



"Springtime in Indiana"
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From the Editors

*“The miracle is this – the more we share, the more we have.”
-Leonard Nimoy*

The *Journal of Public and Nonprofit Affairs (JPNA)* is pleased to announce the release of its inaugural issue. JPNA is the affiliate publication of the *Midwest Public Affairs Conference*, the third regional affiliate conference of the *American Society for Public Administration*. It is intended to provide timely, useful information to practitioners engaged in public service and the academic community, adopting an aggressive approach towards connecting theory to practice.

The journal is part of a growing movement towards free and open access to scholarship. We seek to remove publically funded research from subscription-based pay walls and into the public domain, where it can obtain the widest possible dissemination. Through the sponsorship of the *Midwest Public Affairs Conference* and the *Institute of Government at the University of Arkansas at Little Rock*, we are pleased to operate JPNA on a model of open access, without any publication fees for authors.

We endeavor to highlight research that is relevant to both practitioners and academicians of today. We actively encourage our authors to write with a greater focus on the applications of their research. Such work is meant to be read today and used tomorrow; providing actionable perspectives and techniques to improve public service.

Our first issue presents research from a symposium of scholars and practitioners from the *Indiana Chapter of the American Society for Public Administration*. Keeping with our theme of disseminating research that is actionable, this first issue addresses a wide range of topics, from budgeting and taxation to social media techniques for nonprofit organizations. Future issues will be comprised of both regular articles and symposia that will examine current trends and emerging problems. We welcome manuscripts for future issues from a wide range of perspectives in the fields of public administration, policy and nonprofit affairs, and we are particularly interested in the contributions of practitioners. We thank you for reading JPNA, and thank you for considering us as an outlet for publishing your research.

Robert J. Eger III, Ph.D.

Editor in Chief

Vickie Edwards, Ph.D.

Managing Editor

Stephen Kleinschmit, Ph.D.

President, *Midwest Public Affairs Conference*

Introduction to the Indiana ASPA Symposium

We were pleased to serve as co-editors for this special issue of the *Journal of Public and Nonprofit Affairs* sponsored by the Indiana Chapter of the American Society for Public Administration and featuring research by Indiana scholars. The articles selected for this issue represent a variety of topics which are examined using both qualitative and quantitative research methods. Our goal was to compile an issue that will be of interest to both academics and practitioners in public and nonprofit affairs.

Included in this issue is Bruce McDonald's article on "dirty" forecasting, a strategy involving the inclusion of non-traditional indicators to increase the accuracy of government revenue forecasts. The article includes a demonstration of the utility of dirty forecasting using a case study of the city of Seattle, Washington. Using data on Facebook posts by youth development organizations, Julia Carboni and Sarah Maxwell examine how nonprofit organizations can more effectively use social media to engage stakeholders. Justin Ross and Gyeoreh Lee present an argument for land-only taxation as a way to encourage economic growth and help local governments grow their way out of budget shortfalls resulting from Indiana's newly imposed system of property tax caps. JoAnna Mitchell-Brown provides a detailed case study of Indiana's "Stellar Communities" program, a recently implemented program intended to revitalize selected rural communities and involving state and local governments and private partnerships. Finally, Aaron Dusso and Sheila Suess Kennedy's contribution delves into the question of how people form and change their political beliefs by examining concepts of motivated reasoning and political sophistication.

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A “Dirty” Approach to Efficient Revenue Forecasting

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A “dirty forecast” refers to any forecast conducted where non-traditional, coincident indicators are included. These coincident indicators tell us about the behavior within an environment in the here and now rather than measure the environment itself. By focusing on behavior, dirty forecasts are able to pick up changes in the environment well before the changes become measurable outcomes. Dirty processes have been used for some time in economics, but their use in local government forecasting is relatively new. This paper explores the use by discussing what dirty forecasts are and how they can be used to obtain better, more efficient estimates of local government revenues and expenditures. This foundation is then demonstrated with a case study from the city of Seattle.

Key Words: Budget Forecasting, Dirty Forecasting, Local Government Revenue

One of the greatest challenges in the public budgeting process is the establishment of the government's revenue or expenditure forecast (Mikesell, 2014; Tsay, 2005). Forecasts are a commonly used tool in the budgeting process due to the uncertainty and ambiguity of available resources. Governmental budgets are often prepared years in advance, at a time when the needs of the citizenry are unknown, and the resources are not realized. To assist in the budget process, administrators and politicians rely upon forecast estimates to provide a framework, or baseline, of anticipated financial status upon which they can plan. Unfortunately, the condition surrounding the future is unknown and with this uncertainty comes a simple truth: we know forecasts will be wrong (Miller, 2005).

The goal of a successful forecaster is not to develop a perfect estimate, but rather to develop an efficient estimate that contains as little error as possible. This can be accomplished with the use of a “dirty forecast.” A dirty forecast refers to any forecast conducted where non-traditional, coincident indicators are included (McDonald, 2013). These coincident indicators tell us about the behavior within an environment in the here and now rather than measure the environment itself. By focusing on behavior, dirty forecasts are able to pick up changes in the environment well before changes become measurable outcomes. This awareness allows public officials to make adjustments to the budget, thereby avoiding problems and transforming financial management practices from responsive to dynamic.

Dirty forecasting is not a statistical technique per se, but instead a forecasting strategy that can be used to reduce forecasting error and achieve a higher degree of efficiency. Dirty processes have been used for some time in economics (Ginn, 2011), but their use in local government forecasting is relatively new (McDonald, 2013). This paper explores that use by discussing what dirty forecasts are and how they can be used to obtain better, more efficient estimates of local government revenues and expenditures. This is accomplished with a case study of Seattle, Washington from 1980 to 2009. By exploring Seattle's circumstance, community, and culture, dirty indicators are established, and a forecast of its revenues is estimated for the years 2010, 2011, and 2012. To investigate the efficiency, the dirty forecast is compared to an estimate derived from the city's established forecasting procedure and the observed data.

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The results of the analysis show that the model depicting the city's forecasting procedure does provide a good look at future revenues; however, the model is also full of error. On average, the city's model produced \$59.1 million in error for the forecasted years. This error is reduced to \$21.5 million, producing a more accurate estimate of revenue, with the dirty model that takes only the established dirty indicators into account. The best outcomes for predicting Seattle's revenue was a dirty-hybrid model, which takes both the city's process and the dirty indicators into account and produced an average of only \$8.5 million. Although dirty forecasting is not able to eliminate the error altogether, it is able to significantly reduce the error with the inclusion of only three dirty indicators. This supports the conclusion that dirty forecasting may be an effective tool in the budgeting process for local governments.

Forecasting in Public Budgeting

The process of forecasting is as much of an art as it is a science (Frank, 1993).² The science of forecasting involves complex models to explain the conditions of a government and predict its future environment (Klay & Vonasek, 2008; Morgan, 2012). These models can be mathematically based, requiring complex statistical tools and large quantities of data, or they can be procedural, whereby a predetermined set of steps can be utilized to produce an estimate. Alternatively, the art of forecasting involves the ability to navigate the decision-making process to choose between competing forecasts and to alter organizational behavior based on the estimates (Frank, 1993; Klein, 1984; Schultz, 1984).

To conduct a forecast of a government's anticipated revenues or expenditures, forecasters must develop a model or procedure for their respective government (Kavanagh & Iglehart, 2012). This model will rely on historical data, typically annualized, upon which future levels may be based. The most commonly taught approach to developing a forecast model is an average value approach, whereby revenues and expenditures are expected to be path dependent (Finkler, 2010; Horgren, Harrison, & Oliver, 2011; Mikesell, 2014). In the average value approach, estimates are derived by increasing the previous year's revenues or expenditures by its average growth rate. According to Mikesell (2014), such a simple process provides a relatively efficient estimate due to the slow nature by which government programs change; however, efficiency relies upon the assumption that revenues and expenditures will always increase and the operating environment will remain on a consistent trajectory (see also Miller, 1991).³

A more complex approach to forecasting can also be used (Kirn, 2007). Through complexity, the forecaster can better account for the operating environment of a government, such as its economic and demographic characteristics (Frank, 1993; Mikesell, 2014; Morgan, 2012). This is typically accomplished through some form of regression analysis, but can also be achieved through the inclusion of a data's autoregressive properties or through the development of a system-wide model (Kirn, 2007). The benefit of complexity is that the more information included in the model, the better the coefficient of determination it will produce. However, complexity is not without cost. Simple approaches to forecasting, such as the average growth rate approach, are easy to teach, allowing the process to diffuse across the public sector. Alternatively, with complexity comes a required skill; and, the more complex the model, the more costly that skill set is to employ.

² The discussion provided in this section is in no way a thorough treatment of forecasting. Those who may be interested in such a treatment are encouraged to see Frank (1993) and Sun and Lynch (2008). Those interested in the development and history of models are encouraged to see Morgan (2012).

³ It is worth noting that Mikesell's (2014) treatment of the average value process does provide readers with a word of warning that the operating environment of a government is certain to fluctuate and the successful budgetor should account for these fluctuations.

Regardless of the forecasting model selected, the estimates that it produces are, at best, an educated guess. The goal of the successful forecaster is not to develop a perfect estimate but rather to develop an estimate with as little error as possible (Frank, 1993). Although not frequently discussed, the presence of error can create significant financial difficulty for governments. For example, during the Great Recession, states and local governments budgeted according to their expectation of tax revenues. However, when realized revenues were less than anticipated, budget shortfalls ensued and governments were faced with a choice of raising taxes, reducing services, or issuing new debt (Gordon, 2012; Jonas, 2012).

Efforts to reduce error within the forecasting of public organizations have largely been quantitatively based. Statistically speaking, this is accomplished by improving measures of the goodness of fit (Xu, Kayser, & Holland, 2008), where forecasters base their decisions about model structure on the outcome of testing alternative arrangements using the most recent historical data available (see also Kavanagh & Iglehart, 2012). Qualitatively, forecasters have adopted a number of approaches to reducing error. One such approach is from Klay and Vonasek (2008), whose discussion of consensus forecasting highlights a negotiation process in the selection of estimates. In the consensus forecasting process, a panel of experts is assembled and encouraged to share their experience and opinions on forecasts until a dominantly accepted forecast emerges. The intent is to produce a more accurate estimate by taking into account the pooled knowledge and experience of the experts. Examples can be seen in a variety of government arenas, including the State of Florida's demographic estimates (Office of Economic and Demographic Research, 2011) and the Federal Reserve's forecast of the U.S. economy (Abolafia, 2004).

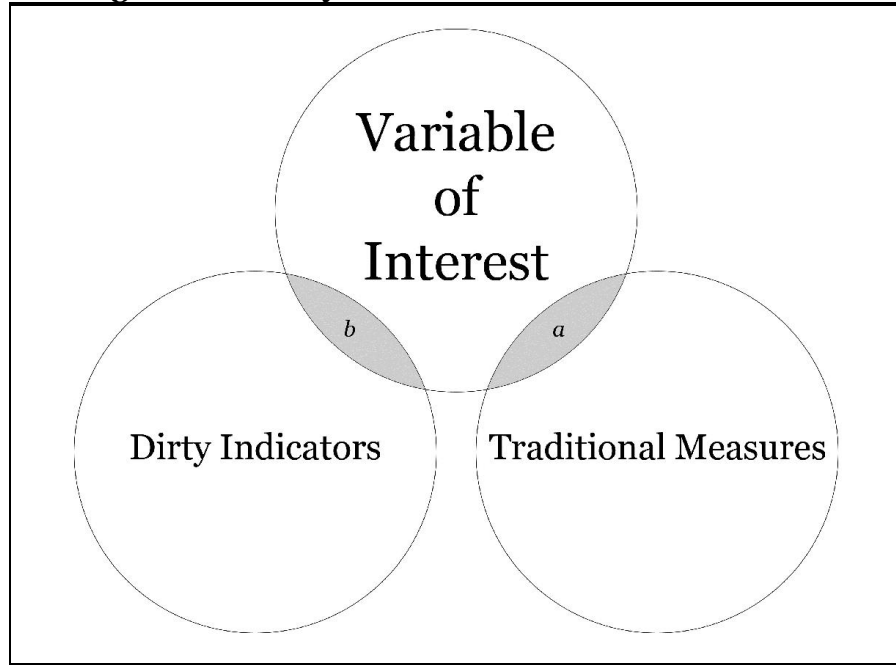
Research into quantitative and qualitative forecasting efforts have assisted in the reduction of error, but there is still room for improvement. Specifically, there is room for improvement in the nature in which forecasts are conducted. A key cause of error is the reactionary nature of standard forecasting procedures. Standards from the Government Finance Officers Association recommend five years of monthly data (Kavanagh & Iglehart, 2012); however, some cyclical influences can take much longer for the pattern to become evident (Cooley & Prescott, 1995; Tsay, 2005). As a result, the budget process is reactive, requiring a noticeable change in the environment for its underlying forecast to be adjusted. The challenge in reducing forecast error is to transform the budget process from reactive to proactive, where the forecast can anticipate changes and allow the budget to be adjusted accordingly before the change becomes a problem.

What is Dirty Forecasting?

Within public administration, we typically treat problems in forecasting as a public sector issue. While public sector issues deserve public sector solutions, forecasting error is a problem for all disciplines that rely upon forecasting as a tool. None have gone so far as to reduce the occurrence of error as researchers and practitioners within the field of economics.

The field of economics relies heavily upon forecasting techniques for estimates of future measures, such as GDP, investment, and unemployment. The traditional, statistical approach to forecasting has been based upon the identification, specification, and estimation of a single model (Bunn, 1996). Although variation does exist across the field, the tendency is rely heavily upon established models and economic theory as a guide to the forecasting process (Bunn, 1996; Clements, 2002). Through this trend, forecast estimates gain a degree of legitimacy regardless of their efficiency. Statistically, the techniques developed within economics have reduced the amount of error, but they have been unable to eradicate it. In this regard, economic forecasting

Figure 1: Venn Diagram of a Dirty Forecast



is similar to forecasting in public budgeting in that error is always present and it is the challenge of the forecaster to reduce or minimize that error.

One outcome of the work in economics is that the accuracy of a forecast may depend on whether its objective is to obtain long-term or short-term estimates. Long-term, the use of established models and theory to drive a forecast has produced estimates with minimal error, but this is likely the result of a regression to the mean (Fildes & Stekler, 2002). When the objective is to obtain short-term estimates, forecasts have demonstrated considerable error, frequently missing changes in the environment (Clements, 2002). For example, economic forecasts captured the trends of the 1970s, 1980s, and 1990s, but they have failed to predict any of the recessions observed by the United States during that time (McNees, 1992a, 1992b). According to Clements (2002), a solution to short-term efficiency may be the introduction of societal coincidence indicators (see also Bunn, 1996).

The inclusion of a societal coincidence indicator in the forecasting process creates a non-traditional, or “dirty” forecast (McDonald, 2013). Such indicators rely upon a forecaster’s judgment to capture the behavior of the environment and translate that behavior into usable measures. The expectation is that behavior is indicative of market conditions. When conditions change, or are expected to change, individuals adjust their behavior accordingly. By focusing on behavior, dirty forecasts are able to capture changes in the environment well before the changes become measurable outcomes. This creates a dynamic forecast that is predictive of change rather than responsive and allows forecasters and those who utilize forecasts to more easily make adjustments when circumstances change.

Dirty indicators are not intended to replace traditional measures. Rather, they are intended to complement traditional measures by capturing a share of the dependent variable not previously accounted for. This complementary relationship can be represented with a Venn diagram of the forecast, as demonstrated by Figure 1. Traditionally, a strong theoretical association between the dependent and independent variables of a forecast is desired. The theoretical link between the

Table 1: Correlation to U.S. GDP, 1977-1997

Variable	Correlation
Folded Paperboard Boxes	0.9894
Corrugated and Solid Fiber Boxes	0.9829
Gross Private Domestic Investment	0.9729

Source: Bureau of Economic Analysis (2013a)

dirty indicators and their dependent variable is often murky, but they exhibit a high degree of face validity. That is, an indicator can be considered and included because it makes sense that a relationship might exist.

An example of dirty forecasting comes from Alan Greenspan. During his tenure as Chairman of the Federal Reserve, Greenspan was known to consider a variety of dirty measures to understand the behavior of the market and the direction that the economy was heading (Smick, 2008). Included in these measures is the production of cardboard boxes (see Dizard, 2007). Greenspan assumed that since most things utilized by the economy are placed into a cardboard box at some point in time, an increase in production would signal a forthcoming economic boost. Evidence of the indicator's relationship to GDP can be seen in Table 1, which provides the correlations of cardboard box production and gross private domestic investment (GPDI) with GDP for the United States from 1977 to 1997. Although the difference in the correlations may be minimal (about 98.3% for box production and 97.3% for GPDI), an accurate measure for GPDI can only be obtained several months to years' after the time period of interest; however, box production can be observed in real-time, providing an up-to-date picture of economic performance.

Other examples of established dirty measures include a lipstick indicator and a skirt-length indicator, both of which portray consumer confidence in the market (The Economist, 2009; van Baardwijk & Franses, 2010). The lipstick indicator suggests that people indulge in less-expensive luxury items when nervous about their future (Hill, Rodeheffer, Griskevicius, Durante, & White, 2012). An increase in lipstick sales suggests a lack of certainty about the economy and employment in the near future. The skirt length indicator monitors the average length of hemlines in the years new fashion lines, assuming that the shorter the hemline, the more confident the consumer in the economic position (Docherty & Hann, 1994).

Dirty Forecasting in Public Budgeting

Thus far, the discussion of non-traditional, dirty indicators and their utility has been limited to economics. Just as with economics, the goal of a forecaster in the budget process is to produce an estimate with as little error as possible. It might then be possible that the introduction of dirty forecasting to public budgeting can produce an outcome similar to that of economics: a more efficient budget estimation and a forecast that is proactive in nature rather than reactive.

The use of forecasting in the public budgeting process is frequently scripted: forecasters follow a set procedure established by the government or some other influential body (Department of the Treasury, 2013; Kavanagh & Iglehart, 2012). The intent of the script is to minimize user error and establish legitimacy for the estimates they produce, but they do little in the way of minimizing the error of the forecast itself. By utilizing a "catch-all" forecasting procedure, we risk the introduction of more error through the assumption that the conditions of all governments are alike. For example, a catch all process assumes the conditions influencing the budget of Chicago, IL are identical to the conditions influencing the budget of Woodville, FL.

The minimization of this error occurs by tailoring a forecast model and procedure to the government it estimates. This can be done through the adoption of dirty forecasting.

The behavioral focus of dirty indicators allow for a forecast to be tailored to the population that the government represents, capturing what makes the city or county unique from others. For example, a city that is heavily reliant upon a sports team for tourism can often utilize the success rate of the team during the season as a predictor of tourism related revenue and public safety needs.⁴ Not only would a tailored approach provide a better foundation for a forecast, but it provides a forecast that public officials and residents alike can relate to.

More important than tailoring a forecast is what the adoption of a dirty approach means for the transformation of financial management practices. When a budget is prepared using estimates made with standard forecasting procedures, it is difficult to adjust the budget when the underlying circumstances change. Evidence of such situations can be seen from the Great Recession. Prior to the onset of the recession, governments budgeted their expenditures with the assumption that a strong economy would continue (Jonas, 2012). By the start of the collapse, budgets were difficult to adjust around the change in expected revenue as many programs were already underway or under contract. In some instances, such as the case of Saint Joseph County, Indiana, revenues were not realized until 18 months later, meaning the budget could not be adjusted as it had long since passed. Ultimately, their inability to adjust the budget caused many local governments to overspend after tax revenues came in under the estimates (Maguire, 2011; Martin, Levey, & Cawley, 2012).

The inclusion of a dirty indicator can address these problems by transforming the budget from a static process to a dynamic one. Just as the production of cardboard boxes signals a change in the economy before it can be measured with traditional variables, the inclusion of a dirty indicator in a revenue or expenditure forecast can signal a change in revenue well before revenues are realized. Examples of dirty indicators relevant to the budget process include the types of restaurants visited by the population and the mode by which houses are listed on the market. A change in the type of restaurant frequented by a population from a fine dining or middle tier restaurant to more budget-minded family dining could signal a change in the household’s financial priorities that will impact the tax revenues a government receives and the public services desired from that government. A similar impact can be expected when there is an increase in houses listed on the market as for sale by owner instead of through a realtor. This awareness allows public officials to make adjustments to the budget, avoiding problems and transforming financial management practices from responsive to dynamic. Had local governments included dirty indicators such as the number of houses for sale by owner, then the budgets could have been adjusted in anticipation of less revenue.

While dirty forecasting provides utility in the above fashions, its greatest utility comes in the form of increased efficiency. No matter how well they are prepared, the estimates derived from a forecast will be wrong. The goal of a forecaster is to reduce this error. The more information we use in a forecast, the better able the forecast is to provide an estimate with a high degree of accuracy. Although traditional forecasting measures, such as income, population, and previously observed revenues, do provide a degree of explanation, they do not fully explain revenue. The more variables we include, the more we are able to explain. Ultimately, a more efficient financial

⁴ Evidence of this relationship is seen in Leon County, Florida. Utilizing data from the county's annual budget, the established county forecasting strategy accurately predicts 91% of the county's public safety expenditures. Alternatively, the football record of Florida State University, which is located in the county, predicts approximately 98% of the expenditures.

process allows government officials to either reduce the tax burden placed upon residents or fund more programs and services.

Study Methodology

Seattle, Washington

To demonstrate the utility of dirty forecasting, a case study of the city of Seattle, Washington is adopted. Seattle is the largest city in the Pacific Northwest, with a population of 608,660 in the city and 3,439,809 in its metropolitan statistical area (MSA) (U. S. Census Bureau, 2010). Established in 1851, it is a charter city whose government takes the mayor-council form. Unlike most city councils, whose members are elected on a geographic or district basis, all nine members of Seattle's council are elected at-large. While all city offices are technically non-partisan, an at-large, city-based focus has allowed a liberal political culture to become established. This political culture has led to a number of progressive policies, such as the legalization of gay marriage and recreational marijuana, as well as a ban on plastic shopping bags.

Seattle's geographic location has helped in establishing it as an economic hub. The Port of Seattle is one of the largest in the United States. Currently, four of 2013's Fortune 500 companies are based in Seattle (Amazon.com, Expeditors International of Washington, Nordstrom, and Starbucks) and another four are based in neighboring communities (Costco, Microsoft, Paccar, and Weyerhaeuser). The diversification of its business community and its position as an integral port to the United States led to Seattle becoming the 12th largest metropolitan economy in 2012 with a gross metropolitan product of \$258.8 billion (Bureau of Economic Analysis, 2013b). The size and diversity of its economy has helped the city overcome the effects of the Great Recession with minimal loss.

The political and economic stability of the city make it an ideal case study. In a stable environment, the white noise of outside shocks will be minimized, adding a degree of certainty and validity to the results of the dirty forecast.

Methodology

To establish dirty indicators for Seattle, a thorough understanding of its government, economy and culture were needed. This was accomplished with a series of interviews using a snowball sampling process. Interviewees included public officials, professors and teachers, as well as members of the religious and non-profit community. Interviews were then subsidized with archival research from local publications when needed.⁵

Using information gathered from the interviews, a broad outline of city behavior was established and suitable measurements were pursued. When measures could be obtained, a dual approach was undertaken to determine the legitimacy of the measure as a dirty indicator. First, a casual path was drawn to clarify what the measure would indicate about the city's behavior and why. Second, a Granger causality test was conducted to verify its validity as a statistical indicator.

A Granger causality test is a test for statistically detecting the direction of causality (the cause and effect relationship) when there is a temporal lead-lag relationship between two variables. Developed by Granger (1969), the process of the test is simple: if past values of variable X

⁵ Local publications included *The Seattle Times*, *The Seattle Post-Intelligencer*, the *Seattle Daily Journal of Commerce*, and the University of Washington's *The Daily*.

contain information that helps forecast the current value of variable Y in a linear regression created from past values of X and Y , then the signal of X is said to “Granger cause” Y . Similarly, if the signal presented by variable Y can help forecast the value of X , then Y is said to “Granger cause” X . This relationship is formulated as:

$$Y_t = \sum_{i=1}^n \alpha_i X_{t-i} + \sum_{j=1}^n \beta_j Y_{t-j} + \varepsilon_{1t}$$

$$X_t = \sum_{j=1}^n \delta_j Y_{t-j} + \sum_{i=1}^n \lambda_i X_{t-i} + \varepsilon_{2t}$$

where Y is the revenue of the city of Seattle and X is representative of the measures of interest as previously identified from the interviews. To establish the appropriate lag structure of the potential indicator, an Akaike Information Criteria (AIC) is used. Created by Akaike (1973, 1974), the AIC is a process of maximizing the fit of a model by utilizing the past information of a data set. It follows the process of maximizing the fit across past values of a variable while minimizing the information lost over time.

The concept of causality is useful in establishing a dirty forecast because Granger non-causality is a necessary, but not wholly sufficient, condition for strong exogeneity. Thus, if the results of the test show that X Granger causes Y , then Y cannot be a strongly exogenous variable. The converse, however, is not true. If the evidence shows that X does not Granger cause Y , then it cannot be used to conclude that Y is an exogenous variable. In order to conclude that one of the measures of interest is a dirty indicator, the findings must show unidirectional causality from the measure of interest to the revenue. That is, the non-causality between the city's total revenue and the measure must be rejected while simultaneously failing to reject the non-causality of the measure to the revenue. Should both the measures Granger cause each other or the measures not Granger cause the total government revenue, then the measure is rejected as a dirty indicator.

The lag of a variable, as established by the AIC and utilized in the Granger causality test, establishes the preemptive nature of the dirty forecast. It clarifies the optimal point of predictability of a dirty indicator over time. For instance, if the AIC establishes a two-year lag structure for an indicator, then a change in the indicator's value can provide administrations with an anticipation of a change in revenue two years prior to the observed change in revenue. This preemptive nature provides public managers with the opportunity to adjust their policies prior to in preparation.

Once a set of dirty indicators is established, three models of Seattle's revenue are estimated. The first model follows the process established by the city for forecasting its revenue. The second relies solely upon the dirty indicators as predictors of revenue. The third model is a dirty hybrid that follows the established model but includes the dirty indicators. Next, the estimated models are utilized to forecast the revenues for 2010, 2011, and 2012. Comparing the forecasts to the observed revenue, the efficiency of the models is compared.

Central to both the Granger causality test and the model estimates are the data utilized. All data for analysis are for the years 1980 through 2009. Data necessary to estimate Seattle's model, as well as total government revenue, are from the city's Department of Finance and Administrative Services. (Data for sources of the dirty measures are discussed below.)

Table 2: Simple Statistics

Variable	Mean	Std. Dev.	Min.	Max.
Revenue	453,466,300	225,390,035	140,864,000	893,128,056
Coffee	6,060.430	9,831.190	163.000	22,642.000
Farm	31,238,900	16,298,404	4,341,000	67,246,000
Music	1,001,314,666	376,883,453	572,000,000	1,921,240,000

Table 3: Granger Causality Test Statistics

Causal Relationship	Lags	F-statistics	P-value
Measure to Revenue			
Coffee	2	6.53	0.040
Farm	2	12.90	0.045
Music	3	7.13	0.068
Revenue to Measure			
Coffee	2	1.07	0.163
Farm	2	0.99	0.479
Music	3	1.76	0.187

Dirty Indicators

Following the process established in this paper, 33 potential indicators were established. Of these, consistent and reliable data was only available for 16, and only three showed the statistical relationship necessary to be counted as a dirty indicator. As intended with dirty forecasting, the indicators capture unique behaviors within the county and influencing the county and maintain a strong statistical relationship with the city of Seattle's total government revenue, despite the absence of a strong theoretical relationship. Summary statistics and the results of the Granger causality tests are provided in Tables 2 and 3.

One consistent reference that emerged from the interviews was the coffee culture that surrounds the city. While Seattle is the corporate home of to five coffee roasting companies, coffee is also a part of daily life with an estimated 35 coffee shops per 100,000 residents. To capture the coffee culture, a number of potential indicators were considered, including coffee production and imports. Ultimately, only the domestic consumption of coffee showed the relationships necessary to be included as a dirty indicator. Measured in thousands of 60 kg bags and obtained from the U.S. Department of Agriculture, the variable *coffee* is believed to capture both the economic drive and the disposable income available within the community. When a household's circumstances change, it adjusts its behavior by reducing or eliminating the consumption of luxury goods. By monitoring coffee consumption, we can see if and when such a change occurs. Based on the Granger causality test, coffee consumption is shown to "Granger cause" Seattle's total revenue with a lag of two years.

The second dirty indicator relates to the farmers market mentality of the city. Interviewees commented that engagement with the local markets is a common practice and that each market has its own character and dynamic that reflects the surrounding neighborhood. A farmers market may provide fresh produce, but the opportunity to attend can be difficult as they may be held at inconvenient times or locations. The decision of a household to attend a farmers market reflects several household features, including the time and opportunity to attend and the income to spend on fresh produce. As the conditions of the household change, so may its capacity for food purchases. Supermarkets are more conveniently located and offer hours of operations more

Table 4: Estimates of Revenue Models

Variable	City Model		Dirty Model		Hybrid Model	
	Coef.	P> z	Coef.	P> z	Coef.	P> z
Revenue _{t-2}	0.6429	0.017	---	---	0.7102	0.027
Revenue _{t-3}	0.4554	0.097	---	---	0.4493	0.142
Coffee _{t-2}	---	---	13,501.040	0.000	-855.8596	0.029
Farm _{t-2}	---	---	1.007	0.036	-0.1516	0.047
Music _{t-2}	---	---	-0.0639	0.067	0.0611	0.035
Music _{t-3}	---	---	0.5718	0.003	-0.1075	0.013
Constant*	21,096	0.004	-73,235	0.034	43,119	0.006
R ²	0.9619		0.9895		0.9972	
Adjusted R ²	0.9484		0.9757		0.9963	
RMSE*	13,873		7,668		2,818	

*Represented in thousands of dollars.

conducive to busy schedules. They also offer a variety of products not available in a farmers market which may reduce the total cost of spending on groceries or improve the ease with which a meal may be prepared. Therefore, large shifts in the farming income may reflect a shift in the capacity of the household's time or income. This farmers market mentality, represented as the variable *farm*, is captured in this study through the non-corporate farming income earned within Seattle's MSA. Using data from the regional economic accounts of the U.S. Department of Commerce's Bureau of Economic Analysis, farming income is shown to cause revenue with a two-year lag.

The final dirty indicator reflects the city's relationship with the music industry. Seattle has long been recognized for its role in the music industry, including the grunge scene of the 1990s and the independent movement of the 2000s. The technology industry located in the area contributed to this role with the development of new formats, such as CDs and digital, when the industry standard had been vinyl and 8-track. A shift in music distribution may signal a change in the economy of Seattle and the demand for its music-related products, but it may also reflect a change in how consumers are engaging with the market. Alternative forms of music delivery exist, such as reliance upon a radio, file sharing or internet streaming. As consumers change how they engage the music market, they are likely to change their reliance upon other market services as well. This change in reliance may shift the collection of sales and other consumption taxes in Seattle. Seattle's relationship with the music industry is captured in the variable *music*, which represents the total millions of units of music distributed across all formats, as reported by the Recording Industry Association of America. However, unlike the previous dirty indicators that relied upon two-year lags, *music* relies upon a three-year lag.

Revenue Forecasts

Utilizing data from 1980 and 2009, the three models of the city of Seattle's total revenue were estimated using ordinary least squares regression. The results of these regression analyses are provided in Table 4.

The first set of estimates are for the revenue forecasting model based on the process established by the city. According to interviews conducted with staff from the Department of Finance and Administrative Services, each stream of revenue is estimated independently with the forecast of total revenue achieved by adding the streams together. The estimate of each stream is reached

Table 5: Actual vs. Forecasted Revenue, 2010-2012 (thousands)

Model	2010		2011		2012	
	Forecast	Error	Forecast	Error	Forecast	Error
Actual Revenue	\$915,544	---	\$926,374	---	\$1,061,261	---
City Model	\$897,000	\$18,544	\$889,161	\$37,213	\$939,313	\$121,948
Dirty Model	\$914,000	\$1,544	\$948,161	\$21,787	\$1,020,000	\$41,261
Hybrid Model	\$915,000	\$544	\$934,000	\$7,626	\$1,044,000	\$17,261

by its past values,⁶ producing a total revenue whose forecast is also based on its past values.⁷ The past values included in the estimate are limited to the availability of data. (For example, to forecast 2015's revenue in 2014, the most recent year of observed revenue is 2013.) The results show significance for both the two- and three-year lags, such that every dollar collected in the two-year lag forecasts \$0.64 of revenue and the three-year lag forecasts \$0.45 of revenue. Although a simple process, the model is relatively strong, with a R^2 of 0.9619.

The second set of estimates are for the dirty model. Here, the lag of variables are again restricted around the availability of data. Domestic coffee consumption has the largest effect, with every 1,000 bags representing a change in the environment of Seattle capable of producing \$13,501 in revenue. Income from non-corporate farms within Seattle's MSA also has an effect of \$1.01 on total governmental revenue for each dollar earned. The final dirty measure is music distribution, which has both a two- and three-year lag. At the two-year lag, a million units of distributed music signals a change that is associated with a loss of \$0.06 in revenue. This effect is reversed with the three-year lag, resulting in an increase of \$0.57. The model also demonstrates considerable strength, with a R^2 of 0.9895.

The third, and final, set of estimates is for the hybrid model, which incorporates the features of the city and dirty models. When taking the dirty measures into account, the two-year lag of total revenue remains statistically significant, but the three-year lag does not. Based on the results, every dollar of revenue collected in the two-year lag forecasts \$0.71 of revenue. The dirty measures provide a much more interesting picture, with all dirty measures maintaining their significance. According to the estimates, every 1,000 bags of coffee consumption is associated with a reduction in total revenue by \$855.86 and every dollar of farm income, leading to its reduction by \$0.15. The total distribution of music shows a positive effect at the two-year lag, with every million units of distributed music signaling a change that is associated with an increase in total revenue by \$0.06. At the three-year lag, the effect is reversed, resulting in a decrease of \$0.11. This model maintained with the strength of the previous models, explaining almost all variance with a R^2 of 0.9972.

Each of the three models presents a strong explanation of total revenue for the city of Seattle; however, to better understand the utility of dirty forecasting, comparisons across models can be drawn. This comparison comes in two parts: a look at the ability of the models to explain variation in revenue, and a forecast of revenue for each model across a number of years. Beginning with the explanation of variation, all three models have strong R^2 's. The city's model has the lowest explanatory power, providing an explanation of 96.2% of all variation in revenue.

⁶ This process is a variant of the forecasting strategies by Finkler (2010) and Mikesell (2014) , who recommended using past values plus an established growth rate (such as what is presented in the coefficients of Table 4).

⁷ Some of the revenue streams do include economic conditions in their forecasting model. These conditions were excluded from the total revenue model as they lacked consistency over time and stream as to which variables were included. A test estimate was conducted that included economic variables; however, none of the variables was found to be statistically significant.

At 98.9%, the explanatory power is improved with the dirty forecast. The hybrid forecast provides the greatest understanding of total revenue with 99.7%. In modeling terms, the stronger the explanation, the stronger the model.

To better understand the explanatory power and the utility of the models, a forecast was drawn for the years 2010, 2011, and 2012. The results of these forecasts are presented in Table 5. At its face value, the city's model would present a good resource in forecasting its revenue. But, on closer inspection, the model produces an average error of \$59.1 million across the three years of forecasts. Conversely, the dirty forecast produces an average of only \$21.5 million in error. The model that produces the best results with the minimal error is the hybrid model. Across the forecast period, the hybrid model produces an average error of \$8.5 million.

Summary and Conclusions

One of the greatest challenges in the public budgeting process is the establishment of the government's revenue or expenditure forecast. The forecasts utilized in the public budgeting process rely upon models to reduce their error and achieve greater efficiency, allowing public administrators to continue providing their existing programs and services, as well as to plan new ones. Yet, finding a model that minimizes error is not without difficulty. It has been the argument of this paper that the adoption of dirty forecasting processes and techniques can be of assistance in this area.

Dirty forecasting is a forecasting strategy that incorporates non-traditional, coincident indicators into the forecasting process with the goal of reducing error and improving overall efficiency (McDonald, 2013). These coincident indicators tell us about the behavior within an environment in the here and now rather than measure the environment itself. By focusing on behavior, dirty forecasts are able to indicate a forthcoming change in the environment well before the change becomes a measurable outcome. This awareness allows public officials to make adjustments to the budget, avoiding problems and transforming financial management practices from responsive to dynamic.

The utility of dirty forecasting was shown with a case study of Seattle, Washington. By adopting three dirty indicators, a more efficient forecast for the city's total revenue was established. When these indicators were incorporated into the city's existing process, a forecasting procedure was established that maximizes predictability. Moving forward, the behavior of these indicators in recent years should pose a concern for the city's administrators. Total distribution of music, for instance has started to decline as consumers can access entertainment through other means (Owsinski, 2014). Similarly, domestic coffee consumption has begun to level off, with industry analysts discussing a shift in the volume and frequency of coffee consumption (National Coffee Association, 2014). When placed into the context of the dirty forecast, these changes indicate a future shift in Seattle's revenue in the next two to three years for which preparations should be made.

The case study of Seattle is not without its problems. A challenge with Seattle, and dirty forecasting in general, is the availability of data. A number of potential indicators were considered, such as the number and types of restaurants in the city (reflective of an individual's expectations on income) or the average transaction cost of gas at one of its pumps (reflective of economic desperation), but no record of these is kept. For others, the number of observations necessary for an appropriate analysis is unavailable. For example, Seattle is a highly-educated city with a variety of educational choices, ranging from public elementary schools to elite preparatory academies. In a short-term analysis, school enrollments reduced forecasting error

to within an average of \$2,200. Unfortunately, the long-term data necessary for a complete analysis was unavailable at the time of publication.

Although this study shows the utility of dirty forecasting, data problems do present an ongoing challenge. The indicators important for one government are likely to be different than the indicators that are important to another government, making a blanket recommendation on variables to collect difficult and costly. The advent of new technologies has improved data collection in recent years, but until the number of observations increase to adequate levels or its availability becomes more widespread, dirty forecasting can only be implemented on a case-by-case basis.

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Effective Social Media Engagement for Nonprofits: What Matters?

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We employ public management relationship theory to examine how nonprofits can effectively engage social media stakeholders in two-way communication. Though many nonprofit organizations have a social media presence, there is variance in how well organizations use social media to engage stakeholders. Simply having a social media presence is not enough to engage stakeholders. We examine Facebook posts of a stratified random sample of youth development organizations to determine what predicts stakeholder engagement. We find the type of Facebook post is a significant predictor of stakeholder engagement. Longer posts also significantly predict increased stakeholder engagement. At the organizational level, having many posts is a significant negative predictor of stakeholder engagement, indicating that users may feel bombarded and are less likely to engage. Increased organizational spending on advertising as a proportion of total budget is positively associated with stakeholder engagement.

Key words: nonprofit communications, social media, stakeholder engagement, public management relationship theory

Introduction

How can nonprofit organizations engage social media stakeholders? Engagement involves two-way communication between nonprofit organizations and social media users. While many nonprofit organizations have a social media presence, owning a social media account does not equate to two-way engagement with stakeholder groups (Maxwell & Carboni, 2014). Nonprofits can include social media as part of a larger communications strategy to engage stakeholders. Although the public relations literature has long emphasized targeted communications strategies for organizations, scholars have only recently begun to examine the targeted use of social media for stakeholder engagement (Bortree & Selzter, 2009; Maxwell & Carboni, 2014; Waters, 2008; Waters et al., 2009; Westcott, 2007). Social media provides a communication platform for nonprofits to reach large numbers of stakeholders quickly, efficiently, and publicly. Understanding effective social media engagement is especially important for nonprofits, as the number of nonprofits using social media has exploded in recent years (M+ R NTEN, 2012).

However, many nonprofits do not strategically employ social media for two-way communication with users (Bortree and Seltzer, 2009; Brock and Buteau, 2012; Foundation Center, 2014; Lovejoy, Waters & Saxton, 2012; Waters et al., 2009; Xifa & Grau, 2010). Nonprofits potentially face multiple challenges to effective use of social media for stakeholder engagement, including lack of staff, knowledge or resources to manage social media presence, privacy concerns of clients, and grantor restrictions on information that can be shared. For example, a recent study

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notes a network of organizations failed to adopt social media usage as a result of organizational policy (Maxwell & Carboni, 2014). A recent survey found that 74% of nonprofits using social media employ it as a megaphone for one-way engagement rather than a platform for strategic two-way communications. Additionally, 60% of respondent organizations were unsure why they needed to evaluate the effectiveness of social media presence (Sharma, 2014).

We use Hierarchical Linear Modeling (HLM) to examine Facebook post data of youth development organizations to determine which Facebook posts generate the most engagement from stakeholders. We use Relationship Management Theory (RMT) as a theoretical base to highlight the interaction with which nonprofits engage their stakeholders. RMT theory emphasizes communication as a tool to build relationships with stakeholders as a means to achieve organizational goals (Ledingham, 2003). Stakeholder engagement through social media is a communication strategy used to develop and maintain relationships with stakeholders that may contribute to achieving organizational goals. We find that Facebook post type is a significant predictor of stakeholder engagement. Specifically, photos are significantly more likely to result in stakeholder engagement than other types of status updates such as videos, external links, or plain text. Longer posts also significantly predict increased stakeholder engagement. At the organizational level, having many posts is a significant negative predictor of stakeholder engagement, indicating that users may feel bombarded and are less likely to engage. Also at the organizational level, increased spending on advertising as a proportion of total budget is positively associated with stakeholder engagement.

Literature Review and Hypothesis Development

Relationship Management Theory (RMT) recognizes that developing relationships with stakeholders is critical to the well-being of organizations and that communication is a strategic tool to build and maintain relationships (Dozier et al., 1995; Ledingham, 2003). Aspects of relationships, especially communication between focal organizations and stakeholders, are the appropriate units of analysis in this theory. Communication with stakeholders should be dialogic, or two-way engagement, rather than simple one-way information sharing, and should be tailored to specific stakeholder groups (Ledingham, 2003; Ledingham & Brunig, 2000). In this study, we focus on nonprofit organization communication with Facebook users to determine which types of posts by nonprofit organizations are most likely to lead to Facebook user engagement with organizational posts.

Social media are natural platforms used to encourage two-way communication between organizations and social media users in ways not previously possible (Lovejoy & Saxton, 2012; Saxton, Guo & Brown, 2007). Social media provide organizations with opportunities to engage in simultaneous dialogic communication with many stakeholders in a public space. The way communications are managed by nonprofit organizations may affect stakeholder attitudes, perceptions, knowledge and behavior toward organizations, which can result in more or less engagement by stakeholders (Ledingham and Brunig, 1998). Stakeholder engagement is an indication of the relationship between the nonprofit and targeted stakeholder group (Facebook users) (Broom et al., 2000). Facebook posts are a communication strategy used by nonprofits to engage stakeholders. One way to gauge whether organizations are effectively engaging with stakeholder groups via social media is to determine whether exchanges are two-way with targeted groups responding to the communications of the nonprofit organization. As social media use among organizations becomes more prevalent, organizations compete for the attention of users in the social media space. User engagement with an organization's social media communications signals that organization has broken through to "win" the competition for user attention.

We examine Facebook social media communication strategies to determine which strategies are likely to result in two-way engagement of stakeholders. Facebook user engagement is an underdeveloped area of scholarly and practical inquiry, even though nonprofits organizations' use of social media has exploded in recent years. Facebook users are distinct from other stakeholder groups in that they have chosen to engage with the nonprofit organization through a social media platform. While these users may interact with the organizations in other ways, we only consider the "Facebook user" aspect of their interaction with the nonprofit in this paper. Although nonprofits generally still rely primarily on email communication, Facebook is the most popular social media platform for nonprofits (Auger, 2013; M+R NTEN, 2012). Despite increased Facebook presence, research has established that nonprofits do not quite know how to use social media and risk losing users with too many messages (M+R NTEN, 2012).

How an organization chooses to communicate is a strategic decision about how to share information and engage stakeholders (Ledingham, 2003). Information should be useful to stakeholders (Taylor, Kent & White, 2001). Usefulness of social media often depends on how information is being shared (Crespo, 2007). In Facebook, the type of post is likely to influence whether users engage with the post by liking, commenting on, or sharing the post. Facebook offers four types of posts: status updates, links to external sites, multimedia posts with photo, and multimedia posts with video. Status updates include only text and can be experienced by being read. Multimedia posts with photo or video may also contain text. Photos and videos are experienced by being viewed. Posts with links include web links to external websites. We predict that as posts grow more dynamic, they will result in more engagement. By dynamic, we mean that users experience the post in multiple ways. Status updates are read, while multimedia posts with photos and video, and posts with external links require more participation to be fully understood. Those posts that require more participation are likely to result in more engagement. This relationship is stated in the following hypothesis:

H1: More dynamic posts will result in more total post engagement by social media stakeholders.

Length of post is also likely to be important. We predict that longer posts will result in more engagement because there will be more information for stakeholders to experience and respond to, making it likely that more users will relate to the post. This relationship is stated in the following hypothesis:

H2: Longer posts will result in more total post engagement by social media stakeholders.

In addition to characteristics about the individual post influencing total engagement for that post, we propose that organizational characteristics will influence stakeholder engagement with a post. Stakeholder engagement is a dynamic process made up of individual transactions that form a relationship between the organization and stakeholder group (Ledingham, 2003). Careful management of transactions may increase engagement. Additionally, organizational factors such as dependence on contributions, capacity to communicate with external stakeholders, and organizational size may influence the total engagement received by a particular post.

Prior use of dialogic strategies may lead to greater engagement (Bortree and Selzter, 2009; Sweetser and Lariscy, 2008; Taylor, Kent & White, 2001). We predict that total Facebook activity will influence stakeholder engagement with a particular Facebook post. As total

Facebook activity goes up, total engagement for a post will also go up. This relationship is stated in the following hypothesis:

H3: As total Facebook activity increases, total post engagement for individual posts by social media stakeholders will also increase.

In a social media platform, communication with stakeholders can be viewed by many people; it is public. Community support is tied to developing dialogic communication with stakeholder groups (Ledingham and Brunig, 1998). Following this, we predict that total stakeholder engagement for individual posts will be related to total stakeholder engagement for all posts by the organization. As organizations receive more support from Facebook stakeholders, they will raise their organizational profile, and stakeholders will be more likely to engage specific posts. This relationship is stated in the following hypothesis:

H4: As Facebook stakeholder engagement for an organization increases, the total post engagement for individual posts by social media stakeholders will also increase.

Organizational factors unrelated to Facebook activity are also likely to influence total engagement with an individual post. Following a resource-dependence perspective (Pfeffer and Salancik, 1978), we propose that as nonprofit organizations become more dependent on contributions as a source of revenue, they are more likely to focus on creating posts that generate stakeholder engagement. Where organizations are dependent on stakeholders for resources, are more likely to be strategic about communications to ensure continued stakeholder investment (Ledingham, 2003). This relationship is stated in the following hypothesis:

H5: As nonprofit organizations become more dependent on contribution revenue, the total post engagement for individual posts by social media stakeholders is likely to increase.

Additionally, organizations with dedicated public relations or public relations like staff are more likely to engage in targeted social media that meets organizational goals (Curtis et al., 2010). We predict that as organizations commit more resources to external stakeholder engagement, their Facebook posts will receive more engagement. This relationship is stated in the following hypothesis:

H6: As nonprofit organizations invest more resources in communicating with external stakeholders, the total post engagement for individual posts by social media stakeholders will increase.

Data and Methods

We analyze Facebook data from a stratified random sample of 150 youth serving nonprofit organizations based on National Taxonomy of Exempt Entities (NTEE) code. The (NTEE) is the IRS classification system used to organize nonprofit organizations in the United States (Urban Institute, 2014). Originating from the National Center for Charitable Statistics (NCCS) at the Urban Institute, NTEE separates youth development organizations from a taxonomy of ten overarching categories. These include mentoring, youth centers, agricultural programs such as 4-H, advocacy organizations, and Boys and Girls clubs (Guidestar, 2014). Guidestar (2014) lists

nearly 37,000 youth development organizations in its most recent directory, which classifies youth development under Human Services. If a separate search is employed for youth overall, the directory produces close to 49,000 organizations. Of the tens of thousands of youth organizations, the missions involve a range of services, but generally focus on leadership, sports, emotional growth, after school, and intervention strategies for at-risk youth, and employment services (Guidestar, 2014).

Due to labor intense social media data collection, we chose a random sample of 50 organizations from three revenue classes of youth serving nonprofit organizations for a total of 150 organizations. This sample size is appropriate for our population. Revenue classes range from \$500,000 to \$1 million, \$1 million to \$2.5 million, and \$2.5 million to \$5 million. We chose these revenue classes because organizations with more than \$500,000 in revenue are more likely to have resources and capacity to strategically engage stakeholders via social media. Of the 150 organizations we sampled, 116 organizations had an active Facebook presence during the period studied.

Data Sources

We examine Facebook activity data and IRS Form 990 data for individual organizations. Facebook data are gathered over a two-week period using Simply Measured. Nonprofit data come from Guidestar's individual organizational IRS Form 990 reports, taken from the prior year. Simply Measured is a social media analytics platform developed for organizations to assess their social media efforts including engagement of social media users. This program allows for detailed content analyses of Facebook engagement data. Engagement is defined as likes + shares + posts (Simply Measured, 2014). Reports for individual organizations were downloaded in July and August of 2014. Each report covers two weeks' worth of Facebook post activity for each organization. Guidestar is a commercially available program, offering financial data and 990 forms for tax-exempt organizations in the U.S. The IRS Form 990 provides data collected from the IRS related to nonprofit organizations' finances, missions, and programs.

Modeling Strategy

To analyze the data, we employ a hierarchical linear modeling (HLM) strategy. HLMs are multilevel regression models designed to evaluate cross-level interactions in nested data. This strategy is widely used by researchers in multiple fields to assess effects of independent variables across nested cases (Raudenbush and Bryk, 2002). HLM should be used if data are clustered into statistically-meaningful groups, meaning that data are not independent within a cluster, and regression relationships vary by group. Classic examples of nested data include students in schools and children in families. In this paper, we nest individual Facebook posts within organizations. A likelihood ratio test indicates individual post data is meaningfully clustered into organizations.

Variables

Dependent Variable- In HLM, dependent variables are at the lowest level of data (Level 1), which is the individual Facebook post. The dependent variable for our model is total engagement per post, which includes the number of likes, comments, and shares for each post. It is a continuous variable. Because this variable is not normally distributed, we use the natural log of total engagement per post in our model. Data comes from Simply Measured Reports. Descriptive statistics can be found in Table 1.

Level 1 Independent Variables- Level one independent variables relate to individual Facebook posts and include the type of post and length of post. Data for both variables come from Simply Measured reports. Type of post is a categorical variable with the following categories: status

updates, links to other content, multimedia photo, or multimedia video. In our model, the reference category is status update. This variable relates to Hypothesis 1. Length of post is a continuous variable that refers to the number of characters in a post. Because this variable is not normally distributed, we use the natural log of length of post in our model. This variable relates to Hypothesis 2. Descriptive statistics can be found in Table 1.

Level 2 Independent Variables- Individual post data are clustered into organizations. Level two independent variables are measured at the organizational level. Variables are overall Facebook activity during the period studied; stakeholder engagement with other Facebook posts by the organization; contributions as a proportion of total annual income; and advertising as a proportion of total annual expenses. Data for overall Facebook activity and engagement come from Simply Measured Reports. Contribution income and advertising expense data come from IRS Form 990 reports.

Overall Facebook activity is a continuous variable that includes the count of all posts during the time period studied. This variable relates to Hypothesis 3. Engagement from other Facebook posts is a continuous variable that includes the total engagement with all other posts by the organization during the period studied. This variable relates to Hypothesis 4. Contributions as a proportion of total income is a proxy variable for how dependent the organization is on stakeholders. As contributions increase, dependence also increases. This variable relates to Hypothesis 5. Advertising as a proportion of total expenses is a proxy variable for how many resources the organization commits to appealing to external stakeholders. It relates to Hypothesis 6. Descriptive statistics for all variables can be found in Table 1.

Controls- We control for organizational size. The total assets in an organization is used as a proxy for size. In this data set, organizational income and assets were highly correlated. Models with income as a proxy for size rather than assets produced statistically similar results. Data are derived from IRS Form 990 reports for individual organizations. Descriptive statistics are found in Table 1.

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Total Post Engagement (ln)	959	2.091	1.203	0	5.476463
Post Type: Status (reference)	959	0.124	0.330	0	1
Post Type: Link	959	0.196	0.397	0	1
Post Type: Photo	959	0.636	0.481	0	1
Post Type: Video	959	0.044	0.205	0	1
Length of post (ln)	959	5.720	0.589	3.367	8.472
Total Posts by Organization	959	22.075	14.281	2	62
Total Other Engagement by Organization (ln)	959	5.115	1.231	0	7.522
Contributions as proportion of total income	959	0.6706	0.341	0	1.158
Advertising as proportion of total expenses	959	0.005	0.012	0	0.087
Total Assets of Organization	959	4568466	5799556	36293	2.77 x 10 ⁷

Results

We found strong support for three of our hypotheses and partial support for a fourth hypothesis. Two of our hypotheses were not supported. Results for each hypothesis are discussed below. Results for our multilevel model can be found in Table 2.

There was partial support for Hypothesis one. Status posts were the reference category for this model. We predicted that more dynamic posts (photos, videos, and web links) would result in more total post engagement. Multimedia posts with photos had significantly more engagement than status posts. Multimedia posts with videos had no statistical difference in engagement than status posts. Posts with web links had significantly less engagement than status posts. These results indicate that photos are more likely than other categories of posts to result in Facebook user engagement.

There was strong support for hypothesis two. We predicted longer posts would result in increased engagement of social media stakeholders for individual posts. This variable has a statistically significant effect on total post engagement in the expected direction indicating longer posts result in more engagement.

Table 2: Regression Results

	Total Post Engagement (ln)
Post Type: Link	-0.275** (0.133)
Post Type: Photo	0.444*** (0.109)
Post Type: Video	-0.083 (0.186)
Length of post (ln)	0.165*** (0.063)
Total Posts by Organization	-0.031*** (0.006)
Total Other Engagement by Organization (ln)	0.397*** (0.049)
Contributions as proportion of total income	-0.081 (0.165)
Advertising as proportion of total expenses	7.680* (4.303)
Total Assets of Organization	-0.000000011 (0.0000000101)
Constant	-0.367 (0.438)
Observations	959
Number of groups (number of organizations)	83

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

We did not find support for hypothesis three. We predicted that increased Facebook use would lead to more engagement for individual posts. This variable was statistically significant but in the wrong direction. The model indicates that as the number of total posts by an organization increases, the total engagement for individual posts declines.

We found strong support for hypothesis four. We predicted the amount of Facebook engagement with other posts would be a predictor of Facebook engagement with a single post. This variable has a statistically significant effect on total post engagement in the expected direction. This indicates more post engagement for other posts is associated with increased total engagement for individual posts.

We did not find support for hypothesis five. We predicted that as nonprofit organizations became more dependent on contribution revenue, total post engagement would also increase. The variable did not have a significant effect on total post engagement. The effect was not in the expected direction. This indicates there is a negative relationship between reliance on contributions and total post engagement.

We found support for hypothesis 6. We predicted that as nonprofit organizations invested more in capacity to communicate with external stakeholders, total post engagement would also increase. This variable was statistically significant in the expected direction indicating that increased capacity to communicate with external stakeholders is a predictor of total Facebook engagement.

Discussion

This study sheds light on which social media communication strategies and organizational factors are likely to lead to stakeholder engagement. We viewed stakeholder engagement with Facebook posts as a sign of two-way communication and engagement of stakeholders that may relate to organization achieving its broader goals. When stakeholders are engaged in social media platforms, they may be more likely to engage with the organization in other ways.

While our study relied on data from youth serving nonprofit organizations, the results may be useful in other types of nonprofits. For example, understanding that photos are significantly more likely than other types of posts to generate support may lead nonprofits to experiment with more photos on their social media platforms. That longer posts lead to more engagement may lead nonprofits to focus on platforms like Facebook where they want to engage stakeholders rather than platforms like Twitter where post lengths are limited. Also of note is that the more messages a nonprofit posts, the less engagement individual posts will receive. This raises questions about whether stakeholders are experiencing message bombardment and disengage from organizations' attempts at dialogic communication.

Questions remain about how organizational factors influence stakeholder engagement on social media platforms. Expenditures of resources on advertising were a strong positive predictor of social media engagement, while contributions as a percentage over total revenue did not influence stakeholder engagement. It could be that a temporal order exists where investment in advertising leads to more social media stakeholder engagement, which in turn leads to more contributions. In other words, does targeted social media engagement lead to returns on investment in the form of donations? This is different from the question we posed as we focused on contributions as an antecedent to engagement related to dependence of organizations on contributions. More research is needed to answer the important question of whether stakeholder engagement through social media leads to increased contributions to organizations.

Conclusion

The importance of Facebook as a social media tool has multiple implications for nonprofit organizations. Used strategically, social media has the potential to increase the number of engaged stakeholders. Specifically, social media use has potential to increase dialogic communication with stakeholders in a low-cost, public arena. Social media consultants typically recommend that online nonprofit or public sector communication adhere to the same etiquette standards as face-to-face communication (Mergel & Greeves, 2013). Within these guidelines, varying employees assigned to differing stakeholder groups (e.g., donor relations vs a program manager) may adopt their own social media communication messages rather than relinquishing all social media to a single staff member who is often inexperienced. Each retains authority over the content made available to the targeted audience.

However, many nonprofit organizations employ social media for information dissemination without understanding how to effectively engage stakeholders in two-way communication. To effectively use social media for stakeholder engagement, nonprofits should introduce social media into their larger communication strategy as part of the strategic planning process. This involves devoting resources to developing social media platforms. Nonprofits should also involve staff with communications responsibilities in overseeing social media messaging as part of the larger communication strategy.

Communication strategies might include making sure organizational brand is consistent across social media platforms and that each platform is used to its fullest advantage. Doing so requires staff to work within the branding identity across all platforms. Such an approach might include the use of colors, logs, and style of writing across various forms of media (Mergel & Greeves, 2013). By adopting a brand message, employees can work under a general policy set forth by the organization, ensuring professional comments and posts. Organizational policies that operate within the strategic framework can allow for creativity while simultaneously creating a professional environment that prevents personal use or inappropriate posts.

Nonprofit organizations also have the ability to effectively gather their own Facebook, Twitter, and overall Web 2.0 analytics that inform their future decision making through online platforms like Simply Measured. All targeted approaches to social media use, such as donor cultivation, event announcements, and youth recruitment to new programs, can be measured quickly and easily, including who and what type of posts result in the intended audience responding. Understanding where different types of posts and the use of differing media platforms (e.g., Facebook, blogging, Wikis, or Twitter) are most beneficial for an organization are both key to improving two-way communication. Peer networking with partner agencies, on the other hand, is a potentially useful benefit of social media if adopted with privacy and management concerns in mind (Maxwell & Carboni, 2014; Mergel & Greeves, 2013).

In sum, using social media effectively requires careful planning and strategy implementation on the part of organizations. Future scholarly inquiry should further emphasize how organizations can manage social media to realize their organizational goals. For example, which platforms are best for engaging donors? It should also provide insight as to how social media strategies are tied to organizational characteristics. For example, are organizational characteristics related to staffing associated with more effective social media use? Further research should also focus on characteristics of social media users, an issue we were unable to examine due to the limitations of our dataset. For example, are engaged social media users also donors? As the prevalence and sophistication of Web 2.0 technologies grows, these questions will become even more important and timely for nonprofit organization strategic planning.

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Could Land-Only Taxation Save Local Government in Indiana?¹

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This paper articulates a case for Indiana to exempt all non-land property from the taxable portion of the property tax base. This moves the state closer to a tax system that has great support among economists for its advantages in encouraging economic growth, progressivity, and reducing environmental damage from urban sprawl. Indiana might particularly benefit from a land only tax because of its unique system of property tax caps. The merits of this approach hinge on driving a wedge between gross assessed value and net taxable value. Future empirical research is needed to determine the distributional impact that would result from such a policy change.

Key Words: Property taxation, Land tax

Indiana employs the property tax in local government finance differently than any other state in the union. While many state and local governments impose limitations on the use of property taxes, Indiana indirectly limits how much property tax revenue will actually arrive with a series of taxpayer-level property tax caps. Since these revenue losses can only be calculated after spending decisions are completed, they represent structural deficits. Also, piecemeal exemptions from the property tax base, like those on business personal property, now have revenue-driven problems from property tax reforms in addition to the long-standing equity concerns.

This essay suggests that a potential improvement to the current Indiana system might be found in the very old idea of land-only taxation, or at least an imperfect version of it. While the land tax is seldom employed worldwide, its advantages have long been well understood and advocated by public finance experts. In fact, many tax economists regard the property tax to be a two-faced bundle of the “worst tax” and the “best tax” (Fisher, 1996). Intangible and tangible personal property, as well as land improvements, represent the worst side of the tax; taxation upon land only, however, is thought to represent the best. An ideally-structured tax on land is progressive, economically efficient, and friendly to both economic development and the environment.

A land-only tax may offer unique advantages under the existing Indiana property tax system that caps the tax bill as a percentage of market value. The creation of an exemption on all components except the land portion of property would generate a wedge between the “net” value used in calculating tax bills from the “gross” value that is used in calculating the taxpayer’s maximum possible bill. The incentive to invest in property development would likely be no worse than current policy for taxpayers who are at the cap, but would be more attractive for taxpayers who are not. The equity implications are unclear until empirical analysis could review

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this issue, but the potential for incentivizing private investment that would represent a long-run solution to local government revenue shortages is clear.

The next section of this paper will review the general arguments for a land tax and what the current understanding is about the validity of land tax theory. Section 3 briefly overviews the history of the property tax caps in Indiana and explains their workings. Section 4 specifies a proposed land-only tax system and illustrates how it would impact the property tax calculations for government and taxpayers. The conclusion summarizes the arguments and provides direction for empirical work needed to analyze the actual impacts of the policy.

Land Tax Theory and Research

Overview of General Theory. Henry George's *Progress and Poverty* (1879) is widely regarded as the most seminal treatment of a land tax policy. George advocated a single tax on land values to finance all public services (p. 418): "The tax on land values is, therefore, the most just and equal of all taxes. It falls only upon those who receive from society a peculiar and valuable benefit, and upon them in proportion to the benefit they receive. It is the taking by the community, for the use of the community, of that value which is the creation of the community."

In its ideal form, the idea of a Georgist land tax (i.e. land value tax) is derived from the proposition that the present value of the potential profits of owning a piece of land is equal to the acquisition price in a competitive auction (i.e. the market price). Thus, the value of land is driven by its most profitable form of use, regardless of how it is actually used. The land value tax would similarly be based upon the best possible use rather than actual use. Taxing these land rents in this manner has a number of desirable features relative to other means of taxation. George was particularly fond of the idea that such a tax would discourage "land speculation" in the form of investors buying and holding property undeveloped and idle until it appreciated to a more lucrative price. A tax on possible land rents would incentivize more immediate development into its most valued form in order to cover the payments.

Economists find the model agreeable in that the land tax can potentially have significant efficiency and neutrality advantages. By taxing maximum use value, the choice of what to produce and how to produce on the land is not distorted by the tax. The impact of the tax is purely on land price and therefore the incidence of the tax is upon land owners. In addition to being economically efficient, presumably more valuable land will be held by wealthier taxpayers, causing the incidence of the tax to be progressive.

Finally, most existing property tax systems levy on the basis of both land and capital. Switching to a land tax would incentivize developers to build "vertically" rather than "horizontally" to economize on land consumption. The more conservative use of land is thought to represent a more environmentally friendly alternative to current-use property taxation.

Current State of Research. The general theory of land taxation has been further developed in the economics literature to consider how robust the theory is to underlying assumptions of markets and market participants. Most prominently, Feldstein (1977) challenged the tax neutrality conclusion by extending the analysis to include income effects. Namely, if the land tax reduces wealth, then some part of the tax burden would shift onto other assets that can no longer be acquired. Secondly, Feldstein pointed out that differences in asset risk can have the consequence of portfolio repositioning in response to the tax, particularly since land prices are more volatile than most other tradable assets. Many scholars (e.g., Fane, 1984; Eaton, 1988; Petrucci, 2005) have built upon Feldstein's important extension on wealth induced effects but arrived at the

original conclusion of tax neutrality. For example, Coulson and Li (2008) examined the relationship between land price volatility and risk tolerance to measure the neutrality of the tax. Through a simulation of the risk impacts of the tax on owner occupied households in New York City, the authors found that the amount of risk aversion is slight, and concluded that the land tax is quite neutral.

Much of the literature has advanced by studying the consequences of property tax (land plus its capital improvements) induced distortions, especially the phenomenon known as “urban sprawl.” Urban economic theory identifies many forces that direct the spatial expansion of cities (e.g. expansion of population, an increase in household income, investment in transportation infrastructure, etc.) and the property tax is widely believed to be among the contributors. As Brueckner and Kim (2003) note: “. . . in the case of residential structures, a lower level of improvements per acre means that developers construct shorter buildings, containing less housing floor space per acre of land. If the size of dwellings within each building were to remain constant, then a shorter building height implies a decline in population density, with fewer households fitting on each acre of land. But if the city must accommodate a fixed population, lower densities mean that it must take up more space. Thus, by reducing the intensity of land development, the property tax would appear to encourage urban sprawl . . . the distortions generated by the property tax may include excessive spatial expansion of cities.”

Some evidence of property_tax-induced-urban sprawl has come from studies of Pennsylvania. Pennsylvania allows for the use of split-rate taxation among local governments, which taxes structures at different rates than land. Land tax theory suggests that taxing capital at a lower rate than land should curb measures of sprawl. Most recently, Banzhaf and Lavery (2010) tested the impact of the split-rate tax across 18 Pennsylvania jurisdictions from 1970 to 2000. Their results indicate that the split-rate tax results in more efficient growth patterns: the lower the structure rate relative to land increased the capital/land ratio, and was positively associated with more housing units rather than bigger units consistent with the curbing of sprawl. These findings are consistent with older studies of Pittsburgh implementing the split-rate tax for the consequences on building activity (Oates and Schwab, 1997) and the number of issued permits (Plassmann and Tideman, 2000).

Studies of New Zealand, which offer similar cases to those found in Pennsylvania, have examined the distributional consequences of land versus property taxation. New Zealand local governments offer variations in the mixture of land taxes, capital value taxes, annual rental value taxes, and a uniform general charge. Kerr, Aitken, and Grimes (2004) found that the New Zealand land tax is more likely to be progressive than is the capital value tax. Also, they indicate that land tax can “offset the effect of exempting capital gains on residential properties and the flow of services from owner occupied homes from taxation.”

Compared to most other tax instruments, empirical evidence on land taxation is relatively sparse, partly because it is not very commonly employed. Nevertheless, the theory is robust to complex assumptions, and what empirical evidence does exist is supportive of the theoretical propositions.

The Indiana Property Tax Cap System

Background and History of Property Tax Caps. Indiana has a long history of property tax limit legislation that dates back to the 1930s (Bennett and Stullich, 1992). In the 1970’s and 80’s, the state adopted and refined a number of limits aimed at the growth of property tax levies that support the different funds controlled by local governments. The property tax caps were phased

into policy in 2009 and 2010, and their origins are widely recognized as a consequence of major reforms in property assessment that created a political demand for taxpayer protections from large changes in property taxes. In brief, the 1998 Indiana Supreme Court determined that the previous assessment system based on the replacement cost of property was unconstitutional, and was to be replaced with a system that more appropriately reflected market value.

The multi-year process of implementing a new assessment system resulted in significant changes in the property tax bills for many taxpayers. The Indiana General Assembly passed the property tax caps in 2008, seemingly in response to homeowners' anger at abruptly changing property tax bills. The property tax caps limit property taxes to a maximum of 1 percent of the assessed value on homesteads, 2 percent of the assessed value on rental properties such as apartments, agricultural land, and long-term care facilities, and 3 percent of the assessed value on business properties. The current Indiana property tax caps were fully implemented in 2010 after partial implementation in 2009. In 2010, Indiana voters approved of amending the state constitution to include the new property tax caps with 72 percent of the vote.

The passing of the property tax caps were bundled with other changes in the division of fiscal responsibilities between states and local governments. This was motivated by the fact that the property tax caps, as will be explained in the next section, result in savings to taxpayers but revenue losses to governments. Perhaps the most significant change was that the operating budgets of schools would be funded by state general funds rather than local property taxes.⁴ To finance this new state charge, the lawmakers raised the state sales tax from 6% to 7%. Despite these restructurings, as Figure 1 demonstrates, there have been significant revenue losses in some areas of the state.⁵

The Mechanics of the Property Tax Caps. Unlike the tax rate limits of other states, Indiana's tax caps allow all local property taxing units to change their tax rates independently. A binding property tax cap results in "circuit breaker credits" that are savings for the individual taxpayer, and a loss of revenue to every property taxing unit of government. This can be problematic for planning because Indiana property taxing units are overlapping, and the revenue losses of taxing units depend partially on the aggregate tax rate of all units. Additionally, when these caps are binding, this creates an incentive for each taxing unit to cannibalize revenues from one another by raising their own tax rate.

In Indiana, each local government submits its budget to the Department of Local Government Finance for fund-level levy approval. After approval, net assessed values (NAV) are combined with this levy information to produce a property tax millage rate (τ) that represents the sum of all local government tax rates serving the property.

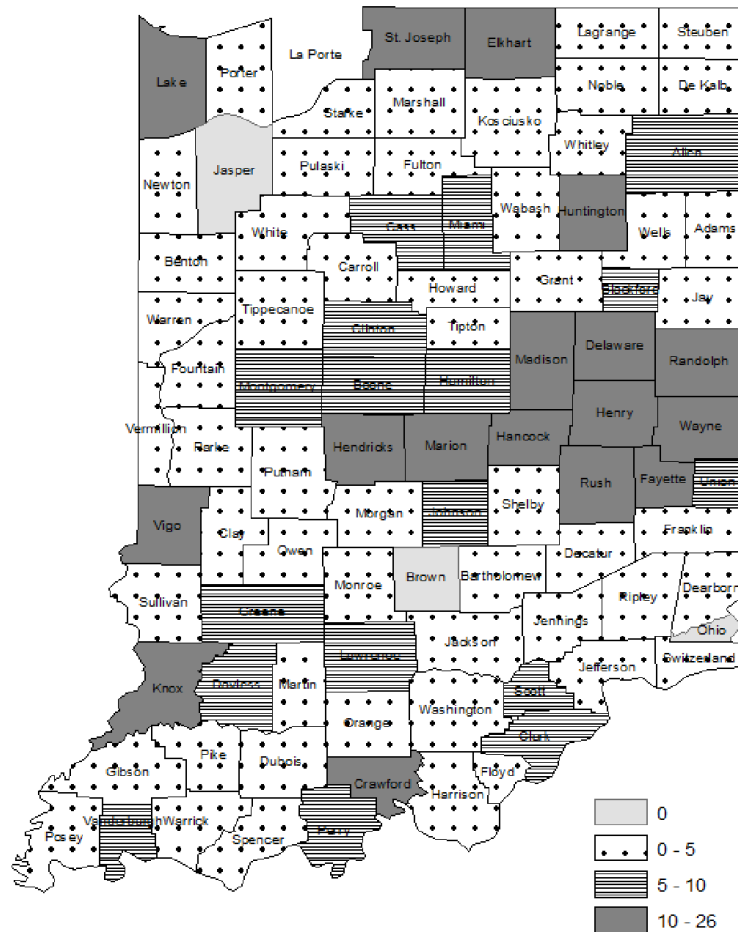
It is important to note that the tax rate calculated on the basis of net assessed value (NAV), is a property's taxable value which is found by subtracting various applicable deductions from the gross assessed value (GAV).

$$\text{NAV} = \text{GAV} - (\text{deductibles and exemptions})$$

⁴ Capital funds and special voter referendums continue to result in property tax reliance by the schools.

⁵ The property tax caps are arguably the key difference between the state efforts in the 2000's to remove business inventory and the 2013-2014 effort to eliminate the business personal property tax. Both policies represented a shift in the tax burden, but the property tax caps added to the challenge of eliminating the business property tax because it also represented revenue losses to local governments.

Figure 1: 2012 Local Government Revenue Losses to Property Taxes as Percent of Levy, Aggregated by County



Source: Data provided by Indiana Department of Local Government Finance (2012). Data missing for LaPorte County.

Separately, a maximum tax bill (MAX) is determined as a percentage of gross assessed value.⁶ Letting $X = 1$ for homestead, 2 for non-homestead residential, and 3 for all other property,

$$\text{MAX} = X\% \times \text{GAV}.$$

Finally, the net tax bill for a property is the smaller of the GPTB and the MAX.

$$\text{Net Tax Bill} = \text{Min} \{ \text{GPTB}, \text{MAX} \}$$

If the property's gross tax bill exceeds the maximum tax bill, the owner of the property is said to receive a "circuit breaker credit" (CB) in the amount of the difference.

$$\text{CB} = \text{GPTB} - \text{MAX} \quad \text{if } \text{GPTB} > \text{MAX}; \text{ else zero.}$$

⁶ This is simplification of how the MAX is determined. In actuality, some properties have a mix of property classifications, and consequently the maximum is weighted by the property's share in each tax cap class.

Table 1. Hypothetical Distribution of Revenues and Circuit Breakers

Taxing Unit	Millage	Gross Tax Bill	Net Tax Bill	Circuit Breakers
City	\$3	\$2,550	\$1200	\$1,350
County	\$2	\$1,700	\$800	\$900
Total	\$5	\$4,250	\$2,000	\$2,250

Table 1 and 2 is used to illustrate how the circuit breaker works across local government taxing units. Suppose, for instance, a single property is subject to two taxing units, city and county government. Assume the property is a homestead with GAV of \$200,000, and after all deductions, the NAV is \$85,000. The maximum property tax bill would be 1% of the GAV, or \$2,000. If the millage rates per \$100 of NAV of these units were \$3 for city and \$2 for county, the GPTB would be $5 \times \$85,000 = \$4,250$. This GPTB exceeds the maximum bill, so the property owner pays \$2,000 and “receives a circuit breaker credit” for the \$2,250 difference. The \$2,000 paid is distributed as revenue to the two units in proportion to their millage rate (60% to the city and 40% to the county). These figures are displayed in Table 1.

Suppose the county government were to increase its millage rate by \$1 while the city’s remains unchanged. The total millage rate increases by \$1 to \$6, and consequently results in a GPTB of \$5,100. The maximum bill remains at (1% of GAV) \$2,000, so there is no change in the taxpayer payment. However, the distribution of the \$2,000 among the two governments does change as the city and county each receives one-half (\$1,000). As Table 2 demonstrates under the net tax bill column, this represents a revenue gain of \$200 for the county that was lost by the city.

This hypothetical demonstration shows the degree of complexity the property tax caps have added to the local budgeting process in Indiana. Whereas other states might limit the amount of revenue drawn from the property tax, Indiana uses the adopted budgets to determine the amount of spending to be backed by property tax. As a result, these circuit breakers are revenue losses determined ex-post to the budgeting process for the taxing units so that they represent structural deficits. By allowing all local governments to adjust their property tax rates independently while also using them to jointly determine the circuit breakers, the amount of revenue losses from these caps can be very difficult to predict. For example, Ross and Dinges (2014) demonstrated that if the city of Gary in 2012 were to raise their levy by \$1.67 million,

Table 2. Hypothetical Distribution of Revenues and Circuit Breakers When County Increase Millage by \$1

Taxing Unit	Millage	Gross Tax Bill	Net Tax Bill	Circuit Breakers
City	\$3	\$2,550	\$1,000	\$1,550
		[0]	[-200]	[+200]
County	\$3	\$2,550	\$1,000	\$1,550
		[+850]	[+200]	[+650]
Total	\$6	\$5,100	\$2,000	\$3,100
		[+850]	[0]	[+850]

80% of that increase would be lost to the property tax caps despite the fact that, at current property tax rates, they were losing only 52% of their property tax levy to the caps.

In addition, the implementation of the tax caps presents some clear incentives for local governments to raise tax rates. For a taxpayer at their maximum tax bill, an increase in the rate from a single local government has no effect on their net tax bill, but instead, redistributes the division of the net bill among local governments to the units which raise their rates. The more local governments raise their rates, the greater the incentive for the other local governments to respond with simultaneous rate increases to protect their share of revenues.

Short of eliminating the property tax caps, the only permanent solution to these problems is going to come from economic growth. Therefore, it is unfortunate that property tax caps encourage rate increases, as this is a counterincentive to investment in property development.

Previous Research on Property Tax Cap Impacts. Faulk (2013) calculated the impact of the circuit breakers on government finance in the policy's inaugural three years. Faulk finds the circuit breakers generally had more impact on counties in metropolitan areas than rural counties in the state where population growth spurred demand for public services. On the other hand, in 2012 the circuit breakers reduced property tax revenue in urban counties where the manufacturing sector had been in decline. Delaware County, one of the counties most affected by the caps, experienced a 36 percent decrease in property tax revenue in 2012 from the previous year. The largest cities in the state, and their overlapping school districts, were also among the most affected by circuit breakers as measured by revenue losses. The author also found that owners of business properties were the most significant beneficiaries of the tax savings from the property tax caps.

A potential virtue of the property tax caps identified by its supporters is the potential for economic growth via reduced property tax caps. While this will ultimately be an empirical question of future research, some early evidence of the theoretical potential has been produced by Thaiprasert, Faulk, and Hicks (2013) using a computable general equilibrium (CGE) model. This model sought to produce an estimate of the aggregate economic and fiscal impact of the local property tax reductions that accompanied the increase in the state's sales tax rate. This model applies predicted relationships between economic activities and the tax code, which is then applied to real data to produce what represents the best timely evidence on the topic.

The CGE model developed by Thaiprasert, Faulk, and Hicks (2013) found the short-run impact on aggregate economic indicators was relatively small even if it contained large effects on individual households. Specifically, the caps were estimated to produce a small, positive effect on household income that would grow over the long run. The model also indicated that higher income households would benefit from the tax caps more than lower income households as the increase in terms of the total dollars of income. If the savings was expressed as a percentage of their labor income, lower income households enjoyed a greater share than did the higher. The property tax payment effects were similar across the income groups. The increased sales tax rate was regressive in terms of the tax's distributional burden on labor income share.

Ultimately, the combined policy changes were estimated to produce a decrease in short-run revenue for both state and local governments, but would produce a long-run revenue increase because of the long-run positive impacts on the Indiana economy.

An Indiana Land-Only Tax

To speculate on how an Indiana Land-Only Tax (ILOT) would operate, we must make some assumptions about policy design. It is assumed here that Indiana retains most of the current property tax system by passing an exemption that applies to any tangible personal property or structure that represents an improvement upon land. We will assume that it is in-lieu of other exemptions, such the homestead or supplemental homestead. We also do not assume any change in assessment practices, so Indiana assessors continue to produce valuations of non-land property that are separate from their estimates of land value.⁷

As already explained in Section III, net assessed values (NAV) are used for calculating tax rates for local governments and tax bills for individual taxpayers; gross assessed value (GAV) is for determining a property's maximum tax bill allowable under the tax caps. Homeowners, for example, have many exemptions that separate gross assessed value from net assessed value (e.g. Homestead, supplemental homestead, mortgage). The ILOT would be initiated with a tax exemption equal to the value of any non-land property, which would simultaneously increase tax rates by lowering the taxable portion of property. For any given owner, the effect on their tax bill would depend on the ratio of land-to-improved value relative to all other property taxpayers in the same tax district.

In principle, any development or improvement to land would have no effect on the net assessed (taxable) value. Said development would, however, increase the gross assessed value that is used for determining the maximum allowable property tax bill. In transitioning from the current system to the ILOT system, the property tax caps would protect individual taxpayers from large changes in their tax bills. In the longer term, eliminating non-land property taxation lifts a barrier to economic development and property values grow local governments out of the property tax caps.

To make clear how the policy impacts taxpayers and local government, some illustrations are provided:

1. A simple demonstration of how the proposed exemption would work in a case where a government had only one residential taxpayer.
2. A simple extension of the first illustration using two taxpayers (one residential and one commercial).
3. A demonstration of the effects of the policy on a single industrial property over time.

Illustration 1. For simplicity, imagine a single local government with only one residential homestead property taxpayer. The "Current Policy Column" of Table 3 demonstrates a gross assessed value of \$200,000 and assumes the taxpayer takes the standard, homestead, and homestead supplemental exemptions in order to arrive at the net assessed value of \$85,000. In order to finance a \$5,000 property tax levy, a property tax rate of 5.88% is required. The resulting tax bill is in excess of the maximum allowable under the property tax caps. Hence, the local government collects only 1% of the gross AV (\$2,000), which is less than 5.88% of the net

⁷ This is arguably the most significant difference that the ILOT would carry from the idealized Georgist land tax that has been advanced in the economic literature. Presently, there is no reason for assessors to accurately separate land values from non-land values in calculating the total gross AV. Extensive resources for training and policy development on land value taxation have already been developed by third parties, including the Lincoln Institute for Land Policy. In any case, Chapman, Johnston, and Tyrrell (2009) have suggested that land value taxation would have "at most the distortion effects of a property tax, even with the worst possible land value assessment errors."

Table 3. Illustrated Fiscal Analysis of Exempting All Development

	Current Policy	Land Tax Policy
<i>Taxpayer Property Info</i>		
Land	\$40,000	\$40,000
Improvements	\$160,000	\$160,000
Gross AV	\$200,000	\$200,000
Exemptions	\$115,000	\$160,000
Net AV	\$85,000	\$40,000
<i>Taxpayer Property Tax Bill</i>		
Gross Property Tax Bill	\$5,000.00	\$5,000.00
Max Tax Bill	\$2,000	\$2,000
Circuit Breaker Credits	\$3,000	\$3,000
Net Tax Bill	\$2,000	\$2,000
<i>Local Government Finance</i>		
Property Tax Levy	\$5,000	\$5,000
Total Net AV	\$85,000	\$40,000
Rate	5.88%	12.50%
Circuit Breaker Losses	\$3,000	\$3,000
Property Tax Revenue	\$2,000	\$2,000

AV (\$5,000), with the \$3,000 in circuit breakers serving as the difference. Again, this \$3,000 is a tax saving to the taxpayer and a revenue loss to the local government.

The “Land Tax Policy” of Table 3 demonstrates the effects of the proposed policy changes under these assumptions. Exempting all land improvements reduces the net AV to \$40,000 which automatically causes the tax rate to increase from 5.88% to 12.5%. The maximum allowable tax bill is unchanged because that is 1% of the gross AV. Likewise, there is no effect on net tax bill or circuit breakers. This will be true for any taxpayer whose tax bill is in excess of the tax bill. There is no impact from the policy change. For the local government, there is also no effect of the policy on revenues, and this effect would generalize in a case where all taxpayers are identical. With this simple illustration of how the proposal is designed, we now consider a slightly more complex example.

Illustration 2. Consider another example in which a single local government has only two types of taxpayers – the residential homestead identified in the previous illustration, plus the commercial type, with \$0 in exemptions whose land and improvements are worth 10 times that of residential. Assume that the local government is financing an \$80,000 property tax levy, resulting in a rate of 3.84% under current policy. Table 4 provides these assumptions and calculates the key variables for each property under the two policy regimes.

Once again, the exemptions have increased for both taxpayers so the shrinking net AV has caused the tax rate to increase from 3.84% to 18.18% without fiscal implications for local governments or taxpayers. The move to the land tax causes no change in the property tax

Table 4. Illustrated Fiscal Analysis of Exempting All Development

	Current Policy		Land Tax Policy	
	Residential	Commercial	Residential	Commercial
<i>Taxpayer Property Info</i>				
Land	\$40,000	\$400,000	\$40,000	\$400,000
Improvements	\$160,000	\$1,600,000	\$160,000	\$1,600,000
Gross AV	\$200,000	\$2,000,000	\$200,000	\$2,000,000
Exemptions	\$115,000	\$0	\$160,000	\$1,600,000
Net AV	\$85,000	\$2,000,000	\$40,000	\$400,000
<i>Taxpayer Property Tax Bill</i>				
Gross Property Tax Bill	\$3,261.39	\$76,738.61	\$7,272.73	\$72,727
Max Tax Bill	\$2,000	\$60,000	\$2,000	\$60,000
Circuit Breaker Credits	\$1,261	\$16,739	\$5,273	\$12,727
Net Tax Bill	\$2,000	\$60,000	\$2,000	\$60,000
<i>Local Government Finance</i>				
Property Tax Levy	\$80,000		\$80,000	
Total Net AV	\$2,085,000		\$440,000	
Rate	3.84%		18.18%	
Circuit Breaker Losses	\$18,000		\$18,000	
Property Tax Revenue	\$62,000		\$62,000	

revenue, individual net property tax bills, or circuit breakers. The distribution of the gross property tax bill does change in favor of the commercial property because of the preexisting homestead exemptions resulted in a larger percent change in net AV for the commercial property. If these two taxpayers were not bound by the tax cap, there would be a more significant change in the distribution of the net tax bills. How significant of a change would be realized in reality is a question requiring analysis of all relevant data in the state?

These first two examples are simply meant to demonstrate how circuit breaker calculations and property tax bills would be calculated under the proposed and current policy. Estimations using actual state-wide taxpayer data would be extremely useful in considering the effects of the policy.

Illustration 3. The concluding example demonstrates the dynamic incentives created under the land policy. The following illustration is an industrial establishment with \$50,000 in land and \$500,000 in improvements, both under current policy and under the proposed land tax policy. For the purpose of the illustration the new higher tax rate (44%) will be ten times what would occur under current policy (4%), matching the improvement-to-land ratio so that “Year 1” will be the same under both policies in the tax bill and circuit breaker calculations. Deviations occur over time because it is naively assumed that land improvements grow at 15% per annum.

Table 5. Industrial Development with 15% Annual Investment in Land Improvements

	Current Policy			
	Year 1	Year 2	Year 3	Year 4
Land	\$50,000	\$50,000	\$50,000	\$50,000
Improvements	\$500,000	\$575,000	\$661,250	\$760,438
Gross AV	\$550,000	\$625,000	\$711,250	\$810,438
Exemptions	\$0	\$0	\$0	\$0
Net AV	\$550,000	\$625,000	\$711,250	\$810,438
Max Tax Bill	\$16,500	\$18,750	\$21,338	\$24,313
Gross Property Tax Bill (4%)	\$22,000	\$25,000	\$28,450	\$32,418
Circuit Breakers	\$5,500	\$6,250	\$7,113	\$8,104

	Land Tax Policy			
	Year 1	Year 2	Year 3	Year 4
Land	\$50,000	\$50,000	\$50,000	\$50,000
Improvements	\$500,000	\$575,000	\$661,250	\$760,438
Gross AV	\$550,000	\$625,000	\$711,250	\$810,438
Exemptions	\$500,000	\$575,000	\$661,250	\$760,438
Net AV	\$50,000	\$50,000	\$50,000	\$50,000
Max Tax Bill	\$16,500	\$18,750	\$21,338	\$24,313
Gross Property Tax Bill (44%)	\$22,000	\$22,000	\$22,000	\$22,000
Circuit Breakers	\$5,500	\$3,250	\$663	\$0

Under current policy, investments cause gross AV to increase the maximum tax bill and the circuit breaker losses to the government. In other words, the percent of levy collected on this taxpayer is only 25% in all years, and the growing tax bill serves as a disincentive to invest, and therefore discourages growth in the economy. If this property were the only source of growth in assessed values, the current policy also results in steadily increasing revenue losses to the local government.

Under the land tax policy, the 15% investment has no effect on the calculated tax bill, but does increase the maximum allowable tax bill. In years 1-3, the land tax policy is no worse of a disincentive for the owner to invest than current policy, but after year 4, there is no tax disincentive for investing in land improvements. Although it is not assumed in this illustration, presumably the rate of investment would grow faster than the 15% imposed by assumption. Simultaneously, the local government is collecting a larger percentage of its levy, eliminating circuit breakers altogether by year 4. The contrast here in Table 5 between the two examples also help to highlight the usefulness of growing gross assessed value at a rate faster than net assessed value. In the first case where net grew because of gross investment, circuit breakers actually increased when holding the tax rate constant.⁸ This also reveals a practical limitation that would arise if assessors simply revised land values on the basis of gross assessment, undermining the effect by mimicking the growth in net assessed value.⁹

⁸ In practice of course, the growth could help lower rates that bring them back under the cap.

⁹ We thank an anonymous referee for pointing this out.

Conclusions and Further Discussion

Indiana's system of property tax caps has generated several areas of concern. First, when caps are effective, they have the consequence of generating systematic deficits in the local budgeting process. The ultimate solution to this problem is for economic development to grow the value of Indiana property to such an extent that the caps are no longer binding. A second concern is that the property tax caps encourage taxing units to raise tax rates to protect their revenue shares, which consequently discourages capital investment. Unfortunately, because the property taxes create revenue shortfalls from expenditures, the piecemeal reforms Indiana has historically taken to reduce capital burden in the property tax base now faces the added challenge of fiscal stress to local governments.

A much broader set of exemptions may provide a better opportunity to improve the property tax base and incentivize property investment which is needed to ultimately grow property values to the point where the caps no longer cause fiscal distress to local governments. The specific proposal here is to exempt all non-land property. Structured correctly, exempting all non-land property could be more equitable and efficient than continuing the piecemeal property exemptions of the past. Such an exemption would create a larger wedge between net and gross assessed values where net assessed values would no longer increase with capital improvements to property, and hence, there would be no associated tax increase that would discourage economic investment. Investment would, however, increase the gross assessed values used to calculate the property tax caps.

It is also worth noting that such a proposal would move Indiana closer in the direction of a land tax system, which economists generally regard as "the best tax." The popularity of this tax is partially driven by the economic growth advantages a land tax has over the traditional general property tax, as the choice to develop is undistorted by a tax on land. The ability to develop, however, is capitalized into the market value of land, so land owners have an incentive to develop land into its most valuable form. This makes the tax pro economic growth and progressive in tax incidence. Last, a land tax incentivizes development to use land more conservatively, "building-up" rather than "building-out." This reduces the progression of urban sprawl, which makes a land tax a more environmentally friendly tax than the property tax.

Further study of Indiana data is required to more fully assess the potential impacts on taxpayers and local governments. Specifically, a distributional analysis of classes of property and property uses is needed to assess how the land-only property tax proposal would affect local government revenue losses due to property tax caps in the short-run. This would also be necessary to see which groups of taxpayers might gain or lose from changes to their tax bills under the policy. There are other complementary choices to the exemption, such as whether or not this exemption would replace other existing exemptions. Furthermore, there could be potential improvements made in the practice of land value assessment, which would be another optional policy change to simultaneously implement. How political considerations in responses to any of these changes would affect the analysis is also an open question.

Finally, although there is substantive potential in a land-only tax, ours is more a recommendation for long-term alleviation and does not address other immediate concerns of operating local government under the existing system of property tax caps. First, as discussed earlier, the loss of government revenue to the property tax caps is determined after the budgeting process is completed and therefore represent structural deficits. The purpose of a budget is to make determinations such as "should the last dollar of spending be on fire or criminal justice." Under the property tax caps, the funds within every governments' budget is

reduced in proportion to its supporting tax rate as a share of all property tax-supported funds across every government, which effectively undermines the original budget deliberations. Prior to the completion of the budget process, the amount of lost revenue to each fund is difficult to predict because of this interdependence. The most visible aspects of the local budgeting processes were developed in an era where property tax revenues were nearly 100% of expected collections, but the property tax caps require a much greater reliance on less formal rebudgeting after the circuit breaker credits are calculated. Rethinking the local budget process, and perhaps creating a data infrastructure at the DLGF that would allow for quick feedback on circuit breaker consequences of budget choices represent directions that may better facilitate improved financial management and budget planning.

The second problem for which the land-only tax provides no immediate relief is the strategic incentive for overlapping local governments to protect revenue shares by raising rates. This will continue to be the case so long as the property tax caps are binding. Timely feedback on circuit breaker consequences of budget choices could be another source of improvement, as it could help local policy makers identify the most pertinent areas where collaboration between units could aid in reducing circuit breaker losses. The central concern will likely be to find a means of determining the degree of autonomy local governments should have under a system in which they are pitted against one another for a common tax base.

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Rural Decline and Revival: State and Local Partnerships in Creating “Stellar Communities” in Rural Indiana

JoAnna Mitchell-Brown – Sagamore Institute for Policy Research¹

In recent years, public-public and public-private partnerships have become a topic of increasing interest in efforts to establish and implement holistic community revitalization initiatives. One example of this effort is Indiana’s Stellar Communities program. The program is a multi-agency partnership designed to fund comprehensive community development projects in Indiana’s smaller communities. This innovative program entails three participating state agencies, the Indiana Housing and Community Development Authority, Indiana Office of Community and Rural Affairs, and Indiana Department of Transportation. This research paper explores the progress, issues, and impacts of the Indiana Stellar Communities Program. It focuses specifically on describing program goals, planning, and implementation in the first four communities designated as “Stellar” between 2011 and 2012. In doing so, it highlights community context, best practices, and lessons learned (to date), while providing an assessment of current economic and social impacts to local communities, as well as regional implications.

Keywords: rural community development, public policy, social capital, quality of life, public-public partnerships

Introduction

During the past decade, the rural Midwest, vibrant for many years, suffered from characteristics of rural decline (i.e., loss of its employment base and household incomes, an increase in families living below the poverty line, and depopulation) brought on by technological and other changes in the economy. For instance, the increasingly mechanized agriculture jobs and other employment options were not there to attract or retain residents (Hamilton, et. al, 2008; Duncan, 2013). Specifically related to Indiana, rural areas overall have not experienced significant depopulation over the past three decades; however, these areas have shown signs of negative shifts in median household incomes (-9.8%) and poverty rates (+47.5) (see Figure 1).

Despite the adverse effect of population and economic trends in rural America, innovative opportunities exist to address complex economic and social problems, which are, at times, beyond any one organization or group to resolve. Over the past decade, governments have experimented with developing partnerships among public, non-profit, and private sectors and communities (Bardach, 1998; Mandell, 2003; Pollitt, 2003; O’Leary et.al., 2009; Zimmerman,

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**Figure 1. Rural Population, Poverty Rate, & Median Household Income Change:
The Midwest Region 1980 - 2012**



*NOTE: Map calculations are derived from data provided by the USDA Economic Research Service and 1980 US Census Data - Summary File 3, National Historic Geographic Information Systems. Minnesota Population Center, University of Minnesota (2013).

* 2011 data most recent available; **1980 Median Household Income data has been adjusted for inflation to constant 2012 dollars according to the U.S. Census Data - Bureau of Labor Statistics Consumer Price Index Inflation Calculator, available at www.bls.gov/data/inflation_calculator.htm.

Source: USDA. (2013). State Fact Data Table - USDA Economic Research Service; National Historic Geographic Information Systems. (2013). 1980 US Census Bureau. (2013). 1980 US Census - Summary File 3, Minnesota Population Center, University of Minnesota.

2012). In recent years, models of public-public and public-private partnerships have become a topic of increasing interest in efforts to establish and implement holistic community revitalization initiatives. One collaborative model is Indiana’s Stellar Communities Program (ISCP). The pilot program is a multi-agency partnership designed to fund comprehensive community development projects in Indiana’s rural communities.

In late September 2010, under the direction of the Indiana Lieutenant Governor’s Office, the pilot program was launched with help from three participating state agencies: the Indiana Housing and Community Development Authority (IHCD), Indiana Office of Community and Rural Affairs (OCRA), and Indiana Department of Transportation (INDOT). These agencies have invested in downtown commercial revitalization, owner-occupied and mixed-income housing, transportation, and other infrastructure have helped to alleviate rural decline and spark a renewed interest and mobilization of resources towards community-building. This paper provides a synthesis of what we’ve learned from the Indiana Stellar Communities Program over the past two years.

Stellar Program Creation and Process

The idea behind the Indiana Stellar Communities Program began in the early to mid-2000s as the Indiana Lieutenant Governor's office decided to focus more resources on Indiana's rural areas, making them a priority. Internally, Indiana state officials and administrators were looking to address two main questions:

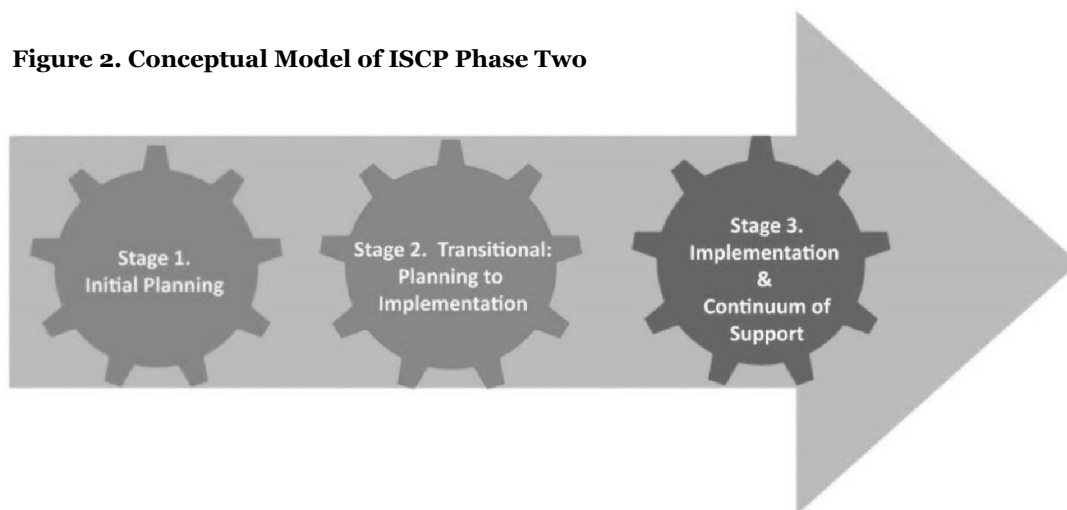
- 1) How might it be able to build relationships within the state government structure?
- 2) How might it be able to build relationships that not only help state government but, by extension, help Indiana rural communities?

Through establishing and cultivating long-term relationships between state agencies, the state of Indiana tried to answer these overarching questions and move Indiana into action. Stemming from community improvement ideals rooted in emphasizing collaboration among public agencies and community partners, as opposed to separate, piecemeal, incremental improvements, the ISCP sought to pull state resources together to make wide-ranging quality-of-life impacts (Indiana Lieutenant Governor's Office, 2012).

Historically, rural communities have a difficult time acquiring the necessary resources to implement community development and lack access to sufficient resources to make large-scale, broad, and immediate impacts. The ISCP, drawing on this experience, calls on rural community stakeholders to pursue mutually reinforcing strategies to comprehensively make broader local and regional impacts based on four programmatic goals: 1) Foster regional investments; 2) Improve quality of life through comprehensive and transformative investments; 3) Encourage sustainability and capacity building; and 4) Highlight effective and strong civic leadership and community support (Indiana Office of Community and Rural Affairs, 2012a). As part of its long-term engagement strategy to better support distressed rural communities, state agency ISCP teams have been deployed to work closely with local policy-makers, community representatives, nonprofits, community foundations, lending institutions, social service agencies, and private developers to establish and implement comprehensive community development strategies in rural Indiana.

The ISCP process occurs in two phases. In Phase One, the application and designation process, interested communities submit letters of interest, complete community improvement plans, and

Figure 2. Conceptual Model of ISCP Phase Two



Source: Compiled by Author based on participant interviews (2012).

host site visits. By the end of this phase, state agency partners select two communities to award the ISCP designation. Once a community is awarded the designation, it enters into the next phase of the process, Phase Two. This phase consists of three stages beginning with planning (i.e., project planning, property acquisition, procurement, grant and contract approvals, environmental assessments, and project design) and ending in full implementation - all within a three-year timeframe (see Figure 2).

Research Methodology

Study Agenda and Scope

A multi-method case study approach was used to examine each of the partnership and projects in-depth and to conduct a cross-site analysis that would identify key themes, challenges, success factors, and lessons learned across the sites. The agenda and scope of this research is to document:

- **The implementation of ISCP over time.** The research is examining: a) Ways in which the ISCP model is implemented in varying community contexts and funding rounds; b) What challenges emerged and how they were addressed; c) The extent to which social capital affected each community and state organization’s capacities to build and sustain partnerships and leverage other forms of community capital and investments.
- **The local and regional reach of ISCP accomplishments.** The research is investigating areas of impacts, particularly at the local and regional levels. It attempts to describe the location of projects and investments within ISCP-designated cities, and how ISCP investments impact and co-relate with other major public and private investments that impact community revitalization and quality-of-life standards. The goal of this inquiry is to understand and explore how these spatially targeted local investments correlate with community conditions and quality-of-life improvements, foster regional investments, and encourage sustainability and capacity building.
- **The implications of local and regional alliances and partnerships.** The research is analyzing the critical importance of strong relationships and alliances with individuals, agencies, and organizations that have influence over community outcomes.
- **Patterns of community change.** The research is tracking how different ISCP-designated communities fared in the implementation phases, including identifying evidence of tangible and intangible improvements. It examines and compares comprehensive community development strategies and outcomes of rural investments and conditions among the ISCP-designated cities sequenced over time.

Participants and Procedure

Data was obtained from three primary sources: 1) confidential key informant and social network interviews with civic and community leaders, residents, private stakeholders, consultants, and local government officials, 2) field observations of community-based events, steering committee meetings, and project sites, and 3) archival data, among others. The ISCP approach to reinvesting in rural communities entails an intergovernmental collaborative between three state agencies and the four local communities designated to participate in the program between 2011 and 2012 (Delphi, Greencastle, North Vernon, and Princeton). These cities were selected for the pilot by considering a number of criteria related to the city’s ability to: demonstrate visible impact to citizens and surrounding regions, attract future economic investment, leverage existing community assets, provide significant local and regional impact, and offer local support and participation in the ISCP Initiative (Indiana Lieutenant Governor’s Office, 2012b). During a

16-month period, 86 face-to-face and telephone interviews were conducted with ISCP participants in Delphi, Greencastle, North Vernon, Princeton, as well as staff from IHCD, OCRA, and INDOT.

Data Analysis

Preliminary data analysis occurred by using the constant comparative method as presented by Glaser and Strauss (1967) and advocated by Stake (1996), Schensul and LeCompte (1999), and Merriam, (2009). This resulted in a Community Profile for each case study community partner, which includes a historical background, a current socio-demographic profile, evidence of rural decline, and a summary of the overall community context. A similar format was followed for analyzing comprehensive community development strategies, types of projects and programs administered, and rural improvement strategies implemented as well as community capital (e.g., donations, grants, or in-kind support).

In order to minimize the limitations of the research and lend credibility to the findings of the study, the researcher incorporated validity and reliability procedures. First, the study entailed a prolonged engagement (i.e., two years) in the field (Creswell and Miller, 2000; Creswell, 2007). Second, the researcher used multiple sources of data in the forms of interviews, field observations, and archival documents to identify points of convergence in the data and to confirm or disconfirm emerging categories and themes. As a solid research methodology triangulation enriches the findings and definitely makes them more useful to the local, regional, and state governments, community organizations, and non-profits (Riege, 2003; Yin, 2005). In addition, the researcher continuously conducted member checks and engaged in member consultation. In qualitative research, a member check, also known as informant feedback or respondent validation, is a technique used by researchers to help improve the accuracy, credibility, and for establishing to the validity of an account. To do this, the researcher initiated and maintained active corroboration on the interpretation of data with study participants. Moreover, the researcher established a chain of evidence, keeping verbatim interview transcripts and notes from additional observations as well as photo documentation of events and projects.

Findings and Discussion: A Top Down and Bottom Up Collaborative

The cities designated to participate in the ISCP share similarities and differences along a number of dimensions, including community and market conditions, demographics, social and economic circumstances of residents, social capital stock, and organizational capacity (see Table 1). Overall, their issues ranged from diminishing populations and median household incomes, increase in poverty, aging and obsolete housing stock, and declining downtowns. The analysis here focuses primarily on ISCP-related efforts of IHCD, OCRA, INDOT, and convening community partner organizations in the first four pilot cities. We describe the public-to-public partnerships between the state agencies, local collaborations among community stakeholders, as well as challenges and implications of the process.

Public-to-Public Partnerships: The State Agencies and Community Partners

As part of its engagement strategy to better support distressed communities, interagency ISCP teams worked closely with city leadership for up to 36 months. By focusing on each community's priorities, state agency ISCP teams helped with planning efforts for downtown revitalization, assistance on transportation planning, and delivery of expertise on housing-related issues. For example, as part of the ISCP, IHCD focused on implementing housing-related initiatives to meet its organizational strategic priorities of: (1) developing activities that promote aging in place; (2) encouraging individual self-sufficiency; (3) supporting high-performance building;

Table 1. Strategic Community Investment Plan Initiatives and Program Phase Status: ISCP Designated Communities (2011 – 2013)

State Agency Partners	ISCP Community Partner	Context Prior to ISCP	Strategic Community Investment Plan Initiatives
Indiana Housing Community Development Authority (IHCDA) - Technical Support - Grants - Tax Credits - Loans - Average Investment \$4.8 M per designee	Delphi Population: 2,889	- Declining population (-5%) and Median HH Income (-8%)* - Increase in Poverty rate (+11%)* - Aging and Historic Housing Stock - Declining downtown corridor - Anticipated Hoosier Heartland Highway impact downtown - Promote heritage tourism and arts	- Owner-occupied Housing Rehab Program - Downtown Façade Restoration - Streetscapes/Gateways - Trails - Downtown Theater Renovations - Downtown Housing Development
	Greencastle Population: 10,343	- Population (+23%) and Median HH Income growth (+6%)* - Increase in Poverty rate (+6%)* - Aging and Historic Housing Stock - Declining downtown corridor - Strengthen relationship with DePauw University and develop the city into the next great college town	- Owner-occupied Housing Rehab Program - Downtown Façade Restoration - Streetscapes/Gateways - Trails - Downtown Housing Development - Wifi Bubble
Office of Community Rural Affairs (OCRA) - Technical Support - Grants - Average Investment \$1.5M per designee	North Vernon Population: 6,616	- Population growth (+15%)* - Increase in Poverty rate (+11%)* - Median HH Income decline (-2%)* - Aging and Historic Housing Stock - Declining downtown corridor - Build and support economic opportunities related to MUTC	- Owner-occupied Housing Rehab Program - Downtown Façade Restoration - Streetscapes/Gateways - Trails - Downtown Housing Development
Indiana Department of Transportation (INDOT) - Technical Support - Grants - Average Investment \$6M per designee	Princeton Population: 8,607	- Declining Population (-4%)* - Increase in Poverty rate (+2%)* - Median HH Income decline (-2%)* - Aging and Historic Housing Stock - Declining downtown corridor - Build and support economic opportunities related to world-class corporations	- Owner-occupied Housing Rehab Program - Downtown Façade Restoration - Streetscapes/Gateways - Trails - Downtown Theater Renovations

Source: Compiled by Author based on participant interviews, personal communications, and archival documentation, 2014. 1970 Census of Population, PC(1)-C1 "General Social and Economic Characteristics", table 182. 1980 Census of Population, PC80-1-C1 "General Social and Economic Characteristics", table 245. U.S. Census Bureau, Census 1980 Summary Files 1 and 3. U.S. Census Bureau, 2008-2012 American Community Survey Table S1702. U.S. Census Bureau: State and County QuickFacts, 2013. Data derived from Population Estimates, American Community Survey, Census of Population and Housing, State and County Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permits. STATS Indiana, using data from Population Division, U.S. Census Bureau. Minnesota Population Center. National Historical Geographic Information System: Version 2.0. Minneapolis, MN: University of Minnesota 2011.

*NOTE: Data is based on percent change calculations between 1980 – 2012 for population, poverty rate, and median household income.

a. Poverty figures for 2012 were the most recent data estimations from the US Census Bureau's American Community Survey, 2008-2012 Table S1702 estimations provided for the specific geographic area.

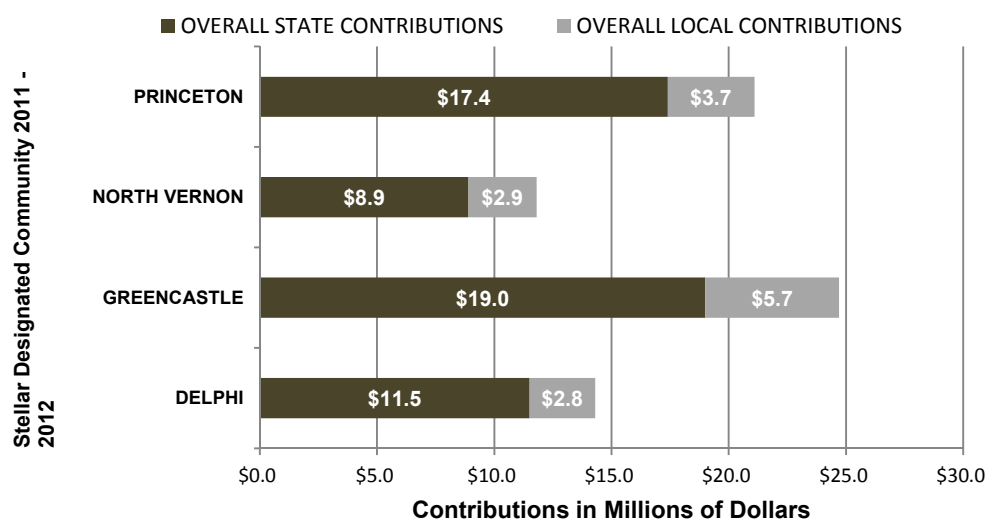
b. The Median Household dollar amounts reported for 1980 are values that have been converted to constant 2012 dollars according to the U.S. Bureau of Labor Statistics Consumer Price Index Inflation Calculator, available at www.bls.gov/data/inflation_calculator.htm.

and (4) striving to end homelessness. To this end, IHCDA staff worked with the community partners to identify projects in the investment plans that would address those needs (Indiana Housing and Community Development Authority, 2012; Mitchell-Brown, 2014c). In addition, OCRA's primary objectives within the ISCP is to encourage implementation of those development strategies that adhere to its organizational mission of: (1) promoting community prosperity; (2) strengthening the local and state economy; and (3) providing capacity-building solutions to ensure rural communities are ready, marketable, and competitive for economic growth (Indiana Office of Community and Rural Affairs, 2012b, Mitchell-Brown, 2014e). While, INDOT's Local Public Agency - Metropolitan Planning Organization (LPA-MPO) Section oversees the ISCP for the Department of Transportation as part of its mission to assist local governments with transportation-related projects. Each agency provided support to the community partners by way of technical assistance and/or financial assistance in the form of grants, tax credits, and loans (Indiana Department of Transportation, 2012; Mitchell-Brown, 2014a).

As of December 2013, over \$70 million has been budgeted for ISCP project improvements. Of the estimated budgets, approximately \$56 million in total state funding sources and \$15 million in total local investments (including city local matches, private/corporate sponsorships, and foundation grants/fundraising efforts) have been invested. On average, IHCDA committed approximately \$4.3 million to each ISCP-designated community over a three-year period through a combination of its funding programs (i.e., Community Development Block Grant [CDBG], Investment Partnerships [HOME], Rental Housing Tax Credits [RHTC], Disaster Relief, and Development Fund Loan programs) (Office of Community and Rural Affairs, 2011; Indiana Housing and Community Development Authority, 2012). Meanwhile, OCRA committed to invest up to \$1.5 million in each ISCP-designated community (\$500,000 per year). As of September 2013, OCRA committed over \$6 million to this effort (Office of Community and Rural Affairs, 2011, 2012a, 2012b). As a partner in ISCP, INDOT committed to invest approximately \$6 million per designee over three years. INDOT distributes essentially \$2 million per year for each community partner designee. Most of its funding is allocated from federal and state Transportation Enhancement Grants as well as Standard Federal Transportation funding over the program timespan (Office of Community and Rural Affairs, 2011, 2012c; Mitchell-Brown, 2013c,2013d). Figure 3 shows a breakdown of overall state and local contributions from 2011 to 2013.

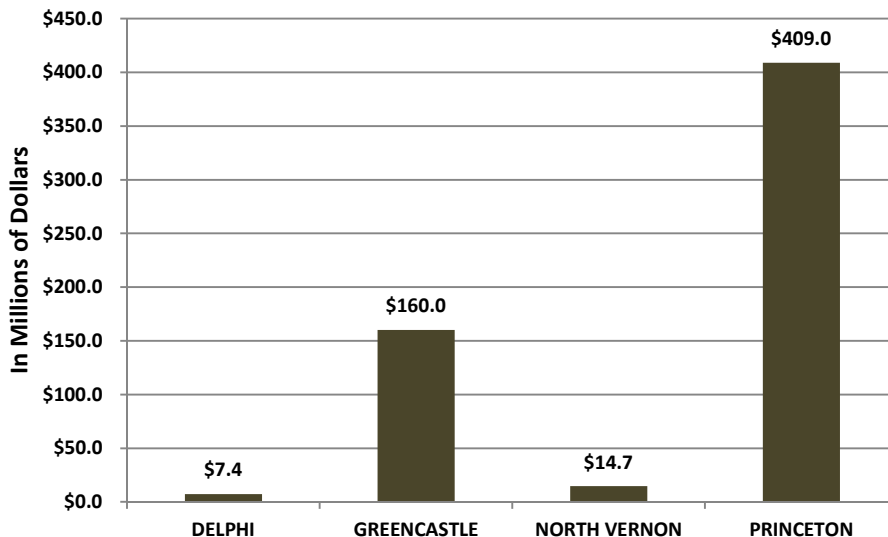
These investments by the state agencies have help to launch other community capital, both measurable and intangible. Data shows Stellar activity is a catalyst for economic growth for communities by providing the designated communities the initial capital for investment and development. Figures 4 and 5 illustrate the private investments both citywide as well as ISCP target areas since designation. Princeton witnessed over \$400 million in private investments citywide, while Greencastle experienced over \$5 million in its ISCP target area. In all four communities, respondents indicated that Stellar created a window of opportunity for increased business and population attraction and retention. Overall, respondents stated that the program added value by providing a mechanism for consolidation of resources in a single community in an accelerated period of time.

Figure 3. Total Stellar Communities Budgeted Investments in Selected Designated Communities



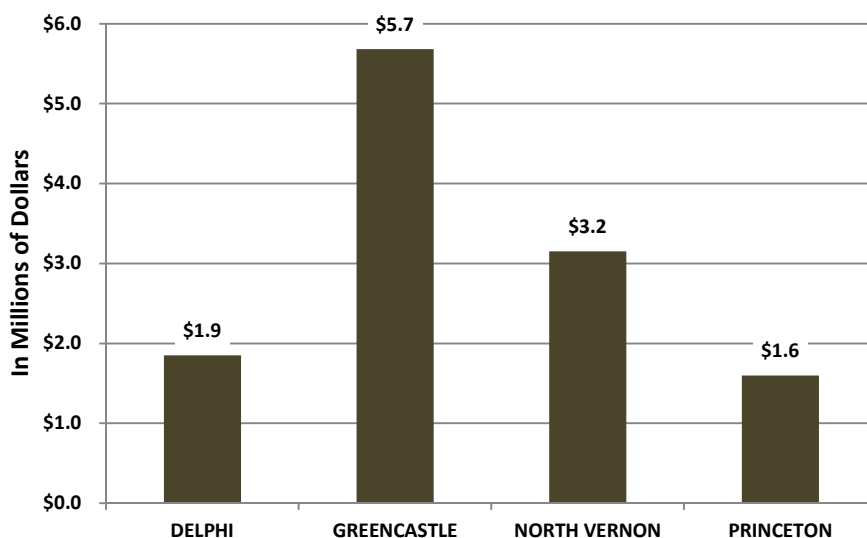
Source: Graph created from Project Status Report data provided by HWC Engineering, December and January 2013; Greencastle City Administration (correspondence); and Greencastle/Putnam County Development Center, Inc. - Greencastle Stellar Communities Research Estimated Investments date December 2013.

Figure 4. Private Investment During Stellar – Citywide



Source: Graph created from Project Status Report data provided by HWC Engineering, December 2013 and January 2014; City of Delphi Mayor's Office, January 2014; Greencastle City Administration (correspondence); Greencastle/Putnam County Development Center, Inc. - Greencastle Stellar Communities Research Estimated Investments date December 2013; North Vernon's Mayor's Office January 2014 Communities Research Estimated Investments date December 2013.

Figure 5. Private Investment During Stellar -Stellar Designated Area



Source: Graph created from Project Status Report data provided by HWC Engineering, December 2013 and January 2014; City of Delphi Mayor's Office, January 2014; Greencastle City Administration (correspondence); Greencastle/Putnam County Development Center, Inc. - Greencastle Stellar Communities Research Estimated Investments date December 2013; North Vernon's Mayor's Office January 2014 Communities Research Estimated Investments date December 2013.

Local Public-Private-Non-profit Collaboration: Building Trust While Making an Impact

The local community partners used the ISCP partnerships to build additional community capital. By establishing and strengthening social capital ties with local and regional outside institutions, local government officials and administrators expanded their organizational capacity and built upon their existing community capital (e.g., physical, financial, human) to

further accomplish their goals of: a) slowing or halting decline and b) encouraging the implementation of improvement projects in their communities. For instance, in Greencastle, DePauw University paid for a portion of the engineering out of their own pocket for the Anderson Street project leveraging the funding from the state agencies within the ISCP designated areas, while local businesses provided a portion of the match for façade improvements. In comparison, the Kankakee-Iroquois Regional Planning Commission (KIRPC) in Delphi acts as the grant administrators for the OCRA funded projects and the IHCD funded projects, while the Delphi Preservation Society owns the opera house and is involved in the planning and implementation of the facility. In addition, the social capital ties between Princeton's city, county, local volunteer groups, private institutions, and state agencies appear to be resilient. For example, by developing strong relationships with local and regional stakeholders (such as Toyota, OnSite OHS, Gibson County, local business development entities, and financial institutions), Princeton's mayor was able to leverage the city's local and state investments into larger forms of community investments.

In each case, the group of stakeholders met regularly to bring their ideas, skills, and expertise to the implementation of the strategic investment initiatives. Respondents noted that trust and good communication between partners and stakeholders were vital to the process and building social capital. By opening up the lines of communication, trust was established and strengthened. This allowed for the cities, state agencies, and other stakeholders to discuss boundaries, perimeters, and expectations of all parties. Slowly, all groups were able to build and establish trust, which resulted in partnerships. These partnerships have helped each city to leverage local and state investments, increased community capacity, and build additional community capital. In interviews, respondents said the following:

"I think it has been very important to building those relationships.... I think that Stellar had definitely helped us improve our relationship.... I think it's improved our relationship with the state. It's very important to the process to get those relationships established....It does help that we have had a good relationship to move these projects forward."

"Our agency is structured where we have liaisons who can be contacted through the regions. That personal connection is here because we help communities through the process. We help them in terms of technical assistance and we've taken a lead in leadership in the process."

In addition, due to the decline in communities, businesses and residents began to become disenchanted with their cities. Respondents in all four cities noted the ISCP process and partnerships created a renewed sense of pride, hope, and commitment in communities by its "see-touch-feel" factor. Respondents explain this phenomenon:

"It's a feeling of self-worth. There's a lot of action going on. We don't even have a government center in the city. We don't have a Fortune 500 company here. So it brought a lot of self-worth. Even if they were for or against it, you could tell

they had a lot of pride in the community. Things were happening and they knew we had to be a big hitter if we were part of the program.”

“Now Stellar concentrates the ‘see, feel, and touch’ factor. People get excited about the town, and then they have hope, and then they open up their hearts to feel love for the town again.”

“...Winning Stellar really was a boost in pride for the community. You see small improvements where property owners are taking a little more pride in their home or in their business.”

Challenges Faced by State Agency and Community Partners

Although there are definitely benefits from implementing such an approach in rural communities, there are also obstacles. Both the state agency and community partners faced a variety of barriers as participants in this program. Each state agency partner faced challenges predicated in the organization’s mission, policies, funding priorities, the historical relationships, and functional realities surrounding the implementation of a new program. These challenges ranged from miscommunication of program expectations (e.g., the program being a grant award) to problems posed by high staff turnover and funding limitations (e.g., federal guidelines slowing down the process). In comparison, each community faced challenges grounded in the historical, socio-demographic, economic, and political context surrounding the application and implementation processes the ISCP program. These challenges ranged from the perceptions of lack of clear understanding of programmatic needs and requirements to problems posed by funding constraints or prohibitions altering or scrapping proposed projects. Based on the case studies discussed in this paper, the state agency and community partners encountered challenges in both the application process and program implementation.

Respondents in state agencies identified several barriers to the success of the program. First, respondents expressed limited access to resources as a potential issue. Each agency is bound by its human and financial capital. For instance, respondents from OCRA noted a higher volume of human capital than of financial resources compared with the other two agencies. In addition, changes in state and federal policy may alter or reduce the level of funding for programs. Second, the state agency respondents noted the variations in missions and strategies as another barrier. All three agencies have a different set of missions and resources, which can pose difficulties or conflicts in regards to coordination. Respondents identified inconsistencies in the variation and process in which agencies aligned their objectives with community needs. A respondent elaborates on the challenge of aligning missions between as well as expectations of the three state agencies:

“Another criticism is figuring out what these three agencies want and stressing what the community needs, not what the agency needs. That’s something we’re making a few changes going forward.”

A third barrier is the assortment of funding sources. Each agency has different funding resources with a variety of regulatory obligations. The regulatory structures that generate funding from the federal and state governments can present a challenge due to the complexities and criteria as to how the funding sources may be utilized. For instance, IHCD has certain funding resources from the state which can be utilized as part of the ISCP, while INDOT has a different set of funding and stipulations. The complexity and diversity of participant communities was also a challenge for state partners, as ISCP is not a “one size fits all” approach.

Communities are of different shapes and sizes. Therefore, respondents noted that it can be very difficult for a small city or town with a limited budget (i.e., a few hundred thousand a year) to compete with a large city which may have a large economic base and functioning budget that can match state dollars. This can lead to an exclusivity factor in the program. Finally, state agency partners identified a lack of leadership within partner communities as a challenge. Respondents commented that the program needs to select cities and towns with strong mayors and civic leaders to lead the charge and ensure implementation of projects. Without strong leadership, the program will falter.

In comparison, respondents in the ISCP-designated partner communities identified community capacity and coordination, shortfalls in anticipated funding amount, organizational capacity, short program timeframe, and consensus building as common barriers to the success of the program. For instance, the respondents stated that the ISCP process involves intense coordination. There are many parts, rules and regulations, and people whose involvement must take place over a short period of time. Due to its intensity and shortened time-frame, lack of coordination may hinder the process. In addition, the lack of human capital to accomplish needed tasks may also pose challenges to the process; as these tasks performed under Stellar are usually above and beyond the daily responsibilities of most city administrators or mayors, therefore management of the projects can be challenging. In addition, a few community partners noted that the funding amounts were altered from their initially anticipated allocation amounts. The funding alterations posed challenges for them regarding project planning and implementation. Over time, the amount of funding available diminished in size. Additionally, types of funding sources available for program implementation changed. The funding resources also had parameters on how the funding could be used. Respondents identified funding constraints and/or termination of funding or changes in sources of project support, which in turn delayed or changed the scope of projects or project timelines.

Another challenge was the size of the cities. Respondents explain the organizational capacity of city could make the process daunting. For example, having been the smallest in population size, Delphi was limited in its human capital resources in terms of staffing and had to rely heavily on the mayor's office, the county staff, and non-profit volunteers to pull the application together within the allotted timeframe. Moreover, putting the application together in such a short time period proved to be an overwhelming task for the city's planning committees, mainly in human capital and expertise, due to the lack of full-time staff. Respondents report cases of how community capacity posed challenges:

"I hate to keep coming back to this but we are a very small city. We are barely a city in terms of our population. So we don't have a planning department. We don't have the kinds of staff resources that most communities would have heading into a project of this sort. So it is an additional challenge."

"..It's the timing. It's a big challenge to pull that application together in a short time. That is hard. I look at our application now and our project story boards and we still use them all of the time. They look like they took much longer than a month to put them together and our normal project it is easily 6 months. Our number one challenge is Stellar makes you drop everything else you are doing and focus full-time on Stellar, which is a good thing."

A final challenge was building consensus amongst the team. With each ISCP committee representative in the cities having their own missions and goals, the committees had to find a way to build consensus between the team to decide on project goals and priorities. One respondent offers a typical description of the challenge of building consensus among stakeholders:

“Another a challenge was getting a team on the same page. We each brought our own perspective to the team.”

Implications of ISCP Partnerships

Although this research is ongoing, there are findings and lessons learned that can be gleaned from the experiences in Indiana. Many factors contributing to the success of state agency partners were context-specific to a state agency’s role and functions. In addition, factors contributing to the success of community partners were context-specific and unique to particular communities, projects, and partnerships. Several themes emerged in our cross-site analysis of the application, planning, and implementation of the program, including:

Partnerships create mutual value that is greater than what its partners could achieve individually. Stellar nurtured partnerships and increased social capital as well as other forms of community capital for both the community partners and state agencies. State agencies and community partners were able to increase their organizational capacities, particularly in building strategic relationships, organizational program delivery and impact, and financial impacts. The partnerships have also proven favorable on several fronts. First, the partnerships incited “buy-in” of comprehensive planning projects. Second, the partnerships stimulated sharing of public and private resources to complete improvement project. For instance, respondents noted that the ISCP process promotes for increased community capacity by providing cities the means to complete a large amount of projects in a short time span. Respondents also stated that the program motivated each agency to expand outside of its traditional role of community development and to become more creative in its use of resources. Third, the partnerships established with outside stakeholders through implementation of a targeted area improvement model brought together complementary strengths of the various community institutions and community groups. Respondents noted that the process challenged the state agencies to expand their roles. Respondents stated that the program motivated each agency to expand outside of its traditional role of community development and to become more creative in its use of resources.

In the absence of Stellar, the communities had many pieces and stakeholders to accomplish improvements, but lacked the financial resources to accomplish them. As an outcome of Stellar, respondents identified the program as a mechanism to leverage opportunities and obtain other investments. For instance, data analyzed from the pilot communities demonstrate the role and function of social capital in the ISCP-designated communities is that of change agent and a catalyst for action and sharing of resources among community members, local officials, public agencies, private institutions, and non-profit organizations. In each case study, social capital is mobilized to address rural community problems associated with housing, downtown revitalization, and overall quality of life by strategically building relationships through nurturing partnerships, improving communication, and expanding traditional roles or frameworks of both the state agencies and community partners.

Partnerships leverage resources. The strategic layering of community capital has a comprehensive impact in rural improvement efforts. By strategically layering foundation,

private, and public resources in targeted areas, the designated communities allowed for the creation of broader community impacts as well as private market forces to re-activate and take over. The layering of resources also strengthens and builds relationships within the community, which creates vitality by building trust and encouraging nontraditional collaborations.

Partnerships address common issues and can achieve ‘Bold Goals.’ Overall, respondents stated that the program added value by providing a mechanism for consolidation of resources in a single community and turning piecemeal ideas into transformative investments in an accelerated period of time. For some communities, this was viewed as the difference between the continued “life or death” of their community. According to respondents, providing a large sum of funding to one community in a short timeframe allowed an economic boost in the local communities, thereby creating a turning point of decline to incline. For example, in Greencastle, the Stellar Executive team completed investments in its downtown and surrounding residential neighborhoods through implementing façade improvements, streetscapes and gateways, and housing renovations. The new campus bookstore (Eli’s Bookstore) and a new Starbucks franchise both serve as economic anchors in the downtown. In comparison, North Vernon completed its restoration of the city’s historic Carnegie Library in the downtown and finalized investment projects in its Irish Hill Neighborhood which included the renovation of 14 owner-occupied homes.

Partnerships provide communication channels. Respondents stated that improved levels of communication significantly increased cooperation amongst state agencies and between state agencies and the designated communities. In addition, respondents noted that the ISCP process promotes for increased community capacity by providing cities the means to complete a large amount of projects in a short time span. Respondents also stated that the program motivated each agency to expand outside of its traditional role of community development and to become more creative in its use of resources.

Conclusions and Future Research

Being an experiential type of program, the ISCP seeks to create a new replicable, sustainable, and scalable model for comprehensive development. Program replication is an important aspect in demonstrating program effectiveness and understanding what works best, under what conditions, and for what target population. Replication establishes the effectiveness of a program model by demonstrating that it can be successfully implemented, as well as achieve consistent outcomes, in new locations. This is evident in the implementation of program components in the initial pilot and finalist communities as well as those newly designated.

Recent data indicates the ISCP model has positive outcomes in Bedford and Richmond, designated Stellar in 2013. For instance, in the city of Bedford revitalization activities proposed in prior ISCP applications have been completed or are in progress. These include, but are not limited to courthouse renovations, decorative sidewalk railings, storm water improvements, the adaptive reuse of a school into housing units, as well as the residential housing rehabilitation of approximately 30 homes. In comparison, Marion, Indiana, (a community finalist in 2011 and 2014) Vectren Corporation assembled a strategic partnership with the City, including representatives from City Hall, businesses, nonprofit organizations, educational institutions and faith-based communities, to develop a unified, collaborative approach for revitalizing economically-challenged neighborhoods. The city’s community revitalization partnership known as the Magnificent Seven, led to the demolition of approximately 15 blighted and vacant units and the renovation of 100 owner-occupied housing units. In addition, civic leaders have acquired all of the riverfront property necessary for downtown park renovation. All of these projects were identified in the Marion’s 2012 ISCP Community Investment Plan.

Program sustainability and scalability actually means different things depending on the developmental stage of a program. It may include concentrating on supporting program activities or infrastructure, enlarging target populations, transferring best practices to other programs, building new relationships with other agencies, or promoting broader policy initiatives. The ISCP model is a basis from which current and future community development-related programs can adopt. For example, IHCDA’s new Communities for a Lifetime program or OCRA’s Place-based Investment Fund and Community Enterprise program with the Office of Small Business Enterprise. Both of these programs emphasize leveraging local funding and partnerships and implementing community investment plans. In addition, other states seeking to emulate the ISCP approach, such as Massachusetts have inquired about the program to the state agency partners (MuniShare Community Solutions, 2012).

The shared approach for comprehensive neighborhood revitalization in rural Indiana communities is fostering broad-based, cross-sector partnerships and is coordinating public and private funding and resources. The ISCP approach has been fueled by a significant investment and alignment of resources by OCRA, IHCDA, INDOT, and community partners. Over the coming years, public-private partnerships are expected to play an increasingly important role in addressing the needs of rural communities in Indiana. A key ingredient of rural renewal in the Indiana model is the strong leadership provided by the local government leaders as well as community and institutional stakeholders. Through leadership, the communities were able to leverage the social capital needed to access additional community capital. By deepening and widening the cooperation between the public and private sectors, rural improvement efforts can benefit from private, public, and quasi-public finance, new skills and expertise, greater cost effectiveness in operation, efficiency in processes, expansion of organization capacity and impact – all of which, when combined, can accelerate and amplify rural community investment. The momentum gained by these initial investments is priming the field for sustained investment and collaborative programming, which will produce stronger, healthier, and more vibrant people and rural communities.

On a local scale, public-private partnerships have emerged in different combinations - ranging from financially free-standing projects to joint ventures. However the partnerships created as an outcome of the ISCP were not just about public financing, but also about the use of public and private sector skills and management expertise merging with those of assets in the local communities to deliver and implement improvement efforts in a cohesive, collaborative, and efficient manner. In doing so, the social capital connections strengthened relationships between stakeholders, especially between local and state actors, community-based groups, along with the non-profit and private organizations. Through building trust, increasing communication, and working collaboratively instead of within individual silos (i.e. isolated), community stakeholders were able to develop, maintain, and nurture many partnerships that formed the core of the comprehensive community development strategies.

This research is in the beginning phases and still ongoing. This article represents the culmination of the second year of Sagamore Institute’s contracted research and evaluation of the Indiana Stellar Communities Program. The goal has been to gather information about the Indiana Stellar Communities Program from state agencies, community partners, and stakeholders, so that the evaluation process and implementation within ISCP can be strengthened. In the second phase of this evaluation, to be in winter of 2014, Sagamore Institute will continue the analysis of the six Stellar communities (Greencastle and North Vernon [2011]; Delphi and Princeton [2012]; and Bedford and Richmond [2013]). Future research will continue to follow and assess the holistic development approach implemented by the community partners and state agencies to address community development issues and examine outcomes of these efforts.

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Does Ignorance Matter? The Relative Importance of Civic Knowledge and the Human Tendency to Engage in Motivated Reasoning

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It has long been understood that political knowledge in the U.S. is very low. For those who care about the quality of American democracy, this is a big problem. In attempting to find a solution, many people often blame education. While increasing civic knowledge is a laudatory goal, increased political sophistication does not necessarily turn individuals into good democratic citizens. Research in cognitive and social psychology paints a picture of people as motivated reasoners. Instead of having an open-minded engagement with issues, individuals typically only seek, see, and understand information in a manner that reinforces what they already believe. Here, we examine motivated reasoning and argue that the strongest partisans and the most committed ideologues will be the most susceptible to holding contradictory policy positions with regard to same-sex marriage and religious freedom.

Key words: mass political behavior, political knowledge, motivated reasoning, political psychology, partisanship, polarization, same-sex marriage

The importance of civic literacy is, and has long been, an axiom of democratic theory; a “generally-accepted belief that civic knowledge is an important foundation of democratic self-government” (McCabe and Kennedy 2014). Americans generally agree that a basic understanding of the structure and philosophy of government is a necessary precondition for productive political engagement or policy debate; a mutual understanding of the constitutional framework, and that agreement on the meaning of basic legal, economic and scientific terminology is necessary if there is to be common ground for discussion.

Former U.S. Representative Lee Hamilton summarized this consensus, writing in 2003

The truth is, for our democracy to work, it needs not just an engaged citizenry, but an informed one. We’ve known this since the nation’s earliest days. The creators of the Massachusetts Constitution of 1780 thought the notion important enough to enshrine it in the state’s founding document: “Wisdom and knowledge, as well as virtue, diffused generally among the body of the people,” they wrote, are “necessary for the preservation of rights and liberties.

Those who are concerned about America’s toxic political environment contend that the lack of accurate, basic civic information is the major culprit, and civic ignorance is at the root of American’s current polarization. That belief may be misplaced, or at the least, oversimplified. The widespread concern over the polity’s admittedly low levels of civic knowledge fails to take

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into account recent research on motivated reasoning, which is the often unconscious selective perception and interpretation of information so as to reinforce beliefs already held. The troubling findings in this research are that such reasoning is, if anything, more likely to occur among more sophisticated voters than with their less politically knowledgeable peers. Political scientists and pundits alike are left with the question: Which matters most? Which is more likely to predict increased political polarization, civic ignorance or ideological rigidity, and how do these factors interact?

A copious literature confirms the existence of a civic deficit: Only 36 percent of American citizens can correctly name the three branches of government (Annenberg Public Policy Center Judicial Survey 2007); 36 percent of 12th grade students fail to achieve a basic level of civic knowledge (National Center for Education Statistics 2011); and, only 35.5 percent of American teenagers can correctly identify “We the People” as the first three words of the U.S. Constitution (National Constitution Center Survey 1998). The National Assessment of Education Progress (NAEP) 2010 report on civic competencies found that barely a quarter of the country’s 4th, 8th and 12th graders could be considered proficient in civics (National Center for Education Statistics 2011). Numerous other studies confirm the extent of our civic deficit (Bennett 1995; Caplan 2008; Converse 2000; Delli Carpini and Keeter 1991, 1996; Shaker 2012).

Given the strength of the evidence demonstrating a broad public deficit of accurate civic information, a growing number of researchers and educators are working to identify best practices and to improve civic education in the schools. Peter Levine at the Center for Information and Research on Civic Learning and Civic Engagement (CIRCLE), Ted McConnell, Director of the National Council for the Social Studies Campaign for the Civic Mission of the Schools, Shawn Healy, Chair of Illinois’ Civic Mission Coalition, Joseph Kahne, Director of Civic Engagement Research, and Diana Hess of the Spencer Foundation, and the Center for Civic Literacy at IUPUI are involved in just a few of the scholarly efforts currently underway. They are joined by a variety of programmatic endeavors. Former Supreme Court Justice Sandra Day O’Connor’s ICivics, the Bar Foundation’s sponsorship of the Center for Civic Education’s “We the People” curriculum and competition, and several others are also involved in these efforts.

These initiatives to raise awareness of the issue and to identify measures that may ameliorate it are important. At the very least, a shared understanding of basic social and political institutions is necessary for communication to occur— a common reality, after all, is much like a common language. If we are looking to improvements in civic knowledge to reverse the political polarization that has paralyzed so much of our political system, however, the emergence of new lines of research in political psychology suggests we may well be disappointed.

In what follows, first we show that education or increased political interest and awareness are not enough to defeat the pernicious effects of a highly-polarized political system. Extant research (our own research included), routinely finds that the politically sophisticated are also the most partisan (Federico and Hunt 2013). Second, we argue that when these highly-polarized politically-sophisticated individuals engage in politics, motivated reasoning (Kunda 1987, 1990) produces a rather paradoxical result. Those with the strongest partisan ties and the most extreme ideological views are also more likely to hold inconstant political beliefs. In other words, the strongest partisans and most committed ideologues will also be the most susceptible to policy contradictions because they never look critically at the totality of what they believe. When they think about politics, they are motivated to only “see” that which confirms what they already believe. Third, we test this idea with the case of individuals’ beliefs about same-sex marriage and religious freedom. This produces two important findings. First, the most ideologically-conservative individuals are those most likely to espouse a belief that government should not tell

religious organizations who they can and cannot marry, while also believing that same-sex marriage should be banned. Second, this effect of motivated reasoning is more pronounced among Republican-identifying conservatives than Democrat-identifying conservatives.

Political Polarization

Theoretically, in order to have a productive argument, the participants need to have at least a basic agreement on the definitions of the terms being employed and the facts involved. The recent debates about the Affordable Care Act—aka “Obamacare”—is a case in point. Citizens debating that legislation may have very different opinions about the wisdom of the policy choices involved, but decisions to repeal, implement, or amend the Act should be based upon agreement about what it actually says and does. If opposition to the policy is based upon “death panels” that don’t exist, or its defense is based upon an insistence that the individual mandate isn’t government coercion, the likelihood of reasoned discussion—let alone agreement on policy changes—disappears.

A similar example would be the ongoing battles over religion in the nation’s schools. There are genuine arguments to be made about the proper application of the Establishment Clause in the context of public education, but reasoned disputes require people who recognize that the First Amendment’s religion clauses require government neutrality in matters of religious exercise.

We certainly agree with those who advocate for the importance of a shared vocabulary and a conceptual common ground to facilitate legitimate and productive political debate and discourse. A common civic language—an agreement on the basic nature of our shared political reality—is necessary, but it may not be sufficient. An examination of two robust literatures, political science research on political polarization and partisan sorting, and political psychology research on motivated reasoning, strongly suggests that efforts to calm the political waters by supplying accurate information, while necessary, may be inadequate for the task.

A comprehensive review of the literature on political polarization was conducted by Morris P. Fiorina and Samuel J. Abrams in 2008. Fiorina and Abrams surveyed the extant research, testing the “polarization narrative” that began in the early 1990s when Pat Buchanan famously “declared a culture war for the soul of America in his speech at the 1992 Republican convention” (Fiorina and Abrams 2008). They noted the emergence of the “notorious red-blue map” after the 2000 election and the acceptance of the polarization narrative by commentators and pundits (one of whom went so far as to compare Republicans and Democrats to Sunnis and Shias). Although the authors noted their agreement with the scholarly consensus that elites and Congress had indeed, polarized their review of the then available research, this convinced them that the situation for the public at large reflected partisan sorting rather than polarization.

The political positions of Americans had not become more polarized between the early 1970s and the early 2000s. Importantly, however, within the larger population the parties in the electorate had become more distinct. This change was a product of two other senses of polarization that the DiMaggio group identified: constraint (“the more closely associated different social attitudes become.”) and consolidation (“ . . . the greater the extent to which social attitudes become correlated with salient individual characteristics or identities.”) (DiMaggio et al. 1996, p.693) In the last few decades of the twentieth century, inter-issue correlations were increasing, and partisans were becoming more closely associated with one or the other of the increasingly interconnected clusters” (Fiorina and Abrams 2008).

Whether this differentiation is called sorting or polarization, the authors agreed with other observers that it had occurred and appeared to be continuing. And they conceded that other scholars, notably Abramowitz and Saunders (2008) “believe that the process of partisan sorting has proceeded so far that it is accurate to speak of a polarized America.”

In the wake of Fiorina and Abrams’ influential and much-cited review, a number of other researchers have studied the phenomenon, with most agreeing that the partisan divide is increasing, especially among elites and in Congress (*see, for example, Krasa and Polborn 2012*).

To further complicate the search for common ground and collaborative policymaking, several political psychologists have found that partisans who are often quite well informed will reject “negatively valenced” information if that information is in conflict with their preferred worldview (Redlawsk, Civettini and Emmerson 2010), and still others have concluded that personality traits can predict a “considerable array of human behavioral patterns” (Ha, Kim and Jo 2013), including political preferences and behaviors. Indeed, Alford, Funk and Hibbing (2005), and Fowler, Baker and Dawes (2008), among others, have concluded that certain political behaviors and attitudes are genetically influenced and/or heritable. Personality traits—extraversion, agreeableness, conscientiousness, emotional stability and openness to experience, sometimes referred to as the “Big Five,” have demonstrable effects upon political behavior (Ha, Kim and Jo 2013).

Polarization, Political Sophistication, and Motivated Reasoning

Motivated reasoning research poses challenges to widely-held beliefs about the way in which individuals search for information. Theoretically, when people are engaged in learning about the world around them, the primary goal is accuracy. The good citizen watches the news and reads newspapers or blogs as part of an effort to gain an accurate understanding of the particular topic under investigation. Unfortunately, as emerging research underscores, this is not how people actually go about gathering information, if they choose to gather it at all. The reality is that people are motivated reasoners (Kunda 1987, 1990).

The concept of motivated reasoning is built on decades of research documenting the biased cognitive processes by which individuals gather and understand new information. It is an unconscious process that occurs through selective perceptions of reality. Once people have developed a worldview—an idea about how something works, or what they like and do not like—they are extremely resistant to information that would require them to change that worldview.

Research confirms that most people do not engage in a wide search for information in order to understand a subject from various perspectives. Instead, they engage in selective exposure (Lodge, Taber, and Galonsky 1999; Mutz and Martin 2001; Sweeney and Gruber 1984), which means that they seek out information that will confirm what they already know (or think they know) and avoid information sources that might challenge their beliefs. While it may be difficult to avoid all contrary information, encountering contradictory facts will not usually require the individual to change or adapt a preexisting framework. When people are faced with a variety of information, some that is confirmatory and some not, they simply ignore or actively argue against the evidence they don’t like while uncritically accepting the data seen as confirmatory (Ditto and Lopez 1992; Lavine, Borgida, and Sullivan 2000; Taber and Lodge 2006). Furthermore, when faced with ambiguous information, people do not spend time learning more about the topic; instead, they interpret the ambiguous information so that it is consistent with their current beliefs (Fazio and Williams 1986; Lord, Ross and Lepper 1979; Vidmar and Rokeach 1974).

The consequences of motivated reasoning for politics can be quite troubling. This is especially the case when we consider its effects on a political system in which political polarization is increasing, both within elites and the general public (Abramowitz 2010; Bishop 2008; Theriault 2008). As we have seen, the combination of motivated reasoning and increased partisanship leads to more deeply-entrenched beliefs and a corresponding increase in unwillingness to compromise as partisans build self-serving, motivated realities. Barker and Carman's (2012) recent work documents how different the realities are for citizens in Red versus Blue states, and Levendusky (2009) demonstrates how the increased sorting of average citizens into partisan camps has produced more polarized emotional responses to the parties. Politics thus becomes an "us versus them" competition. Taber, Cann, and Kucsova (2009) also find strong support for the polarizing effect of biased information processing (see also Slothuus and de Vreese 2010).

Indeed, the simple act of counting ballots can be affected by motivated reasoning when the counting instructions are vague or ambiguous. In such situations, individuals fill in the gaps in a self-serving, highly-partisan way (Kopko et al. 2011). Finally, Cohen (2003) shows through a series of experiments that "even under conditions of effortful processing, attitudes toward a social policy depended almost exclusively upon the stated positions of one's party." And to top it off, "... participants denied having been influenced by their political group, although they believed that other individuals, especially their ideological adversaries, would be so influenced" (p. 808). Arguably, this kind of myopic adoption of the positions of one's party is not what the Founding Fathers had in mind.

Education is often proposed as the solution to the problem of political ignorance (Putnam 2000); it is thus reasonable to consider whether it can also solve the problem of motivated reasoning. Unfortunately, rather than moderating partisanship, political knowledge is often connected to an increase in polarization. Education has certainly been shown to be a good predictor of political knowledge (Delli Carpini and Keeter 1996; Price and Zaller 1993), and it is equally demonstrable that politically knowledgeable citizens are those most likely to acquire political information and most able to incorporate it into their existing knowledge framework (Zaller 1992). A recent study by Gillion, Ladd, and Meredith (2013) showed that the gender gap in voting occurred first among the highly educated because they were the first to be aware of elite polarization. Claassen and Highton (2009) find the same dynamic. Polarization among party elites leads those individuals who are the most politically aware to follow suit. In a similar vein, Federico and Hunt (2013) show that individuals who are highly knowledgeable and heavily invested in politics are more likely to approach politics in an ideological fashion, and more likely to exhibit a polarized response to politics (see also Abramowitz 2010; Federico 2007; Judd and Krosnick 1989; Sidanius and Lau 1989; Zaller 2004).

The dilemma posed by what we now know about motivated reasoning is that it occurs no matter how educated or sophisticated the individual. In his examination of partisan sorting, Levendusky (2009) shows that the highly knowledgeable are just as likely to change their ideology to match their partisanship as the politically unsophisticated. Political theorists might hope that the politically sophisticated would privilege policy positions over their devotion to the correct "team," but this is apparently not the case. In other somewhat disheartening research, Hartman and Newmark (2012) examined the motivated reasoning behind the belief that President Obama is a Muslim. It is not a shock to learn that this belief is stronger among Republicans than Democrats, but the fact that political sophistication does not appear to attenuate it is distressing.

To summarize, there is strong evidence indicating that political sophistication, rather than moderating partisan commitments, actually contributes to partisan polarization. We argue that

this strengthening of the connection of the most highly engaged to a particular party is then reinforced through selective perception. That is, individuals “see” only that which confirms their existing beliefs. Thus, selective perception does not cause their beliefs but helps support them. As a result, we theorize that the strongest partisans and most committed ideologues will also be the most susceptible to policy contradictions because they never look critically at the totality of what they believe, but simply see small independent confirmations of one belief or another at a time.

Connecting Political Sophistication to Polarization—Data and Methods

In order to examine the effect of political sophistication and motivated reasoning on polarization and holding contradictory policy beliefs, we conducted a national survey measuring partisanship, ideology, and political knowledge. In addition, we asked specific questions about same-sex marriage. The survey was an online survey designed and hosted using Qualtrics online survey software. Survey Sampling International (SSI) was then contracted to provide over 2,300 respondents. SSI maintains national online panels of respondents and recruits participants from across the web using numerous methods, which gives them the ability to reach nearly anyone who uses the Internet.

For our survey, a quota method was used in order to match the survey’s demographic and gender distribution to that of the overall United States. Thus, this is not a representative sample of the U.S. population. However, since we were not attempting to estimate characteristics of the U.S. population (for example, the percentage of the population who voted in the 2012 presidential election), this does not affect our results. We are interested in understanding the connection between cognitive processes and political beliefs. We are unaware of any variable that is correlated with participation in any of SSI’s panels and these cognitive processes that, if present, would bias these results. Furthermore, we control for numerous demographic and political variables, which further alleviates any concern about bias in the sample. We produce two models. The first is designed to explain the source of the strength of respondents’ party identification. As discussed above, it is not controversial to claim that the most politically sophisticated are also the most partisan members of the electorate. We want to document this relationship in our data for two more compelling reasons. First, it provides yet another piece of research documenting this relationship and, second, because the second analysis focuses on showing preference contradiction, it will demonstrate that those who are the most highly partisan and ideological are the ones who are the most likely to suffer from this failure, and (as shown in this first model) they also happen to be the most politically sophisticated.

The survey contained standard questions designed to identify respondents’ partisanship following the method used in each American National Election Studies (ANES) survey.² This survey produces a seven-point scale ranging from strong Democrats on the left to strong Republicans on the right. Since we are interested in understanding the causes of polarization, we are more concerned with what drives individuals to the poles of these scales rather than what causes them to choose one side or the other. Therefore, we fold this scale so that it ranges from independent (coded 0), leaning/weak partisan (coded 1), partisan (coded 2), and strong partisan (coded 3), resulting in a scale measuring respondents’ strength of partisan attachment (e.g., Dolan and Holbrook 2001).

² Whenever possible, we simply copied the long-established question wording used by either the American National Election Studies or General Social Survey. This provides for easy comparability and avoids the need to reestablish the credibility of survey question wording, since these are well-established and well-understood survey instruments.

We are interested in capturing the effects of political sophistication, which is not just about political knowledge or education. Therefore, we include measures of political knowledge, education, and, most importantly, their interaction as key predictors of partisan strength. Political knowledge is measured on a nine-point scale and based on respondents' ability to answer eight factual questions (Zaller 1992). These questions are copied directly from ANES and ask respondents to identify (1) Joe Biden, (2) John Boehner, (3) John Roberts, and (4) David Cameron; and, whether they know which party controls the (5) House and the (6) Senate, (7) which party is more conservative, and (8) what the current unemployment rate is. Education is measured on a seven-point scale that indicates the highest level of educational attainment by the respondent.

Finally, the model also includes several standard control variables: Gender (coded 1 if male, 0 if female), race/ethnicity (1 if white, 0 otherwise), age (coded in years), household income (coded on a 10 point scale), and religious fundamentalism. This last variable is based on a General Social Survey question tapping respondents' beliefs about the Bible as follows:
Which of these statements comes closest to describing your feelings about the Bible?

- The Bible is the actual word of God and is to be taken literally, word for word.
- The Bible is the inspired word of God but not everything in it should be taken literally, word for word.
- The Bible is an ancient book of fables, legends, history, and moral precepts recorded by men.

This produces a three-point scale ranging from most (coded 0) to least (coded 2) religious fundamentalist.

The second model predicts a contradiction in the policy beliefs among respondents. Our survey asks two questions about religious freedom and same-sex marriage: 1) should same-sex couples be allowed to marry, or do you think they should not be allowed to marry? And 2) Do you think the federal or state governments should make laws regarding who religious organizations can and cannot marry? If one answers "no" to the second question, one should then not answer that same-sex couples should not be allowed to marry because that would be making a law restricting a religious organization's marriage policies. This is an instance of individuals contradicting themselves on policy grounds. However, it may not necessarily be a contradiction for conservative Republicans who hold strong beliefs about smaller government and the legality of same-sex marriage. An individual engaged in motivated reasoning should be expected to make such a contradiction, with the strongest partisans and ideologues being the most susceptible. Thus, the comparison of respondents' answers to these two questions produces our measure of policy contradiction.

The key independent variables in this case are partisanship and ideology. While our general theory does not point specifically to one party or the other, when we operationalize a specific case of policy contraction, there arises the need to identify a specific party and ideological leaning. This is because not all partisanship or ideological leanings respond to specific issues in the same way. In this case, the issue is religious freedom and same-sex marriage. The more conservative and the more Republican one is, the more likely s/he is to answer these questions in a manner consistent with being a conservative Republican rather than in a consistent manner. The key to motivated reasoning is that partisanship and ideology interact to produce an effect that moves people away from a purely rational thought process by which one either does not accept government intervention in religious choices, and thus accepts religious organization's decision to marry same-sex couples, or one is happy with government intervention in religious choices, and thus is okay with banning same-sex marriage. Simultaneously, disliking

government restrictions on religion and liking government banning of same-sex marriage is the product of current partisan and ideological thinking. Those who engage in it are motivated to do so in order to protect their preferred set of beliefs through a form of self-affirmation (Steele 1988). Kahan (2013) finds strong evidence for this. His research shows that individuals are motivated to engage in information processing that reinforces their connection to important ideological groups, in this case a conservative self-identity. Following this line of reasoning, our

Table 1: Predicting Strength of Party Identification and Policy Preference Contradiction

Variable	<u>Dependent Variable</u>	
	Strength of Party ID	Preference Contradiction
Political Knowledge	0.232*** (0.026)	0.050 (0.031)
Education	0.207*** (0.035)	-0.011 (0.046)
Pol. Know. x Education	-0.037*** (0.007)	
Ideology	-0.064*** (0.014)	0.420*** (0.065)
Republican		-0.564 (0.432)
Ideology x Republican		0.284** (0.110)
Independent		0.486* (0.196)
<u>Control Variables</u>		
Male	-0.150*** (0.043)	0.200 (0.126)
White	-0.076 (0.045)	-0.121 (0.137)
Age	0.005*** (0.001)	0.018*** (0.004)
Household Income	0.002 (0.00)	-0.043 (0.022)
Religious Fundamentalism	-0.220*** (0.030)	-0.800*** (0.092)
Constant	1.255*** (0.145)	-2.433*** (0.350)
N	2237	2244
R ²	0.10	
Log pseudolikelihood		-912.18

Notes: Strength of Party ID estimated using OLS. (Since this is a short scale running from 0-3, an ordered logit model was also estimated. The substantive results were identical, and therefore, the OLS results are presented here for easy of interpretation.) The Preference Contradiction model is estimated using logit.

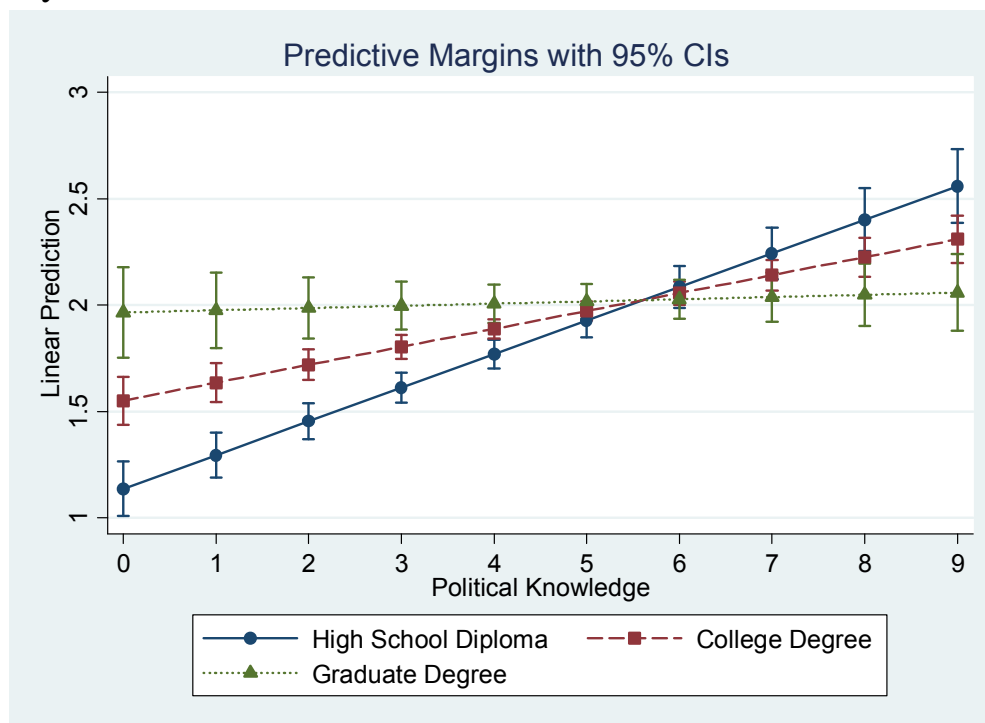
* = $p < .05$, ** = $p < .01$, *** = $p < .001$, two-tailed.

supposition is that this effect should be most pronounced among the most extreme partisans and ideologues.

We measure partisanship as a set of dummy variables: (1) Republican, coded 1 if one identifies as Republican and 0 otherwise; (2) Democrat, coded 1 if one identifies as Democrat and 0 otherwise; and, (3) Independent, coded 2 if one is independent and 0 otherwise. The Democrat variable is then dropped and becomes the comparison group for Republican and Independent when interpreting the results.³ Ideology is measured on a seven-point scale ranging from 0 (strong liberal) to 6 (strong conservative), with a score of 3 indicating independent or non-ideological. We then interact ideology with the Republican dummy variable in order to test for the conditional effect of each on the dependent variable. Finally, the model also includes the same control variables as the model predicting partisan strength above.

Table 1 presents results after estimation of the two models. The results of an Ordinary Least Squares (OLS)⁴ regression model predicting strength of party identification are presented in the first column, while the results of a logit model predicting the likelihood of holding contradictory beliefs about religious freedom and same-sex marriage are presented in column two. Focusing first on the model predicting partisan strength, one can see that political knowledge, education, and their interaction are all highly statistically significant. This means that the effect of political knowledge on strength of partisanship is conditional on the value of education, and vice versa. The negative sign indicates that the effect of one variable diminishes as the value of the other goes up.

Figure 1: Marginal Effect of Political Knowledge and Education on Strength of Party Identification



³ See Wooldridge (2012) for an explanation as to why one of these variables needs to be dropped.

⁴ Strength of Party ID was estimated using OLS, but since this is a short scale running from 0-3, an ordered logit model was also estimated. The substantive results were identical, and therefore, the OLS results are presented here for easy of interpretation.

Interaction effects are notoriously difficult to substantively interpret from an output table, thus, Figure 1 presents a graphical look at how the effect of political knowledge changes as the highest level of educational attainment moves from having a high school diploma, to a college degree, to a graduate degree. Figure 1 makes it clear that the effect of increasing political knowledge is strongest for those having only finished high school. Moving from a political knowledge score of 2 to a score of 7 is associated with an increase in partisan strength of about 3/4 of a point. That is an 18 percent jump in one's partisan leanings. The same type of gain in political knowledge for someone with a graduate degree shows virtually no movement in the strength of their partisanship. Interestingly, at low levels of political knowledge, people with a high school diploma are the least partisan, while at the highest levels of political knowledge, they are the most partisan. Therefore, it would seem that gaining political knowledge without education has a polarizing effect on people. This is a disturbing result for those advocating civic learning outside of formal education. It would appear that this may simply exacerbate polarization.

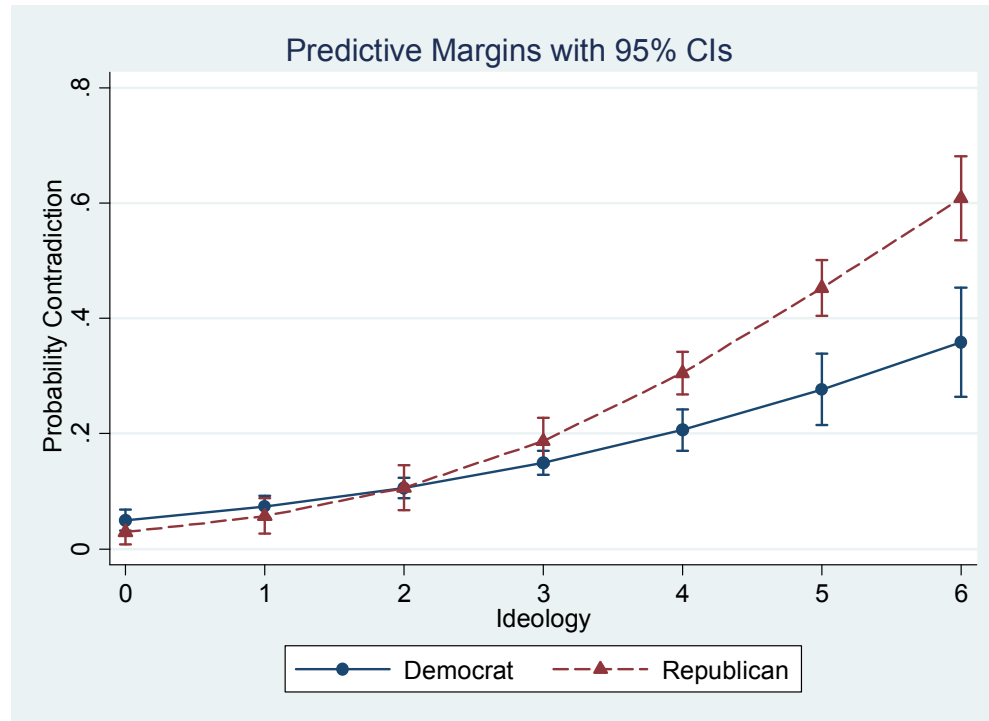
Returning to Table 1, the logit model estimating policy preference contradiction includes an interaction between ideology and Republican identification. The interaction and ideology variables reach significance, but the Republican variable does not. This is not particularly surprising since the substantive meaning of that variable is the effect of being a Republican when compared to a Democrat when ideology equals zero, which represents strong liberalism. There are likely very few strongly-liberal Republicans, and the data cannot tell the difference between them and Democrats. The significant interaction indicates, once again, that the effect of partisanship is dependent on ideology, and vice versa. Before looking at Figure 2, which helps clarify the interactive effect of ideology and partisanship, it should be noted that political knowledge and education fail to reach significance. Thus, there is no evidence in this data that political sophistication, as measured by either education or political knowledge, helps individuals avoid contradicting themselves. This is what one would expect when the driving force behind policy preferences is not rational calculation, but motivated reasoning to answer questions in a way that is consistent with one's partisan and ideological positions.

Figure 2 presents the predictive margins of the conditional effect of partisanship and ideology on the probability of contradicting oneself. As can be seen, on the left-hand side of the scale (scores 0-2), which corresponds to liberal ideological leanings, there appears to be no discernable difference between Republicans and Democrats. But when one moves to the right-hand side (scores 4-6), which corresponds to increasingly conservative leanings, Republicans and Democrats respond much differently. To be sure, both see an increase in the probability of contradicting themselves, but the slope for Republicans is much steeper. For a strong conservative (score of 6), the probability of contradiction is about 23 percent greater if one is a Republican than a Democrat. Indeed, simply moving from a strong liberal to a strong conservative increases the probability of contradiction for Republicans by nearly 60 percent and about 35 percent for Democrats. This is the effect of motivated reasoning and it strongly supports our contention that it is the highly partisan ideologues that are most susceptible to holding contradictory policy beliefs.

Is Civic Literacy Irrelevant?

If motivated reasoning “trumps” accurate information, will our politics inevitably be ideological and polarized? Is the effort to provide credible, evidence-based information a fools’ errand? Not necessarily. Redlawsk, Civettini and Emmerson (2010) explored this very question. The authors did not challenge the research on motivated reasoning, but they did test the thesis that a

Figure 2: Marginal Effect of Ideology and Partisanship on the Probability of Holding Contradictory Policy Preferences



“tipping point” could be reached—that despite the tendency of motivated reasoners to ignore evidence inconsistent with their preferred beliefs (here, a candidate they viewed positively)—given enough negative information, attitude change would occur. They find some support for this notion. Although the research is encouraging, it remains to be seen whether a tipping point exists to the extent that ideology concedes to evidence. Learning that a favored candidate is not as admirable as once thought is one thing; accepting evolution or climate change and adjusting one’s literalist approach to religion accordingly is quite another.

Finally, if research tells us anything, it is that good information and civic literacy are necessary, but insufficient at ridding us of polarization and a highly selective approach to evidence. The alarming result presented here is that individuals who are supposed to be the best examples of democratic citizens this country has to offer, i.e., the politically sophisticated are also the ones that are the most partisan and the most susceptible to holding contradictory beliefs (at least in the context of same-sex marriage and religious freedom). Unfortunately, it would seem that ignorance isn’t the only enemy of reason and political compromise.

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