

## **Mapping the Economic Contribution of Women Entrepreneurs**

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### **Abstract**

*The purpose of this research was to discover and describe the economic contribution of one group of women entrepreneurs to their communities. The research participants were women who had graduated from a Microenterprise Assistance Program (MEP). There was no differentiation among women by age, race, or ethnicity. This study was designed using an interdisciplinary approach. The theoretical landscape that underpins this research includes economic geography, women entrepreneurs, and entrepreneurship. This exploratory data analysis generated questions for future research. This research provided a geographic representation of the dispersion and volume of the self-reported business expenses of women entrepreneurs located in one geographic area. In addition, this research developed and examined the viability of an assessment tool that maps the business payments made by entrepreneurs.*

**KEY WORDS:** women entrepreneurs, microenterprise assistance programs, geographic information systems (gis), economic geography

### **1. Introduction**

While it would be hard to imagine a world in which an abundance of entrepreneurs did not strengthen the local economy, the literature documenting this effect is still in its infancy. (Glaeser, Rosenthal, & Strange, 2010, p. 3)

As Glaeser, Rosenthal, and Strange (2010) note, few instances in the scholarly literature provide the means to support the belief that entrepreneurs, including women, contribute to the economic well-being of their communities. This exploratory data analysis was undertaken to seek ways in which the contribution of one group of women entrepreneurs might be measured. While the measurement is important, an interpretation that is meaningful is even more so. Like Yeung (2009), this research approach was intended to “stimulate more spatially informed understandings of entrepreneurial activity and entrepreneurship” (p. 211). Those understandings, because of the nature of this research, generated additional questions about aspects of women entrepreneurs not explored in previous research.

Women entrepreneurs make a measurable contribution to the economic well-being of their communities. In 2007, according to the U.S. Census Bureau, 7.8 million women-owned firms paid \$215 billion to 7.5 million employees (“2007 Survey of Business Owners,” 2011). This is noteworthy but statistics such as these may not convey the influence of women entrepreneurs on the economic well-being of their communities. Smith (2005) notes that “A successful business is one in which the number of people supported or the number of other businesses assisted is a measure of success. In the individualistic market economy, these indicators are not taken into account” (p. 131). How can we illustrate these indicators? What motivates us to do so? The following discussion is an attempt to address these questions.

Women face barriers in securing funds to establish and sustain their businesses (Brush, Carter, Greene, Hart, & Gatewood, 2002; Roberson-Saunders, 2001). Demonstrating the value of women-owned businesses to their communities may reduce this constraint. Many women entrepreneurs establish their businesses with the help of a Microenterprise Assistance Program (MEP). MEPS are non-profit organizations that provide training, support, and microloans to low-income people, ethnic and racial minorities, and women (Sanders, 2002). To sustain or increase its financial support from private, for-profit, or government sources, an MEP must demonstrate the positive direct economic contribution of its programs.

This is especially true in a difficult economy when more organizations compete for fewer government grants. In a depressed economic environment, difficult decisions must be made related to the use of private and public funds. Fiscal conservatives may resist the investment of money to promote entrepreneurship among women if they cannot see a financial benefit to do so. Social liberals, who may support funding MEPs, weaken their argument for increased financial investment in the development of women entrepreneurs if they do not have sufficient data to support their claims of the positive economic impact of these programs. The purpose of this research was to identify a methodology that illustrates the economic contribution of women-owned businesses, and the MEPs that support them, to their communities.

Researchers have attempted to use the business income of MEP graduates to demonstrate the success of MEPs. This is difficult because the source of the income may not be clear (Sherraden, Sanders, & Sherraden, 2004) or entrepreneurs may hesitate to share their income (*Impact study of entrepreneurial development resources*, 2008). MEPs have been established to alleviate poverty, empower women, contribute to economic development, or contribute to business development. Research (Sanders, 2002; Sherraden, et al., 2004) suggests that MEPs do not alleviate poverty. Research has not addressed the question of how the graduates of these programs contribute to the economy.

To focus only on business profit ignores the other ways in which the value of a business may be measured. Business expenses, which are payments made to establish and support the business, are a more suggestive measure than income because no matter the source of the funds, personal income, business income, or a loan, the payments are used to create and sustain the business. These payments insert money into a community's economic system that influences that system downstream. Atasoy (2004) submits that more research should be conducted that examines the economic impact of entrepreneurial businesses. Barriers also exist to the use of business expenses such as United States federal government restrictions to data and difficulty obtaining data from individual businesses.

Research has been conducted on the experience of women entrepreneurs (Bennett & Dann, 2000; Bruni, Gherardi, & Poggio, 2004; Smith, 2005), what they need to succeed (Heffernan, 2007; Manolova, Brush, & Edelman, 2008), and how they differ by race (Smith-Hunter, 2006; Smith-Hunter & Boyd, 2004). Ahl (2006) submits that assumptions of "business, gender, family, society, the economy, and the individual" influence research questions asked and the methods to answer those questions as well as the answers. She asserts that those assumptions "also include *what is excluded*, i.e., factors or circumstances that are not perceived as relevant for entrepreneurship research" (p. 598). This research examined an aspect of women-owned businesses that has been excluded from research on women entrepreneurship.

This research took the perspective of economic geography, which is "the study of the location of economic activity" (Krugman, 1995, p. 33). Economic geography has been ignored by economists because its ideas "could not be modeled with the rigor required by the increasingly narrow standards of the journals" (p. 68). Krugman (1995) supports economists' adherence to models even though doing so may create blind spots. He submits that economists leave ideas that cannot be modeled unexplored because they do not have suitable tools for the job. If economic models do not exist to explore economic geography, what might be used to do so? Economic geographers, knowing that they cannot produce models, do what they can. They create "schematic descriptions of the data or organizing principles that made intuitive sense and/or seemed to fit the fact fairly well" (p. 85). They create geographic representations.

The use of a geographic representation allows a different perspective of how the business expenses of a group of women entrepreneurs impact their communities' economic well-being. Harvey (2008) suggests that "maps and geographic information are essential to how we know the world" (p. 3). Geographic information systems (GIS) as a way to represent and to understand the complexity of the world can be extended into organizational, sociological, and economic research. GIS contributes to these areas of research by supplying a new lens for information analysis that has not been considered previously. The objective of this research was to discover and describe the economic contribution of businesses established by women entrepreneurs who graduated from Microenterprise Assistance Programs (MEPs). This resulted in a geographic representation of the dispersion and volume of women entrepreneurs' self-reported business expenses. This research sought to define the next level of questions to ask as we begin to understand the ways in which these women entrepreneurs impact their communities.

Two questions were addressed by this research:

- Will women entrepreneurs who graduate from MEPs provide expenses as a measure of their economic contribution to their communities?
- What is the economic contribution to their communities of women entrepreneurs who have graduated from a Microenterprise Assistance Program (MEP)?

Schweitzer et al. (2009) suggest that the use of a network topology may illuminate more than a standard statistical economic approach might. The business expenses of the participants in this research were used to describe their economic network. The description took the form of a map that illustrated the spatial distribution of women entrepreneurs' business expenses by zip code. This research identifies areas that are unexplored by current theory related to entrepreneurship. In 1961, Chinitz asserted that the culture of entrepreneurship resulted in the success of New York City. In 1973, Schumacher "stressed the importance of small business ownership in a nation's economic well-being" (Y. L. Lowrey, 2004, p. 2). Today, however, literature documenting the notion that a large number of entrepreneurs strengthen the local economy is still in its infancy. This research addressed what has not been explored, which is the influence of multiple businesses established by low resource and laid-off women on the economic well-being of their communities.

This research also changed the nature of the questions asked about women entrepreneurs and the methodology use to answer them. Research has been conducted on the experience of women entrepreneurs, what they need to succeed, and how they differ by race. To this point, questions that focus on economic contributions made by low resource and laid-off women entrepreneurs have been excluded from entrepreneurship research. Statistics that indicate the measurable economic contribution of women-owned businesses exist ("2007 Survey of Business Owners," 2011; Y. Lowrey, 2006; Y. Lowrey & Tobias, 2011). This research applied the lens of economic geography to identify where that contribution is made and employed Geographic Information Systems (GIS) to create geographic representations of that contribution. The research findings have implications for the Microenterprise Assistance Programs (MEPs), as they seek funding from private and public sources.

## 2. Method

Two sets of entrepreneurship researchers, Audretsch, Keilbach, and Lehmann (2006) and Welter and Trettin (2006), used geographic representations to illustrate their research findings. Audretsch et al. (2006) determined the spatial distribution of entrepreneurial capital and Welter and Trettin (2006) depicted the "emergence of a network structure to support women entrepreneurship" (p. 51). This research employed a similar methodology as an approach to examine the contribution of women entrepreneurs to the economic well-being of their communities. The participants in this research were graduates of a Microenterprise Assistance Program (MEP) established in 1989 in the city of Baltimore to aid women with limited access to resources, especially training. The graduates of this MEP sought self-employment. Shane (2003) defines self-employment as "performing work for personal profit rather than for wages paid by others" (p. 5).

One group of participants consisted of low resource women whose family income fell below the established income threshold at the time of her participation. Depending upon the grant, the criteria that define *low resource* women ranged from an income level 150% of the Health and Human Services (HHS) standard for poverty to the Housing and Urban Development (HUD) guideline of 30-80% for poverty. One grant defined the target participants as "low-income and distressed" women (Saltzberg, personal communication, 2011). From 1991 to 2009, 927 low resource women who graduated from the MEP. The program for low resource women was funded by various federal grants and intended for women who lived in or near the city of Baltimore. Another group of participants consisted of women who had been laid off from their most recent employment. From 1999 to 2009, 656 women graduated from this MEP's program for women who had been laid off from their most recent job. The program for workers who had been laid off was funded by the state of Maryland.

All women graduates of the MEP's programs with valid email addresses were invited to complete an online survey that consisted of questions related to their current or past businesses. All survey respondents were asked to contribute further by providing their 2009 business expense data. The business expenses were associated with a type of good or service being supplied as well as the zip code of the location of the entity supplying it. These payments were aggregated by zip code to create a graphical representation of the economic contribution created by each woman entrepreneur's business.

The contributions of each of those businesses were aggregated using Microsoft Excel and MapPoint to create a graphical representation of the contribution made by all the participants in the research. Microsoft MapPoint provides high quality spatial data that can be used to map and geo-code (Bradley, 2004). The use of maps to depict this data has advantages and disadvantages. Maps “resemble miniature pictorial representations of the physical world” and are created by “replacing the map's natural spatial scales with abstract scales of measurement not based on geographic analogy” (Tufte, 1997, p. 14). A map created using this type of measurement becomes a two-dimensional representation of the underlying data used to create it. In this case, the variables were business expenses that were aggregated by zip code.

Three issues should be considered with this approach. First, the map may be two-dimensional; however, “the world is generally multivariate” (Tufte, 1997, p. 17). This could result in an oversimplification of what the map represents. The second issue to be considered is the aggregation of the data. “Aggregations by area can sometimes mask and even distort the true story of the data” (p. 35). Finally, access to large datasets and fast computing make it possible to “sort through thousands of possible varieties of graphical and statistical aggregations” in order to support the claim being made (p. 37).

Even with these issues to be considered, mapping the data has the potential to reveal something that had not been considered previously. This two-dimensional view of data may allow us to see what has been hidden in the same way that using a Light Detecting and Ranging (LiDAR) laser beam allowed archeologists to detect a wood version of Stonehenge (“Stonehenge's 'wood version' unearthed,” 2009, April 12). By doing so, the researchers literally unearthed a new source of questions about the people and their customs of that time. This approach is a new source of questions that may provide solutions as well.

### **3. Results**

Table 1 illustrates the number of valid email addresses, survey responses, and participants who met the research criteria as well as those who provided their business expenses. Of the 602 valid email addresses, 58 women, or 10% of the email list, completed the survey. The number of women who completed the business expense data form was 6 or 1% of the email list. Of the 58 women who completed the survey, 51 established a business after graduating from this MEP and 7 did not. Of the 51 businesses that were established after graduation, 41 were still in existence at the time of the survey. Figure 1 represents the businesses created by research participants that existed in 2010.

In response to the survey question, “Did you pay any business expenses in 2009?” 46 said “yes.” In response to the survey question, “Are you interested in providing additional information about the payments you have made to support your business?” of the 46 who paid business expenses in 2009, 19 responded “yes.” Of those, only 6 submitted completed Expense Data Forms. This finding does not support my assumption that women entrepreneurs would be more willing to share information about expenses than about income.

Figure 2 represents the dispersion of payments. The shaded areas received payments. Darker shades reflect more payments. In general, the expenses were paid to businesses near the women entrepreneurs' business, often within the same zip code.

A notable finding is that these women entrepreneurs were not willing or able to share their business expense information. While 46 participants indicated in the survey that they paid business expenses in 2009, only 6 participants submitted their business expenses. A variety of factors could motivate this lack of response. These women entrepreneurs may:

- be hesitant to share any information with the researcher, based on the fear of how that data could be used.
- have unreported income that would be evident if they supplied business expense data.

These reasons might explain why the women would wish to remain anonymous. It should be noted that few selected the option to provide their data that would ensure their anonymity.

Attempts were made to present me, the researcher, as someone interested in helping women entrepreneurs. Those asked to donate their time and effort, however, would not benefit immediately from this research since it was designed to understand the economic contribution of the MEP graduates, not to support individual women entrepreneurs. This may have decreased the value the participants placed on the research.

Appealing to the women's desire to give back to the MEP for the assistance they received did not encourage many of the MEP's graduates to participate. Time is an important commodity to all of us but especially to this group of women entrepreneurs. I believe that the time involved was more than they were willing or able to donate.

#### 4. Discussion

Findings from this research suggest that there is more to be known about women entrepreneurs than current theoretical literature indicates. The geographic representations that resulted from this research illustrate the communities most impacted by the existence of these women entrepreneurs. Just as the rivers in colonial days spawned commerce, the majority of the business expenses these women paid were grouped around today's major highways. Those highways include Baltimore's Beltway, Rt. 695, and Interstate 95 North. Some business expenses were not so close to home, extending throughout the United States to Utah and California and north to upper state New York. This small sample hints at the extent of the impact of small business to regional and national economic well-being.

Some researchers like Martin, Pordeli, and Wynkoop (2009) would argue that women entrepreneurs have a large impact on the economy. Because their research is based on estimates, their conclusions are open to debate. Lowrey (2004) advocates the use of the concept of business density, which is "the number of business firms per 1,000 persons" (p. 1) as indicator of economic well-being. Her work was preceded in 1973 by Schumacher who "stressed the importance of small business ownership in a nation's economic well-being" (p. 2). "Women-owned businesses are concentrated in industry sectors where firms are typically smaller" (*Women-Owned Businesses in the 21st Century*, 2010, October, p. 1). The expenses paid by small businesses are a factor in economic well-being not because of the great impact of one business but because there are so many businesses. This research applied the definition of entrepreneurship as a "positive economic activity" (Calás, Smircich, & Bourne, 2009) to its participants and used its participants' business expense data to demonstrate the contribution of these women entrepreneurs to the economic well-being of their communities. Its findings suggest that there is more to be known about women entrepreneurs than current theoretical literature indicates.

The research findings indicate that business expenses can be used to create a geographical representation that illustrates the dispersion and volume of entrepreneurs' contribution to their communities' economic well-being. The findings also highlight the difficulty in obtaining the data from the entrepreneurs themselves to do so. This has implications for the Microenterprise Assistance Programs (MEPs), as they seek funding from private and public sources as well as for researchers who seek to explore this methodology. In October 2010, the White House conducted a conference comprised of those knowledgeable about women entrepreneurship. At that conference, it released a report prepared by the U.S. Department of Commerce Economics and Statistics Administration entitled *Women-Owned Businesses in the 21<sup>st</sup> Century*. That report recognized that "women-owned businesses contribute significantly to the U.S. economy" (*Women-Owned Businesses in the 21st Century*, 2010, October, p. 1). This research has implications for policymakers because it provides another methodology to support that statement.

While this group of participants did not result in suggestive data, I believe that suggestive data exists. For instance, the U.S. Census Bureau's Survey of Business Owners is a rich source of data that includes revenues and payroll. If this data could be linked to IRS 1099 data using the federal identifier of the business, I submit that the resulting geographic representation would illustrate, in a way that standard economic statistics cannot, the economic contribution of women entrepreneurs. This perspective may strengthen the argument for continued support of programs that develop and support women entrepreneurs. This research offers a method to confirm how a specific group of women entrepreneurs contributes to the economy by illustrating the amount they spend and where they spend it. The geographic representation of the amount spent provides an illustration of which communities benefit from small businesses. This representation can be used by policymakers to confirm the results of business development programs in targeted communities.

Researchers face challenges in obtaining data to describe the influence of these women entrepreneurs and the programs that support them. There are various reasons why business income has not proven to be useful in describing the impact of MEPs on economic development or of these women entrepreneurs' business success. This research indicates that these women entrepreneurs were no more willing or able to share information about their business expenses than research (*Impact study of entrepreneurial development resources*, 2008; Sherraden, et al., 2004) has indicated they would share information about their income.

The response rate to the survey was 10% of the participant pool. The survey focused on demographics and general information on the women entrepreneurs' businesses. The response rate for business expense data dropped dramatically. Of the 46 who paid expenses in 2009, only 6 of the participant pool provided the data. This leads to the question, "Under what conditions might gathering financial data from these women entrepreneurs generate more data?" Another question might be, "What data does the government collect that might be used to describe women entrepreneurs' contributions to economic well-being of our communities?" If none exists, another question might be, "How can we influence the government to collect business expense data in a way that can be used by researchers?"

This research provided foundational data related to the types of activities associated with these women entrepreneurs' economic networks. It provided a geographic representation of the dispersion and volume of women entrepreneurs' self-reported business expenses. This research defined the next level of questions to ask as we begin to understand women entrepreneurs who have graduated from Microenterprise Assistance Programs. This research provided a new perspective to describe the contribution of a group of women entrepreneurs to the economic well-being of their communities.

This research was limited by several factors. While there were many participants in the MEP over its 19-year span, the contact information for many was out of date. This research focused on the graduates of one Microenterprise Assistance Program in one city. The format and type of data requested made completing the business expense data form labor intensive for some participants. Assurances of anonymity were not sufficient to encourage participation. Another constraint is that in the past, this MEP conducted research that involved financial information where anonymity was not part of the research design. When the MEP supported of the current research, the participants may have confused this research project with the previous one, despite assurances that their information would remain confidential.

### **5. Future Research**

The purpose of this exploratory data analysis was to "develop new questions or hypotheses" (Slocum, McMaster, Kessler, & Howard, 2009, p. 46). As a result of this research, new questions emerged. These questions identify new opportunities for research. Areas for future research include women entrepreneurs, Microenterprise Assistance Programs (MEPs), and the methodology to create the graphical representations used in this research. In some cases, the recommendation for future research is focused on the new questions. In other cases, the recommendation is related to the data or methodology to answer those questions. While many of the future research questions are related to the women entrepreneurs, the findings could contribute to the organizational learning of the MEPs that support them.

This research compared women entrepreneurs based on their circumstances, which were low resource women or women who had been laid off from their most recent job. There was no differentiation among the women by age, education, race, or ethnicity. Future research could be conducted using the same methodology with the addition of age, education, race, or ethnicity as a variable. An important finding of this research was the hesitancy of this group of women entrepreneurs to share data about their business expenses. The same research design could be used with other groups of women entrepreneurs, including those who graduated from MEPs and those who had not, to understand better the conditions that cause this hesitancy. This research methodology could be used in a case study of one or two women entrepreneurs to examine at a greater level of detail the extent of their businesses' contribution to their communities' economic well-being. The participant selection criteria could be broadened to include any type of entrepreneur. In a case study, network analysis with individual suppliers could be used to construct the entrepreneurs' social and economic networks. Finally, other sources of data, such as the Survey of Business Owners along with data from IRS form 1099, may provide more data to explore the applicability of this methodology.

### **6. Summary**

The research findings demonstrated that the contribution of women entrepreneurs to their communities' economic well-being could be measured using their business expenses. In addition, this research illustrated that a geographical representation of that contribution could be created. Just as critical a finding is that the women entrepreneurs themselves were not the best source of that data.

This research contributes to the scholarly literature by asking questions about women entrepreneurs that have not been asked and by offering a way to address those questions. The research questions were:

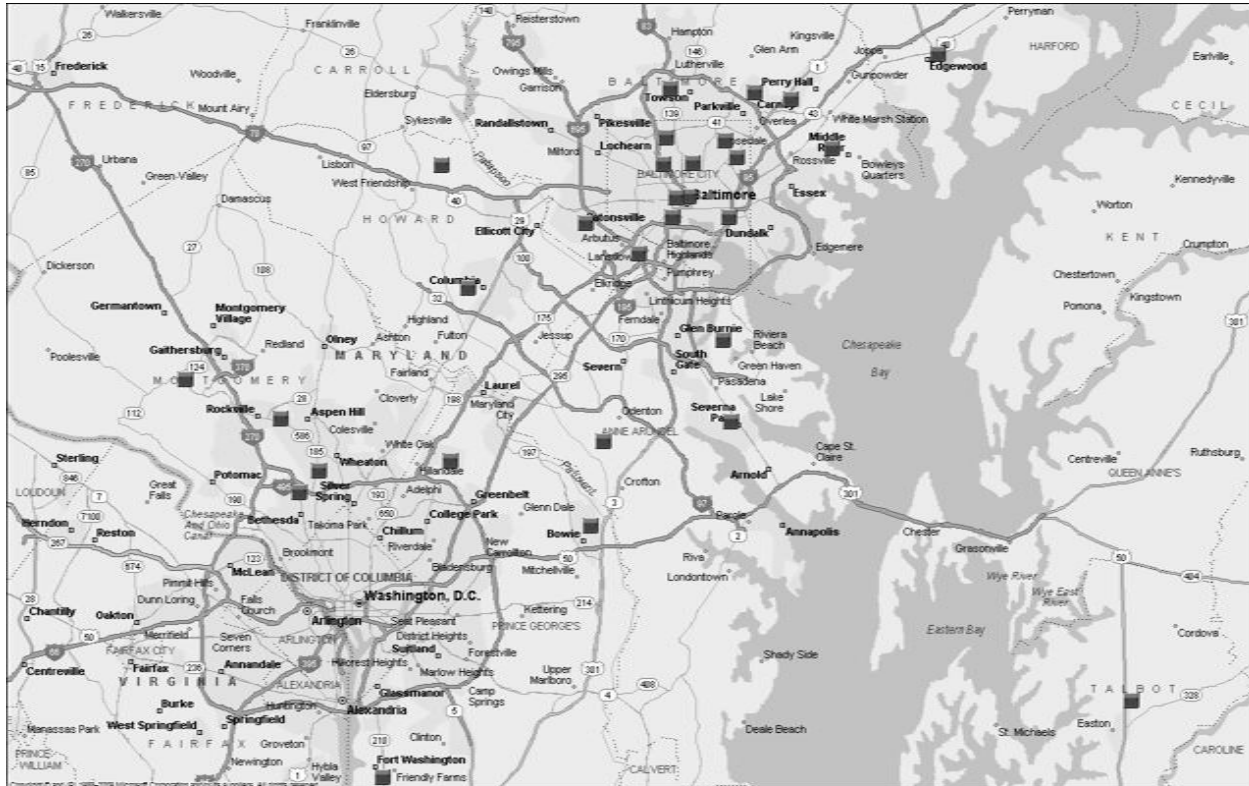
- Will women entrepreneurs who graduate from MEPs provide expenses as a measure of their economic contribution to their communities?
- What is the economic contribution to their communities of women entrepreneurs who have graduated from a Microenterprise Assistance Program (MEP)?

Dubin (1978) submits that empirically based researchers often disregard descriptive research, when descriptive research can provide the basis with which to build theory. The debate surrounding the definition of entrepreneurship will remain ongoing. From a policy perspective, these findings offer an approach to measure the effectiveness of programs designed to encourage entrepreneurship. From a theoretical perspective, these findings align with the view of economic geographers who emphasize the importance of the fact that socioeconomic processes produce spatial structures and spatial structures influence socioeconomic processes.

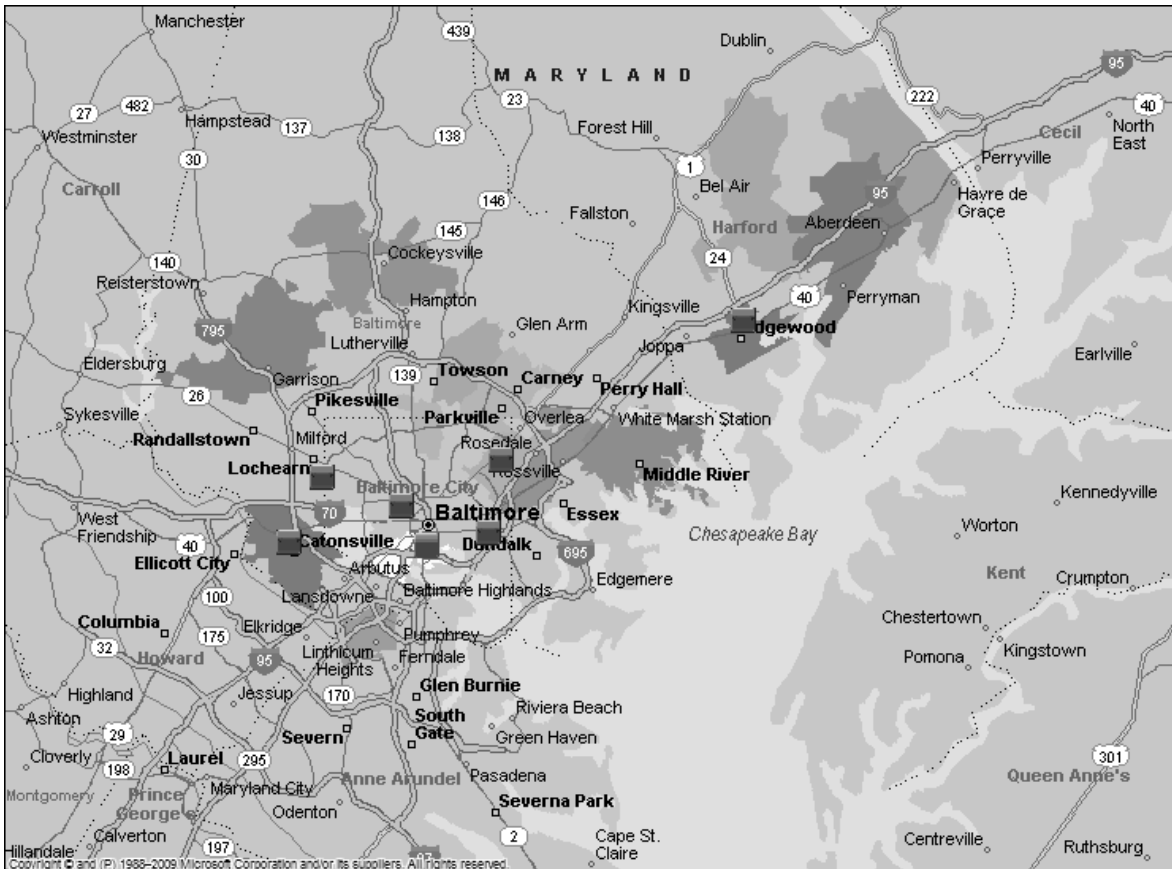
This research supports the view that it may be possible to create the geographic representations offered by this research using another source of data. The IRS Form 1099 contains the payer’s federal identification number, the payer’s zip code, the recipient’s zip code, and the amount paid. If this data could be linked to data collected by the Census Bureau’s Survey of Business Owners, using the payer’s federal identification number, then it may be possible to map the economic contribution of women entrepreneurs, or any group of entrepreneurs based on gender, race, or ethnicity.

**Table 1: Participant Responses**

	Count	Participant Pool
Valid Participant Email Addresses	602	
Survey Responses	58	10%
Paid Expenses in 2009	46	8%
Not Interested in Providing 2009 Expenses	27	4%
Interested in Providing 2009 Expenses	19	3%
Provided 2009 Business Expenses	6	1%



**Figure 1. Existing businesses in 2010**



Total Amount by ZIP Code

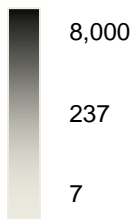


Figure 2. Total paid to recipients by zip code with business locations

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