NATIVE AMERICAN ENTREPRENEURSHIP: THE DIFFERENTIAL EFFECTS OF LOCATION AND TRIBAL GAMING

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ABSTRACT

Embedded within the mature U.S. economy resides the emerging Native American economy. This study investigates the relationship between Native American small business ownership and the location of Native American SMEs near economic clusters and Tribal gaming venues. For many regions, promoting economic cluster formation has become the focal strategy for developing regional competitive advantage and entrepreneurial growth. Cluster development has been shown to facilitate entrepreneurship and business performance, and yet limited research has been undertaken to investigate whether economic benefits translate equally to firms from under-represented groups and emerging economies, such as the Native American entrepreneur. Findings support the hypothesis that Native American entrepreneurs located near cluster development perform better than their counterparts located away from cluster economies. In addition, findings show that locations proximate to traded clusters appear to afford Native American entrepreneurs greater advantages than locations proximate to other cluster types. Proximity to tribal gaming does not appear to motivate greater Native American SME performance but does seem to positively affect employment within Native American SMEs. Implications for Native American entrepreneurship and economic development policy are discussed and areas for future research are proposed.

Keywords: Native American Entrepreneurs, Indigenous Entrepreneurship, Firm Performance, Economic Clusters, Tribal Gaming, Tribal Entrepreneurship, Native American Entrepreneurship

INTRODUCTION

In the effort to understand the role of entrepreneurial activity in emerging economies, it is tempting use the nation-state as the boundary of choice. In some regards, this makes good sense, since it is at this level where one can find a preponderance of economic data, which is useful in defining which economies are robust and mature, and which are not. However, concealed within mature economies are sectors which may still be immature and in early development. As such, there are economies obscured within economies. In the United States, one such obscured economy exists in the form of the Native American community. Because Native Americans live in a hybrid system (partially on American Indian reservations, but also within the mainstream population), some (Verbos, 2010) have referred to Native Americans in the mainstream economy as "hidden elephants"[1], whose presence is often not acknowledged.

The Native American community clearly fits the definition of emerging economy, both from a political and economic perspective. Politically, Native American tribes are afforded sovereign nation status by the U.S. government. As such, tribes maintain an official "government-to-government" relationship with the U.S.(Kotlowski, 2008). One important ramification of sovereign nation status is that it allows tribes to autonomously pursue their own economic development policies and to independently engage in opportunistic economic activity (Anderson and Parker, 2008). From an economic standpoint, the Native American community is under-developed. American Indian reservations have been aptly described as "islands of poverty" (Anderson and Parker, 2008) due a poverty rate that is nearly 26 times higher than other U.S. race groups (Fogarty, 2007). Still, in the United States, relatively few studies have been undertaken to understand the Native-American entrepreneur or to identify factors that facilitate

[1] For those unfamiliar with the phrase "elephant in the room", the elephant refers to a serious issue that is not overtly acknowledged by those in the room.

or hinder the rate of entrepreneurial activity within Native-American communities (for exceptions see Garsombke and Garsombke, 2000; Stewart and Schwartz, 2007; Pascal and Stewart, 2008).

By comparison, interest in regional economic development has attracted significant attention from researchers, particularly from economic and public planning perspectives (Hendry, Brown, and DeFillippi, 2000). Promoting economic cluster formation has become the prevalent strategy for motivating regional competitive advantage and fomenting entrepreneurship (National Governors Association, 2002). Researchers argue that, within cluster economies, competitive advantages are derived by firms as a consequence of knowledge spillover, ease of access to skilled labor, better access to the inputs of production, as well as local competitive pressures to innovate (Porter, 1990). In doing so, cluster development acts to facilitate complementarities between the activities of cluster participants, producing competitive advantages for cluster members that can serve to motivate entrepreneurial activity (Baptista and Swann, 1998; Porter, 2000). Even as cluster development has been shown to facilitate entrepreneurship and business performance, little research has been undertaken to investigate whether firms from lesser represented demographics, such as Native-American-owned firms, benefit equally from cluster activity.

In many parts of the United States, tribal gaming has been offered as an option for fomenting economic development for tribal entities and as a possible source for motivating Native American entrepreneurial activity. Tribal gaming ventures are found in 28 of the 50 states within the U.S. and in many communities tribal gaming has served to improve not only the economic performance of tribal economies but also that of the local communities near where

they are located. Still, gaming's influence on local Native American entrepreneurship has not yet been empirically examined.

In this paper, we present an empirical study of entrepreneurial activity within the Native American community. Many of the firms in our study are hidden elephants—firms that are from the emerging Native American economy, but are serving and sometimes embedded in the mainstream community, where mature economic clusters and tribal casinos affect their viability. By examining locational factors which affect the performance of these Native American firms, we contribute to our understanding of the interface between firms from emerging economies and the economic development of those economies. With this study, we hope to influence indigenous economic development policy by clarifying the relationship between economic cluster development, Tribal gaming, and Native-American entrepreneurship.

BACKGROUND AND HYPOTHESES

Native American Entrepreneurship

Entrepreneurship among Native Americans has been viewed as one means of raising economic conditions for these indigenous communities. For the purposes of this study, the Native American entrepreneur is defined as an owner of an enterprise, rather than Schumpeter's (1934) definition of the entrepreneur as the bearer of new or creative products. This is in part due to the scarcity of business ownership among Native Americans, where only one of 100 Native Americans can be considered a small business owner (O'Hare, 1992). Across the U.S., there are estimated to be only 170,083 reservation based micro-entrepreneurs (Adamson and King, 2002). Thus, for Native Americans, being a business owner is, by itself, a creative endeavor that breaks from the normal economic activity of this population.

This condition may be in part due to social and cultural factors that create unique barriers to would-be Native American entrepreneurs. For example, there is a scarcity of entrepreneurial role models within the Native American community, in part, a consequence of the legacy of westward expansion and the Indian Wars of the nineteenth century which resulted in Native Americans being forced to physically relocate away from their traditional economic resources and into tracts of reservation land where dependence upon the U.S. government for resources became the rule. As such, entrepreneurial spirit was supplanted by dependence upon social welfare programs subsidized and controlled by the U.S. government.

Still, other social and cultural differences have also been found to create distinctive barriers to Native American entrepreneurship. Studies have shown that many Native American entrepreneurs view themselves as generally having less business education, lower aspirations, poorer communication skills, and more experiences of racial discrimination than non-Native American entrepreneurs (Garsombke and Garsombke, 2000). Consequently, Native American entrepreneurs see themselves as having greater barriers to entrepreneurial success than do non-Native Americans.

These obstacles do not appear to be uniformly experienced within the Native American community. For instance, there appears to be differences in beliefs between Native American entrepreneurs who are independent of tribal funding and those that are tribally funded. For example, Stewart and Schwartz (2007) found that Native American entrepreneurs that were supported with tribal funding felt that they received higher levels of technical and cultural support than did their counterparts who were independent. However, the quality of technical support available was perceived to be relatively low. In contrast, other findings (e.g., Adamson and King, 2002) found that access to financing coupled with limited business expertise and

experience were significant barriers for Native American entrepreneurs that were reservation-based. Likewise, several other studies including the Harvard Project and a CFED study on Native American entrepreneurship (Malkin *et al*., 2004) have concluded that business training and technical support are some of the most important, yet most underdeveloped, aspects of entrepreneurship development programs in Native American communities.

Access to financial resources continues to be a major obstacle to Native American venture success. There are several factors that contribute to this circumstance. One problem relates to the consequence of reservation geography. Most reservations tend to be rural. Therefore, access to lending institutions tends to be more restricted than in more urban areas. In addition, relatively few reservations have on-site financial institutions and those that do tend to lack competition. Consequently, Native American entrepreneurs located on reservations tend to receive loans from institutions (to the degree that they are given) with interest rates that are prohibitively high. Moreover, many commercial institutions will not serve Native American entrepreneurs who live on tribal reservations due to the perception that they represent a higher risk, in part due to their general lack of collateral. Since tribal land is held in trust by the U.S. government, Native Americans living on reservations cannot access their land for use as collateral for common forms of business financing.

Other research appears to reinforce the notion that Native American entrepreneurs face unique cultural challenges with respect to entrepreneurship that are not faced by non-native entrepreneurs. Native American culture tends to be more collectivistic in point of view (Stewart and Schwartz, 2007). That is, Native American entrepreneurship is often motivated by economic (as well as non-economic) benefits that may accrue to the extended family as well as to other community members (Malkin *et al*., 2004). Maintaining harmony within the community is of

primary importance in some tribal communities. For example, Native American entrepreneurs are more likely to excuse poor employee performance in order to maintain harmony with family members or the tribal community (Lansdowne, 2004).

This more collectivistic view toward business practice may put the Native American entrepreneur at odds with the more conventional business goals of the mainstream entrepreneur. In fact, even the accumulation of wealth, a common entrepreneurial objective, may conflict with traditional Native American aspirations. For instance, Malkin *et al*. (2004) found that tribal members reported uneasiness with accumulating greater wealth than other tribal members. Consequently, it is not uncommon for a Native American business to extend credit or even sales revenue to extended family members at the expense of profitability.

Other perceptual differences have been noted among Native American entrepreneurs. They often see themselves as less objective and less individualistic than non-Native American entrepreneurs (Garsombke and Garsombke, 2000). Native American entrepreneurs report themselves as having lower aspiration levels, less business education, experiencing more racial discrimination, and poorer communication skills than non-Native American entrepreneurs. As a result, Native Americans see themselves as having greater barriers to business success than do non-Native Americans. However, it should be noted that not all Native Americans experience perceptual barriers. Swinney and Runyan (2007) found that the entrepreneurial orientation of Native American entrepreneurs does not differ significantly from mainstream entrepreneurs. Their sample consisted only of individuals who have already become entrepreneurs. Still, we must conclude that there is a subset of the Native American population in which entrepreneurial activity is innate.

Economic Clusters and Competitive Advantage

Although previously overlooked as a factor in Native American entrepreneurship, there has been a relatively large amount of attention paid to the effects of economic clustering on entrepreneurship within the general U.S. population. In the United States the idea that geographic concentrations of industries within regions could be a source of competitive advantage long predates our current interest in cluster development. For instance, Marshall (1895) argued that economies of scale could be derived from the spatial advantages of location by similar firms and suppliers as well as from the increased economic intensity resulting from agglomeration of these firms. The current conceptualization of economic clusters is the product of several streams of theory, of which the nature of regional economic interaction is but one (Colgan and Baker, 2003).

Clusters defined. Although a general understanding as to what constitutes an economic cluster exists, research on the subject has not produced unanimity on a specific definition. Part of the difficulty in achieving a consensus arises from the difficulties in identifying cluster boundaries. As such, clusters are described as "geographic concentrations of interconnected companies and institutions in a particular field" (Porter, 1998, p. 78) or as groups of related industries located in the same region (Held, 1996). Another particularly inclusive view of clusters is provided by the National Governors Association, which defines a cluster as, "a geographically bounded concentration of similar, related or complementary businesses, with active channels for business transactions, communications and dialogue, that share specialized infrastructure, labor markets and services, and are faced with common opportunities and threats" (National Governors Association, 2002, p. 9). Nevertheless, there is consensus among researchers that clusters represent geographic concentrations of businesses that share related

production inputs, specialized labor pools, distribution and communication channels, and network associations.

The process of identifying a cluster usually begins by measuring the number of firms and employees by industrial sector using association directories and existing databases (e.g., County Business Patterns or Employment Service 202 Reports). These data are used to assess the relative concentration of related firms in a particular location. The ratio of employment or companies in a cluster to the same ratio for the nation generates a *location quotient*. A location quotient greater than 1 denotes a higher-than-average concentration of related firms in an area indicating a cluster (National Governors Association, 2002).

Cluster types. The literature is consistent in describing three cluster categories that account for the majority of cluster development. *Traded clusters* are those developed around traded industries. These industries are not resource dependent and typically sell products and services across regions and even across countries. They locate based upon competitive considerations and employment in these industries varies markedly by region (Porter, 2003). Traded clusters are alleged to have the greatest economic impact on regional economies because of their influence on wages in local industries (Porter, 2003). Traded industries include information technology, medical devices, and distribution services (see Table 1). By contrast, *local clusters* develop around local industries where employment is generally evenly distributed across all regions and is roughly proportional to the regional population. These industries provide goods and services primarily to the local market or region in which the industry is located. Examples include real estate, restaurants, and retail (see Table 2). Lastly, *natural endowment clusters* develop from industries associates with the utilization of natural resources,

and consequently employment is located primarily where the natural resources are found. Examples of natural resource industries include logging, mining, and snow skiing (see Table 3).

(Insert Tables 1-3 about here)

Clusters and competitive advantage. The literature is consistent in reporting that clusters provide for increased returns to scale (Hill and Brennan, 2000; Porter, 1998, 2000, 2003; Stuart and Sorenson, 2003; Waits 2000). These returns are derived from increased productivity in cluster firms that result from better access to specialized inputs and employees. In this respect, locational advantages accrue from being in a cluster because it provides for less costly access to specialized inputs like components, machinery, business services, and skilled personnel needed to exploit market opportunities (Porter, 2000). Furthermore, the specialized inputs needed for new firm formation (e.g. capital, skilled labor, suppliers, etc.) are more easily accessed within clusters, and in doing so makes it more attractive for new firms to locate within these concentrations (Bresnahan, Gambardella, and Saxenian, 2001; Enright, 2000). Likewise, cluster firms experience increased productivity resulting from specialized access to information (both market and technical) available to cluster members. This specialized access is the consequence of co-locating with supply and technological sources located within the cluster, which in turn facilitates communication flows.

Cluster development has also been associated with higher levels of innovation. Porter (1998, 2000) explains that this innovation results because firms within a cluster are better able to more clearly and rapidly perceive new buyer needs as well as new technological, operating, and/or delivery possibilities than those outside clusters. Other studies have also shown that clusters stimulate innovation activity (Audretsch, 2001; Audretsch and Stephan, 1996; Audretsch and Feldman, 1996; Austrian, 2000; Hendry *et al*., 2000; Kenney and von Burg, 1999; Steinle

and Schiele, 2002; Walcott, 1999). Hendry *et al*. (2000) demonstrated that clusters, because of their network relationships, provide a locus for innovation activity, especially for high technology sectors. Austrian (2000) argued that in clusters, the relationships that exist between customer and supplier industries and the organizations that support them create synergies that result in more innovation. These innovations then lead to enhanced cluster competitive positions and the strengthening of local economies. Baptista and Swann (1998) showed that a firm was more likely to innovate if located in a region where the presence of firms in its own industry is strong.

Clusters and Native American Entrepreneurs

The research is consistent in showing that economic clusters provide advantages to cluster firms due to their proximity and access to the inputs needed for opportunity exploitation (e.g., capital, skilled labor, suppliers, etc.). Consequently, cluster development creates a competitive environment in which the barriers to entry and success are lower for the would-be entrepreneur. However, a significant number of Native Americans live on tribal reservations located in rural areas some distance from the urban centers typically associated with cluster economies. As a result, it may be difficult for these Native American entrepreneurs to avail themselves of the advantages associated with economic clusters. Still, many Native Americans live off of their indigenous reservations and some federally-recognized reservations are located in or near urban areas which have economic clusters. Pascal and Stewart (2007) found that Native American firms located proximate to traded clusters performed better that those which were not. We should expect that those Native American entrepreneurs who are located proximate to cluster economies should enjoy the same competitive advantages as afforded to other firms located proximate to clusters and, thus, should be competitively advantaged

compared to their counterparts that are rural reservation-based. As such, the unique challenges faced by Native American entrepreneurs may be somewhat mitigated by the comparative advantages afforded by being located near economic clusters. Therefore, we should expect:

H1: For Native American entrepreneurs there is a positive relationship between business performance and their proximity to economic clusters.

Furthermore,

H2: For Native American entrepreneurs, locating proximate to traded clusters will have a more positive influence on business performance than locating proximate to local or natural endowment clusters.

As discussed earlier, cluster economies provide firms with advantages that are not accorded to firms outside these economies. Furthermore, research shows that more new firms are created within clusters than outside of clusters. One factor that motivates firm creation is the accessibility of skilled labor needed to exploit business opportunities. Skilled labor is more readily attracted to cluster economies due to the perceived heightened prospects for employment and, consequently, labor is more readily available to cluster firms. Because many tribal reservations are located in rural areas, access to specialized labor might be hindered due to geographic constraints. This may not be the case for Native American entrepreneurs who are located proximate to natural endowment clusters. A mentioned earlier, natural endowment clusters are made up of industries associated with the utilization of natural resources, and as

such, employment is located primarily where the natural resources are found. One would expect that natural resources would tend to be located in more rural areas (as are many tribal reservations). As such, disadvantages to Native American entrepreneurs located on rural reservations may be mitigated by their proximity to a natural endowment cluster. As a result we could expect that:

H3: Native-American entrepreneurs located on reservations proximate to natural endowment clusters will perform better than those located on reservations not proximate to natural endowment clusters.

Tribal Gaming and Native American Entrepreneurship

Since the early 1990's casino gaming has been a dominant mode of economic development for many American Indian tribes (Vinje, 1996). Economists have recently begun to examine the effects of gaming activity on local economies. It has been found that casinos generate economic activity in terms of increased population, employment, and housing (Wenz, 2008). Ironically, Native Americans may not be the direct recipient of these employment gains. Research conducted by the NBER found that, although employment increased in counties with Native American casinos, most of that growth was due to growth in non-Native American employment (Evans and Topoleski, 2002). Although these studies are valuable contributions to our understanding of the dynamics of casino economies at the macro-level, there are no current empirical studies of the effects of gaming activity at the organizational-level. At the firm level, we would expect that the presence of a casino should enhance the opportunities available for the entrepreneurial firm. Most American Indian tribes enforce tribal preferences in hiring and

contracting, so the presence of a local casino should increase revenue-generating activity for co-located firms. Thus we should expect:

H4: There is a positive relationship with locating near an American Indian casino and revenue and employment growth for Native American-owned firms.

METHODOLOGY

Data

The hypotheses were tested using organizational-level data on Native-American owned firms located in the northwest U.S. states of Washington, Idaho, Oregon, and Montana. Data on each firm was taken from the U.S. Small Business Administration's (SBA) Central Contractor Registry (CCR). The CCR is a self-certifying database of all firms who wish to do business with any branch of the U.S. federal government. Data was extracted from the CCR database using the CCR's web-based Dynamic Small Business Search tool, which allows users to search the CCR database for firms who meet the SBA's criteria for small business. Small business definitions vary according to each firm's NAICS code and are summarized in the SBA's "Table of Small Business Standards" (SBA, 2006). All Native-American owned firms in the northwest U.S. that were registered in CCR were included in the sample.

Model and Dependent Variable

Hypotheses were tested using standard OLS regression using a firm's reported *annual revenue* and *number of employees* as dependent variables. As one might expect from data on small firms, these variables were skewed to the left, which required the use the natural logarithm in order to normalize the distribution of the dependent variable in the regression models.

Independent Variables

On Reservation. A binary variable was created to measure if a firm was located on a federally recognized American Indian reservation. This data was not available directly from the database, so we used firm-level postal code data to infer location on a reservation. Because there is no official list of which U.S. postal codes are on reservations, this data was created by cross-referencing geospatial maps of federal reservation areas and 5-digit Zip Code Tabulation Areas (ZCTA) using the U.S. Census Bureau's mapping tool on its "American Fact Finder" web site (Census Bureau, 2006).

Economic Clusters. In order to measure the effects of being located near economic clusters, we include three variables that measure the number of traded, local, and natural endowment economic clusters that are located in the same MSA as the focal firm. A list of the MSA's included in the study is attached in "Appendix A." Traded clusters consist of traded industries (those industries that sell products and services across economic areas). Local clusters are made of industries that provide goods and services primarily to the local market or region in which the industry is located. And natural endowment clusters develop from industries associates with the utilization of natural resources. An economic cluster is defined according to its Location Quotient (LQ), or the concentration of a cluster in each region relative to the national average. LQ was calculated according to the following formula:

$$LQ = (E_{i,j} / E_i) / (E_{us,j} / E_{us})$$

Where $E_{i,j}$ refers to MSA *i*'s employment in industry *j*, E_i is the total employment in MSA *i*, $E_{us,j}$ is the total U.S. employment in industry *j*, and E_{us} is total U.S. employment. Raw

employment data for the LQ calculations were extracted from the Harvard Business School Cluster Mapping Project database (ISC 2006). An economic cluster is said to exist if the LQ score for a given industry is equal to or greater than 1. In other words, if an MSA has a higher than average amount of employment in a given industry (relative to all MSA's in the U.S.), then it has an economic cluster for that industry. In order to control for qualitative differences between regions that had multiple clusters, a sum of the number of traded, local, and natural endowment economic clusters existing in an MSA was included in the models. For firms that were not located in an MSA with clusters, this variable was coded as 0.

Near Tribal Casino. A binary variable was created to measure if a firm was located proximate to a Native American casino. If the firm's postal Zip Code was within 10 miles of a Native American casino then it was considered proximate to the Tribal gaming venue.

Control Variables

In order to control for firm-specific attributes, we included measures of a firm's *age* (in years). In the models for revenue, we controlled for *size* (number of employees) and in the models for size, we controlled for firm *annual revenue*. In addition, we attempted to control for environment-specific attributes by including variables for being *on reservation* and *rural*. Unfortunately, firms are not required to list their primary NAICS (industry) code in the CCR database, so it was not possible to control for industry-specific effects due to a large amount of non-reported data.

RESULTS AND DISCUSSION

Descriptive Statistics

Table 4 shows the descriptive statistics for the variables in the study. There were 850 firms in the analysis. The average firm was nearly 10 years old, with annual revenues of $1.15 million and 9 employees. 38 percent of the firms were located on reservations and 34 percent were located in rural areas. On average, each firm who was located proximate to traded clusters was located in a census area which had 5.27 traded economic clusters. This value ranged from zero for firms located in rural areas to a high of 18 for firms located in the Bellingham, Washington metro area. For firms located near local clusters this value was 4.16 local clusters ranging from zero local clusters to high of 12. Firms that were located proximate to natural endowment clusters averaged 1.37 natural endowment clusters. This value ranged from zero to a high of five natural endowment economic clusters.

(Insert Table 4 about here)

Multivariate Analyses

Table 5 presents the results of ordinary least squares regressions for the natural log of firm revenue. Model 1 includes the variables for the number traded, local, and natural endowment clusters in a firm's census area as well as the variables of being located in a rural area and on a reservation. The coefficient for being located proximate to traded clusters is positive and highly significant ($p<0.01$). As predicted, being located in a region in which is rich with concentrated industrial activity is good for firm performance. However the results suggest that this relationship only holds true only for traded clusters but not for local or natural endowment clusters as both of the latter coefficients were non-significant. Of note, being located in a rural area was negative and significant ($p<0.05$) suggesting that being located in a rural area hinders Native American firm performance.

(Insert Table 5 About Here)

Model 2 adds the control variables of age and firm size. Both were highly significant across all models ($p<0.001$). As with Model 1, locating near traded clusters is good for Native American firm performance even when controlling for firm age and size. However, once firm age and size are controlled for, the negative effect of being located in a rural area appears to dissipate. Thus, it appears that the negative effect of being located in a rural area dissipates over time. The coefficient for being rural in Model 2 is still negative but not significant. Again, being located on a reservation has no statistically significant relationship to firm sales.

Model 3 adds the variable of being located proximate to tribal casinos. This relationship is also positive but, surprisingly, not significant. As before, being located in a region in which is rich with concentrated industrial activity (e.g., traded clusters) is good for firm performance. Thus, the results show that being located proximate to traded cluster concentrations has a more positive influence on Native American firm performance than does being located in the vicinity of Tribal gaming resources.

Table 6 presents the results of models that use the natural log of number of employees as the dependent variable instead of annual revenue. Unlike in the previous models, in which revenue was not statistically affected by being on a reservation, locating on a reservation has a positive and significant relationship to firm size in terms of number of employees, as shown in Model 4. In addition, being located in a rural area shows a significant negative effect on firm size, as is found in previous models. Also, in contrast to previous models, when on-reservation is controlled for, traded cluster density does not exert a statistically significant influence Native American firm size (as measured by number of employees), as it does with firm revenue.

(Insert Table 6 About Here)

Model 5 adds the control variables of firm age and size. Again, these variables are highly significant predictors. As with the revenue models, once age and size are controlled for, the negative effects of being rural dissipate. Furthermore, being located on a reservation still has a positive influence on a Native American firm's employee numbers.

However, some of the positive effect of being located on a reservation may be an artifact of being on a reservation which is proximate to Tribal gaming. In Model 6, once the variable for being located proximate to a Native American casino is added, the variable for "on reservation" declines in statistical significance and its coefficient effect diminishes almost one-half. For a Native American SME, being located in the vicinity of a Native American casino appears to have a strong positive impact on the average number of employees ($p<0.01$). In fact, this impact is nearly double of that associated with being locating on a reservation (see Model 6).

DISCUSSION

This study began by looking at how Native American entrepreneurship might be affected by cluster development, with the main proposition being that Native American enterprises should benefit from their geographic proximity to economic clusters and, in particular, to traded clusters. H1 predicted that Native American firms that are located proximate to economic clusters would perform better than those who were not. The results described above partially support this hypothesis. Specifically, for Native American firms there is a significant and positive relationship between firm revenue and being located proximate to traded economic clusters ($p < 0.001$). This relationship remains strong even when controlling for firm size, firm age, and other environmental factors such as being on a reservation or in a rural area. One alternative explanation might be that the findings simply reflect the value of being located closer

to urban markets. The results depicted in Table 5 refute this. Specifically, the Model 3 coefficients reflect that being rural versus non-rural does not affect this relationship, since cluster density is a significant predictor of firm revenue even when firm location (rural vs. non-rural; on reservation vs. off reservation) is controlled for.

However, contrary to expectations, the results do not support similar hypotheses for local or natural endowment clusters. These results were somewhat surprising in light of the literature that posits the benefits of cluster development on the economic performance of regions where clusters are found. H2 predicted that business performance for Native American entrepreneurs would be more positively impacted by their proximity to traded clusters than by proximity to local or natural endowment clusters. The results in Model 3 support this hypothesis, since a significant positive relationship was found between firm revenue and being located near traded clusters, but not for proximity to local or natural endowment clusters. These findings add to growing body of research that argues that traded cluster development has a greater economic influence on regional economies than do local or natural endowment cluster development. As traded clusters are made up from traded industries which, by their very nature, generate greater revenues than might be expected with local clusters made from local industries, then it would be expected that Native American firms would benefit from being located within these types of cluster economies.

In H3, it was predicted that Native American entrepreneurs located on reservations proximate to natural endowment clusters would better perform those who were not. The results show in Model 3 does not support this contention. In fact, when looking at the results, no relationship was found between firm performance and their natural endowment clusters. These results are surprising, since one might expect that the presence of natural clusters might serve to

mitigate disadvantages that reservation locations might present to the Native American entrepreneur, especially with respect to accessing the skilled labor needed to exploit opportunities based on natural resources.

Lastly, H4 posits that Native American entrepreneurs benefit from geographic proximity to tribally-owned gaming venues, in part due to the general preference given to Native American contractors by tribal governments. The results depicted in Tables 5 and Table 6 show mixed support this hypothesis. Specifically, the results show that there is a positive relationship between location near a Tribal gaming venue and the average number of employees within Native American firms ($p<0.01$), even when controlling for firm size (as measured by revenue) and firm age. Moreover, the results of Model 6 reveal that the positive effect of being located on a reservation is largely driven by those firms that are located near reservation casinos. When casino proximity is added to the model, the statistical significance of being located on a reservation (in Model 5) decreases dramatically.

In contrast to the revenue models, proximity to tribal casinos appears to be much more beneficial to firm performance (in terms of employees) than does proximity to traded clusters. Thus, the results suggest that being close to clusters is good for revenue, while being close to casinos is good for employment. These results are surprising in light of the manner in which tribal governments operate. When awarding tribal business contracts, Native American-owned firms are generally accorded preferential treatment from tribal governments. This preference usually applies even to Native Americans from non-focal tribes. Additional research is warranted in order to explain the differences.

IMPLICATIONS AND CONCLUSIONS

The results of this study create interesting implications for economic development policy within Native American communities. Taken at face value, the results suggests that Native American firms tend to do better when they are located near economic clusters, in particular to traded economic clusters, which are found near urban areas. Firm sales increase when a firm resides in an area with more traded clusters. This presents somewhat of a quandary for many Native American entrepreneurs, who would often prefer to stay on their indigenous grounds, which can generally only be accomplished by staying on or near the reservation, with most reservations located in more rural locations. If firms do better when they are located near clusters, how should tribes whose reservation lands are located in rural areas promote entrepreneurial activity? Certainly, being rural isn't necessarily all bad. The nested models in Table 5 show that, being rural appears to significantly hinder performance (Model 1); this effect goes away when accounting for firm-specific factors (Models 2-3). Thus, older and larger firms are eventually able to mitigate the effects of geographic isolation.

However, even though sales are not statistically different on a reservation, firm size is. Firms on a reservation employ more people than their counterparts off the reservation. Moreover, firms located on reservations near tribal casinos grow larger than those that are not. In sum, Native American firms generate better revenue near traded cluster economies but experience more employee growth on a reservation and near a Native American casino. Unfortunately, for rural Native American tribes, it may never be possible to be both on the reservation and near economic clusters.

The implications for tribal economic policy are troubling, since our results suggest that there is a trade-off that rural tribes face. Tribes who wish to promote an economic development policy of maximum employment might wish to promote Tribal gaming and keep their businesses

on the reservation. On the other hand, Native American entrepreneurs can best increase firm performance by locating their businesses within or near traded cluster economies. However, doing so might require the relocation of the entrepreneur to more urban areas and away from the reservation - a situation that may be culturally abhorrent to many nascent Native American entrepreneurs.

It has been argued that our western models of entrepreneurship have had little success with indigenous populations. In the United States, Native American entrepreneurs represent a small but growing segment of entrepreneurial activity that is under-researched. Although there has been some attention paid to the macroeconomics of Tribal gaming, little attention has been directed toward factors that affect the individual Native American small business owner/entrepreneur. Much of the limited he research that has been done concerning Native American business relies on anecdotal information. This study is one of the first empirical treatments of Native American entrepreneurship that uses objective measures of firm performance gathered by governmental sources.

It has also been argued that Native American entrepreneurs face unique challenges associated with their culture and geographic circumstances that might inhibit new business development and performance (Stewart and Schwartz, 2007). This study shows that Native American entrepreneurs accrue competitive benefits when geographically located within traded cluster economies. Of note, these benefits do not appear to manifest themselves within local or natural endowment clusters. This enhancing effect is prevalent whether or not the business is located on or off a reservation. These findings should provide some support to those espousing the efficacy of cluster development.

Much of the discussion surrounding Tribal gaming has been directed toward the economic impact of casinos on the local economy and public services and, in some cases, upon potential negative unintended side effects that may accompany gaming – for instance, gambling addiction. This study provides empirical support for the efficacy of Tribal gaming in creating employment, especially with Native American entrepreneurs. As such, this study also provides some support for the utility of promoting Tribal gaming.

In sum, Native American businesses generate more revenue when proximate to cluster economies than when not and Tribal casinos have a positive effect on employment within Native American SMEs. If indigenous Americans are to fully exploit entrepreneurial activity as a means of economic recovery and development, then some thought must be given to the best place to locate new ventures. In addition, our results also suggest that the presence of supporting firms, such as indigenous banks and training centers, could benefit from having branches serving both rural and urban areas. For those tribes and indigenous entrepreneurs fortunate enough to be located in the vicinity of economic clusters there may be no trade-off. However, for tribes in rural areas, away from traded clusters, the trade-offs may be problematic, since it may be culturally unappealing for those tribes to promote the geographical placement of new ventures and, importantly, their employees, away from indigenous lands.

FUTURE RESEARCH

As with all research, there are limitations that apply to the findings presented in this study. Future research might be undertaken to identify other factors which might influence Native American entrepreneurship, such as education attainment or government sponsorship. Likewise, research should be undertaken to determine whether these results translate across all

indigenous Native American tribes. In order to control for differences across regions, this analysis focused only on indigenous entrepreneurs in one region of the U.S. We have no reason to think that the results do not generalize to indigenous entrepreneurs in other regions, but it would be better to ultimately test this assumption empirically. Yet other research might investigate whether Tribal gaming clusters might exert positive influences on non-native entrepreneurs as well. This question might be of particular import in light of the current discourse on gaming in general and its influence on regional economies.

Finally, it will be important to see if our results generalize to entrepreneurs from other emerging economies. The Native American community is unique in that it is enveloped within and entangled with the larger and much more developed U.S. economy. Native American entrepreneurs are often located on American Indian reservations, which are truly independent nation-states with immature economies. However, many of the firms in this study are located off-reservation and, as such, are embedded within the mainstream economy. Other "hidden elephant" cases might be considered for future comparative research, such as the Maori people of New Zealand or the Indigenous People of Canada.

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Table 1: Traded Clusters in the US Economy

Aerospace engines	Heavy machinery
Aerospace vehicles and defense	Hospitality and tourism
Agricultural products	Information technology
Analytical instruments	Jewelry and precious metals
Apparel	Leather products
Automotive	Lighting and electrical equipment
Biopharmaceuticals	Medical devices
Building fixtures, equipment, and services	Metal manufacturing
Business services	Motor driven products
Chemical products	Oil, gas products and services
Communications equipment	Plastics
Construction materials	Power generation and transmission
Distribution services	Prefabricated enclosures
Education and knowledge creation	Processed food
Entertainment	Production technology
Financial services	Publishing and printing
Fishing and fishing products	Sporting, recreational and children's goods
Footwear	Textiles
Forest products	Tobacco
Furniture	Transportation and logistics
Heavy construction services	

Source: Porter (2003)

Table 2: Local Clusters in the US Economy

Local Commercial Services
Local Community and Civic Organizations
Local Educations and Training
Local Entertainment and Media
Local Financial services
Local Food Beverage Processing and Services
Local Health Services
Local Hospitality Establishments
Local Household Goods and Services
Local Industrial Services
Local Logistical Services
Local Motor Vehicle Products and Services
Local Personnel Services (Non-Medical)
Local Real Estate, Construction, and Development
Local Retail Clothing and Accessories
Local Utilities

Cluster Mapping Project (2009)

Table 3: Natural Endowment Clusters in the US Economy

Agricultural Products
Casino Hotels
Coal Mining
Combination Energy Services
Fertilizers
Forestry and Primary Wood Processing
Livestock Processing
Metal Mining
Nonmetal Mining
Water Transport

Source: Cluster Mapping Project (2009)

Table 4. Descriptive Statistics

Variable	Mean	Std. Deviation	Min	Max
Avg Ann Gross Rev	1155400.00	3164950.00	0	30073961
Avg Num Employees	8.78	16.726	0	200
Number Traded Clusters	5.27	6.091	0	18
Number Local Clusters	4.16	4.624	0	12
Number Natural Clusters	1.37	1.689	0	5
On Reservation	0.38	0.486	0	1
Rural	0.3372	0.47304	0	1
Age (years)	9.58	10.606	0	91
ZipCode within 10 miles of Native American Casino	0.28	0.451	0	1
Valid N (listwise)	850			

Table 5. OLS Estimates of LN Firm Revenue

	Model 1		Model 2		Model 3	
Variable	Coefficient	Std. Error	Coefficient	Std. Error	Coefficient	Std. Error
(Constant)	11.115	0.276 ***	9.843	0.281 ***	9.817	0.282 ***
Number Traded Clusters	0.131	0.048 **	0.120	0.044 **	0.114	0.044 **
Number Local Clusters	-0.038	0.076	-0.075	0.070	-0.084	0.070
Number Natural Clusters	-0.143	0.169	-0.014	0.155	0.025	0.157
On Reservation	0.108	0.287	0.078	0.262	-0.085	0.290
Rural	-0.739	0.367 *	-0.437	0.336	-0.462	0.337
Age (years)			0.063	0.011 ***	0.063	0.011 ***
Avg Num Employees			0.070	0.007 ***	0.069	0.007 ***
ZipCode within 10 miles of Native American Casino					0.380	0.288
R-Squared	0.037		0.198		0.200	
F	6.414 ***		29.786 ***		26.304 ***	

N=850

*** p<0.001
** p<0.01
* p<0.05

Table 6. OLS Estimates of LN Firm Employees

	Model 4		Model 5		Model 6	
Variable	Coefficient	Std. Error	Coefficient	Std. Error	Coefficient	Std. Error
(Constant)	1.196	0.093 ***	0.683	0.084 ***	0.665	0.084 ***
Number Traded Clusters	0.026	0.016	0.008	0.013	0.004	0.013
Number Local Clusters	0.020	0.026	0.002	0.021	-0.004	0.021
Number Natural Clusters	-0.080	0.057	0.020	0.047	0.045	0.047
On Reservation	0.193	0.096 *	0.269	0.079 ***	0.166	0.087 +
Rural	-0.222	0.123 +	-0.078	0.101	-0.093	0.101
Age (years)			0.028	0.003 ***	0.028	0.003 ***
Avg Ann Gross Rev			0.000	0.000 ***	0.000	0.000 ***
ZipCode within 10 miles of Native American Casino					0.242	0.086 **
R-Squared	0.027		0.345		0.351	
F	4.744 ***		63.553 ***		26.304 ***	

N=850
*** p<0.001
** p<0.01
* p<0.05
+ p<0.10