year Impact Report

### **Working Papers**

Evans, R. & Dearmon, J. (2016). *Estimating the Localized Maringal Effects of Proximity to TIF Districts*

Evans, R., Dean, K., and Jon Willner (2016). *Thunder Up the Taxes*, submitted and under review

Evans, R. & Gade, M. (2016). *A Localized Analysis of Property Tax Incidence Across Space and Time*

### **Academic Service**

#### **College Assignments**

2013-2014 – 2015-2016: Curriculum and Academic Affairs

2011-2012 – 2015-2016: Leadership Committee

2011-2012 – 2012-2013: Academic Affairs

#### **University Assignments**

2014-2015: University Prioritization Committee – Staff and Support Programs

### **Service to the Profession**

#### **Speeches and Keynote Addresses**

2016: Duncan Economic Development Authority Annual Banquet.

2016: Mid-Continent Digital Oilfield Conference.

2016: International Association of Drilling Contractors Luncheon.

2016: Oklahoma Ready-Mix Concrete Association Annual Meeting.

2016: Consumer Sentiment in Oklahoma: Arvest Bank Luncheon.

2016: Council of Petroleum Accountants Societies: Energy and the Oklahoma Economy.

2016: Southwest Oklahoma Impact Coalition.

2016: Osage Oil and Gas Summit.

2016: Edmond Economic Development Authority 4 O' Clock Forecast.

2016: Northwest Oklahoma City Homebuilders Association Luncheon.

2016: Environmental Programs and Economics: Seeking Balance.

2016: Oklahoma Banker's Symposium Sponsored by BKD.

2016: Oklahoma Society of CPA's, Fall Conference.

2016: Oklahoma Education and Industry Partnership Conference.

2015: Economic Club of Oklahoma.

2015: Oklahoma City Cash Management Association.

2015: Cherokee Nation Economic Impact Luncheon.

2015: The Oklahoma City Economic Roundtable.

2015: Oklahoma Ready-Mix Concrete Association Annual Meetings.

2014 – 2015: Bank SNB Select Client Reception.  
2014: Northwest Oklahoma City Rotary Luncheon.  
2014: Leadership Oklahoma City.  
2014: Tanzanian Energy and Power Conference.  
2014: MTM Sales and Recognition Annual Sales Meeting.  
2014: Regents Bank Board of Directors Meeting.  
2014: Oklahoma City Association of Petroleum Land Man Luncheon.  
2014: Edmond Economic Development Authority 4 O' Clock Forecast.  
2014: Cherokee Nation 10-Year Celebration.  
2014: Young Professionals Luncheon.  
2010: The Oklahoma City Economic Roundtable, Oklahoma City, Oklahoma.

**Speeches and Other Presentations**

2016: Economic Development in Oklahoma City Past, Present, and Future: Greater Oklahoma City Chamber of Commerce Small Group Member Sessions.  
2016: Leadership Oklahoma City, Economic Development Program.  
2016: Tax Increment Finance Districts in Oklahoma City: Greater Oklahoma City Chamber of Commerce Forum.  
2016: Annual Budget Workshop of the City Council of Oklahoma City.  
2016: City Management Association of Oklahoma, Winter Meeting.  
2016: State of the Economy Annual Luncheon of the Greater Oklahoma City Chamber of Commerce.  
2016: Oklahoma City Rotary.  
2016: OG&E Economic Outlook Forum and Executive Briefing.  
2016: Blue Cross Blue Shield Executive Planning Retreat.  
2016: Oklahoma City Business Roundtable.  
2016: State of the Economy Briefing: Bank SNB Executive Board.  
2016: Health, Productivity, and Economic Performance: Oklahoma Health Forum Sponsored by the U.S. Chamber of Commerce.  
2016: State of the Economy Briefing: Greater Oklahoma City Chamber of Commerce Board of Directors.  
2016: Tri-State Oil and Gas Conference.  
2014 – 2016: Oklahoma City Finance Office General Obligation Bond Rating Presentation.  
2015: Bancfirst Oklahoma City Community Board Meeting.  
2015: OKC Biz Best of Business Awards Luncheon, Panelist.

2015: Leadership Oklahoma City.

2014 – 2015: City Council Annual Budget Workshop, The City of Oklahoma City.

2014: The Fortune Club.

2014: The Oklahoma City Economic Affairs Breakfast Meeting.

2014: Native American Economic Impacts: McAfee and Taft Native American Working Group.

2014: Oklahoma Center for the Advancement of Science and Technology Conference.

2014: State of the Economy: Greater Oklahoma City Chamber of Commerce Luncheon.

2014: Leadership Oklahoma.

2014: Invited Lectures on Time Series Forecasting presented to the Devon Energy Supply Chain Management Group

### **Community Service**

2016: Oklahoma Academy for State Goals Town Hall Planning Committee

2015 – 2016: Northeast Oklahoma City Economic Renaissance Stakeholders

### **Faculty Development**

2013: National Association for Business Economics Advanced Time Series and Econometric Forecasting, D.C., District of Columbia.

### **Honors-Awards-Grants**

#### **Honors**

2007: Outstanding Part-Time Instructor, University of Central Oklahoma.

2004: Poole Distinguished Graduate Fellowship, Oklahoma State University.

2003: Outstanding Graduate Teaching Association, Oklahoma State University.

#### **Certifications**

National Association for Business Economics Certificate in Time Series Econometrics and Forecasting, 2013 (2013)

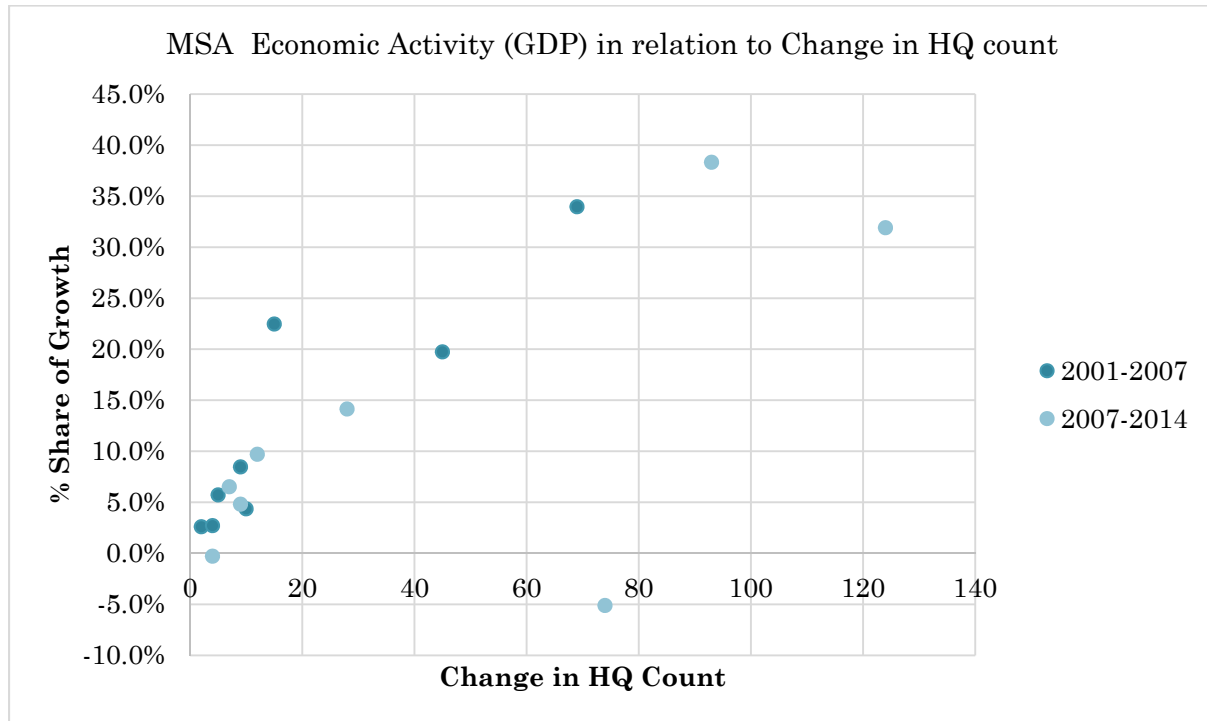
### **Memberships**

American Economic Association, 2010 - Present

Missouri Valley Economic Association, 2010 - Present

National Association for Business Economics, 2010 - Present

## Exhibit 1: Headquarter Changes and Economic Growth



### Exhibit 1 Data

MSA Region	% Share of Growth (2001-2007)	Change in HQ count (2007-2000)	% Share of Growth (2007-2014)	Change in HQ count (2014-2007)
Albuquerque, NM (Metropolitan Statistical Area)	2.6%	2	-0.3%	4
Austin-Round Rock, TX (Metropolitan Statistical Area)	8.5%	9	14.1%	28
Dallas-Fort Worth-Arlington, TX (Metropolitan Statistical Area)	19.7%	45	38.3%	93
Houston-The Woodlands-Sugar Land, TX (Metropolitan Statistical Area)	34.0%	69	31.9%	124
Oklahoma City, OK (Metropolitan Statistical Area)	2.7%	4	4.8%	9
Phoenix-Mesa-Scottsdale, AZ (Metropolitan Statistical Area)	22.5%	15	-5.1%	74
San Antonio-New Braunfels, TX (Metropolitan Statistical Area)	5.7%	5	9.7%	12
Tulsa, OK (Metropolitan Statistical Area)	4.4%	10	6.5%	7