



## **RESILIENT MICROPOLITAN AREAS IN THE FACE OF ECONOMIC SHOCKS: AN INSTITUTIONAL PERSPECTIVE**

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### **Abstract**

Micropolitan areas (between 10,000 and 50,000 people) may experience economic shocks, which threaten their vitality. Factors related to economic shocks can range from local companies leaving a town or national economic crises affecting local economies. This research seeks to identify why certain micropolitan areas recover from an economic shock using the perspective of local micropolitan institutions. Using a case study of one resilient micropolitan area in the Midwest, U.S., researchers have conducted twelve interviews with local stakeholders representing diverse for-profit and government institutions. A grounded theory approach allowed identifying social infrastructure, physical infrastructure, and institutional infrastructure as drivers to promote economic resilience. The research project contributes to a systems approach to city resilience, identifying a range of adaptive capacities for economic resilience such as the importance of infrastructure for business attractiveness, infrastructure for quality of life, and presence of cross-institutional coalitions. This research informs policy makers regarding the importance of a range of holistic factors which are likely to increase the adaptive capacity to economic shocks.

### **Introduction**

Micropolitan areas are between small towns and large cities, with a population over 10,000 and under 50,000 people. The U.S. includes a total of 576 micropolitan areas which comprises 10% of the national population (Wilson et al 2012). While micropolitan areas include a significant part of the U.S. population, they have been widely neglected by current research (Vias, 2012). Their importance should not be underestimated, as micropolitan areas have the promising potential to fulfill the needs of the migrants who are moving out of small towns and/or out of metropolitan areas, and prefer the life style of medium size cities (Vias, 2012). The dearth of research on micropolitan areas is especially problematic when their existence is threatened by economic shocks, which can happen, for instance, when a major employer decides to leave a region. This research proposes to understand the institutional mechanisms behind becoming economic resilient, after experiencing economic shocks, in micropolitan areas and asks: *What drives resilience after an economic shock in micropolitan areas?* To answer this question, the research uses an institutional perspective, representing local institutions: the city, health organizations, educational organizations and for-profit organizations. Local institutions generally have the knowledge regarding economic and non-economic sectors driving economic growth and are aware of the historic patterns towards economic growth.

Within this context, the study uses a qualitative approach in one micropolitan area in the Midwest to capture the perspectives of diverse local institutional actors about economic growth. The micropolitan area was selected using U.S. Census data regarding employment trends (employment drops and recovery) from 2010 to 2016. Interviews were conducted with twelve actors from local organizations, chosen based on their active presence in the city, including historical trajectories and involvement in major economic activity.

The research identifies multiple factors that drive resiliency including social, physical and institutional infrastructures. *Social infrastructure* represents quality of the relationships in a community

(Flora and Flora 1993, Sharp et al. 2002) such as trust, norms, and networks that improve the efficiency of society by facilitating coordinated actions (Robison & Ritchie, 2016). *Physical infrastructure* refers to the existing resources related to the built environment: building stock and location, energy distribution, waste and water management, telecommunication, transportation network, schools, parks, green and open spaces. *Institutional infrastructure* represents the means that the government, business, and non-profit actors adopt to maintain and generate jobs in the face of economic shocks. More specifically, this research finds that resilience to economic shocks includes a well-developed social infrastructure such as the presence of a workforce; competitive physical infrastructure such as the availability of the transportation infrastructure to satisfy industrial needs; and strong institutional infrastructure such as the presence of coalitions among diverse government and for-profit actors.

### ***Why study micropolitan areas?***

Micropolitan areas represent a unique unit of study because they follow different economic and social processes from rural and metropolitan areas (Vias 2012, Cortes et al 2015, Brown 2018, Oliver & Thomas 2014). Specifically, these differences relate to their economy, built environment, and socio-economic characteristics (Brown 2018, Cortes et al. 2015, Oliver & Thomas 2014, Wahl & Gunkel 2007, Mulligan 2014). At a county level, micropolitan areas have been observed to have consistently lower rates of business turnover in comparison to larger metropolitan areas, with significant implications for future economic growth (Brown 2018). Micropolitan areas also represent communities that are uniquely affected by factors such as primary industries, historical population and income levels, core city growth versus suburban growth, and geographic proximity to metropolitan areas. For example, unlike metropolitan areas, employment growth in the core city has an important role for income growth in micropolitan areas (Cortes et al 2015). As a result, these economic growth factors, which have disparate impacts on micropolitan economies, emphasize a clear justification to study shocks.

Furthermore, the differences between micropolitan areas and other geographies are not only economic. When examining the developed footprint of different communities (Oliver & Thomas 2014), micropolitan areas as a whole were found to have a much smaller range of undeveloped land conversion and a lower median rate of conversion from metropolitan areas. There have also been marked regional differences between micropolitan areas, where variables that influence employment such as coastal location, natural resources, and human capital all had varying levels of significance in employment change (Mulligan 2014). Moreover, certain micropolitan regions exhibited less racial segregation compared to metropolitan areas across the nation, even among larger cities with historically lower levels of segregation (Wahl & Gunkel 2007).

Previous literature focusing on economic resilience has primarily focused on local economic strategies (e.g. industrial recruitment) as the drivers to economic resilience (Hill, Wial, & Wolman, 2008). Nevertheless, studies in rural decline have shown that other set of factors including social capital (Besser 2013), feeling of belonging and physical environment (McManus et al. 2012), and presence of community organizations (Sharp et al. 2002) play a role into a community's adaptation to economic shocks. In summary, considering these social and economic trends, there is a need to study what drives micropolitan economic resilience.

### ***Economic shocks***

Economic shocks experienced by a community represent unforeseen events, created by external, exogenous factors such changes in markets, unemployment after a company runs out of business, and extreme weather-related events (e.g. droughts) that go unexplained by economics yet have an effect on it. Shocks also come in a range of forms, such as inflationary shocks when the prices of commodities increase abruptly but societal salaries do not. The imperative of studying economic shocks is highlighted by Blanchard and Katz (1992), who have shown that recovery is often long-lasting and has the propensity to create employment declines for about four years. Moreover, the extent of the shock also appears to affect the recovery length, with regions that experience a national economic shock followed by a regional economic shock being twice as likely to recover more slowly (Hill et al 2010). However, Recker (2009) argues that social capital has a greater propensity to affect recovery (e.g. the quality of life of a region) compared to the cumulative effects of a shock.

Undoubtedly, economic resiliency and vulnerability to shocks appears to be dependent on a wide range of economic features. Consequently, it is expected that different micropolitan areas will be able to cope up uniquely with an economic shock. In the European context, this has been previously illustrated by

Doran and Fingleton (2013) who showed that during the recession there was a large amount of heterogeneity regarding how regions recovered. For instance, the structure of the economy matters as regions with larger number of major export industries and less income gaps are less likely to economic growth (Hill et al. 2010). Additionally, economic growth is affected by a region's import and export strategy and their economic diversification (Bruglio et al, 2008; Tobin and Livermore, 2006). Kolko and Neumark (2010) showed that economic resilience depends on the availability and combinations of corporate companies and locally-owned companies. The importance of studying economic resiliency for communities is particularly essential considering the negative outcomes from economic shocks on the community. Cortés et al. (2016) have shown that economic shocks caused an increase in economically-motivated crimes such as shoplifting and robbery. Similarly, Chassang and Miquel (2009) found that, at the national level, countries are likely to engage in conflicts because of increase in the income. The negative effects of such a relationship between conflicts and shocks is exacerbated by the community's mutual sense of fear that prevails during this economic situation (Chassang and Miquel, 2009). In summary, on one hand, several studies about economic resiliency at the regional and national levels can be found in the literature. On the other hand, there is a gap in the literature of studies that examine this phenomenon at smaller units of study, such as the one proposed in this research.

## **Methodology**

### *Case study selection*

For the context of this research, resilient micropolitan areas are those that have experienced an economic shock, but have recovered most the lost jobs with no decline in incomes or increased disparities. The case study presented here was conducted in one micropolitan area located in the American Midwest region. To operationalize shocks and recovery, we used data from the U.S. Census Bureau to measure the number of jobs for all micropolitan areas in Midwest region. Data was collected from all counties in the 12 Midwestern states (IA, IL, IN, KS, MN, Mo, ND, NE, OH, SD, and WI). An economic shock was defined as 4% or more loss in jobs by place of work from the previous year while an economic recovery was defines as at least 4% gain in jobs by place of work. Data was collected from 2010 to 2016. The analysis revealed a total of set of 38 micropolitan areas, experiencing economic schocks. The final micropolitan, presented here, was selected based on a set of criteria for a future comparative study. This included similar micropolitan characteristics including population size (around 25,000 people), presence of a community college, non-proximity to a metropolitan area, and in industry type.

### *Data collection*

Data collection included twelve interviews with diverse stakeholder representing the city, health organizations, educational organizations and for-profit organizations (Table 1). The interviews were collected during two visits in the city during the Summer of 2018. First, we interviewed representative working for the City such as the Strategic Planner, the City Manager, and Director for Business Affairs and Engineering. These institutional actors were interviewed due to their knowledge of the economic drivers and historic context. Second, we interviewed the CEO and Director for Economic Development for the city Chamber of Commerce. Third, the researchers interviewed two managers working for top companies and one business owner. Finally, we interviewed representatives from diverse sectors including Health Department, Workforce Development and the local Community College. The interviews lasted for an average of one hour and included questions regarding the economic drivers in the micropolitan area.

Sample questions included: *"What are the major drivers of economic growth in your city?" "How has the city changed in terms of economic activities since you have been here?" "In the last ten years, is the same group of people who have been involved with economic development stayed the same, or has the group changed?" "Do you think the economy is boosting in this city?" "If so, where are most of the jobs? What organizations are most actively engaged in programs geared towards economic development in your city? In your view, how did the job market change in 2009-2010?" "Do you know why any of these changes happened?"*

Table 1: Stakeholders interviewed in the research

<b>Respo ndent numbe r</b>	<b>Position</b>	<b>Organization</b>	<b>Description of the organization</b>	<b>Type of organization and/or sector</b>
1	Strategic Planner	The City	Public organization that plans and manages economic growth and physical development	Public - County
2	City Manager	The City	Public organization that plans and manages economic growth and physical development	Public - County
3	CEO	Chamber of Commerce	Local Chamber of Commerce organizations responsible to unify and coordinate economic and community development	Public - Chamber
4	Economic Development Director	Chamber of Commerce	Local Chamber of Commerce organizations responsible to unify and coordinate economic and community development	Public - Chamber
5	Director of Business Affairs Community Growth and Engineering	The City	Public organization that plans and manages economic growth and physical development	Public - County
6	Executive Director	County Health Department	Governing body that focus on public health and promotes public participation "in selecting public health priorities"	Public - County
7	Assistant Director	Regional Organization	Cooperative venture "to help local governments improve their capacity to implement services"	Public - Regional
8	Business owner	Company 1	Firm related to entertainment	Private - Business
9	Senior Operations Manager	Company 2	Firm that is a very large producer and participates in the global economy.	Private - Industry
10	Plant Manager	Company 3	Firm that is a very large producer and participates in the global economy.	Private - Industry
11	Executive Director of Economic Workforce	Local Community College	Educational institution related to learning and preparing residents to future careers	Public - Education
12	Coordinator	Workforce Development	State agency committed to providing employment services for individual job seekers	Public - State

### *Data Analysis*

Data analysis included narrative analysis of interviews using both inductive and deductive analysis techniques. During the initial stage, two coders manually produced a coding conceptual framework which included all the macro-codes and micro-codes. The first coder was a student in the planning department and the second coder was a student in the political science department. The two students coded interviews individually and then met to discuss their codes and obtain consensus regarding the coding framework. Once consensus was obtained, the students shares the coding framework with the first two authors who

provided feedback on the conceptual framework. Macro-codes, or overarching categories explaining drivers for resiliency, included social, physical and institutional infrastructures. Micro-codes included sub-categories explaining the macro-codes such as cross-institutional collaboration and economic policies.

## Results

The research showed a combination of factors contributing to economic resiliency, including social, physical and institutional infrastructures. Table 2 presents an overview of the results including the three macro-codes (social infrastructure, physical infrastructure and institutional infrastructure). Social infrastructure included two micro-codes (human capital and demographics), physical infrastructure included three micro-codes (community infrastructure, resources for business attractiveness, and infrastructure for business attractiveness) and institutional infrastructure included four micro-codes (economic policies and programs, large and competitive employers, quality of collaboration, planning, economic related coalitions, provision of services for business attractiveness).

Table 2: Overview of the results

<b>Adaptive capacities</b>	<b>Definition</b>	<b>Quote</b>
<b>Social Infrastructure</b>		
<b>Human Capital</b>	People that are themselves an asset to the economy due to their experience, networks, openness to discourse, leadership skills, age and physical ability.	"...back to the '80s when there was poverty, there was not a lot of jobs because the biggest one had just closed down, and not a lot of skills. People didn't have a lot of skills because they went straight from high school into those manual labor positions. So I see where we're really working with some federal programs, state programs to get people skilled"
<b>Demographics</b>	Presence of divers groups in the regions and quality of relationships among these groups.	"I think in the last few years we've done some things to keep some of the youth. I think there's some quality jobs and we've cleaned some things up."
<b>Physical Infrastructure</b>		
<b>Community Infrastructure</b>	Infrastructure that sustains and improves the lives of citizens ultimately enhancing their ability to economically contribute.	"They're starting to implement the trail system so they're taking more of a vision around the health indicators for the county around the trails and the waterways and brushy and the OHV park more recreational as well"
<b>Resources for Business Attractiveness</b>	Existence of resources, either natural or manmade, that allow for particular industries to locate to the area.	"They are companies that use indigenous resources as their inputs – mining, corn, animal pharmaceuticals, that[']s their] reason to be here"
<b>Infrastructure for Business Attractiveness</b>	Roads and rail services that aid the movement of people and goods.	"Because the POET plant wouldn't have located where it's at and neither would Cargill now if they did not have also the highways where they are and the railroad [net]work."
<b>Institutional infrastructure</b>		
<b>Economic Policies and Programs</b>	programs and policies that allow for workforce development through skills training.	"[The community college] work[s] to make sure that we're attracting the jobs that could stay in the community. So we're teaching our students jobs that could stay here".
<b>Large and Competitive Employers</b>	large, often global, companies with value-added products, high wages, access to the world economy and the ability to invest large sums of money into a community.	"[This employer is] the largest privately-held company in the U.S. who are into everything and have facilities in 66 countries around the world. They are \$115-billion-a-year company in sales"
<b>Quality of Cross-Institutional Collaboration</b>	strong lines of communication, consistent cooperation, and dissemination of information through	"...the people that are making it happen, it's the people that are open to change, open to dialogue and discourse even if they disagree, just having

	education to create a good business climate.	that ability to at the end of the day rolling up your sleeves and getting to work”
<b>Planning</b>	the conducting of studies on what needs improving, strategic planning and construction of goals and visions that facilitate the betterment of the society.	“What’s the community want to look like in 2030? And so, a lot of volunteer groups in the city work together to formulate what would be a quality [city] in 2030 and what things would we have to put in place to make those sorts of things happen.”
<b>Economic-related Coalitions</b>	groups and alliances whose main goal is to create economic resiliency through economic and community development	“What I have seen for [the city] – and I’m going to divert because economic development is a broad term. So I don’t know how you define it. But one of the benefits of the [nonprofit chamber of commerce], working with the [organization] and the region is how economic development is tied to community development, and importance they don’t sit siloed, it’s a merge. “
<b>Provision of Services for business attractiveness</b>	amenities and services provided by companies, the city or outside bodies that allow for the development of a ‘hub’ that attracts key economic players.	“That’s why they’re here, because there’s a lot of corn grown here, and they have the dual rail line and the city provides water and sewer out there.”

**Social Infrastructure.** Social infrastructure represents the quality the relationships in a community. These may include different levels of trust and respect, ultimately affecting community engagement. The initial results showed that human capital and demographics constituted important social infrastructure drivers.

First, human capital represents the assets and capabilities that describe people in an area. This may include their technical skills and quality of workforce in a region. Skills and length of residence were especially emphasized under this umbrella term with the vision of incorporating these particularly key types of potential that people alone bring skills and knowledge of the area. One of the private sector respondents (Respondent 9) mentioned that the creation of economic growth comes about due to “the right people in the right place at the right time” and having the “luxury [of having] people that are open to working with local government”, individuals that are well networked and people with experience and an openness to new ideas. Likewise, the Planner for the City (Respondent 1) that the main drivers are “the plans and the people” of micropolitan areas. Undoubtedly, therefore, economic growth hinges upon people and the numerous ways in which they contribute to make resilient places in the face of economic shocks.

Second, demographics include the presence of divers groups in the regions and quality of relationships among these groups. The respondents mentioned age and immigration as key features for the economic growth. In particular, availability of a young workforce was mentioned as key to economic growth. For example, one business owner (Respondent 8) mentioned how the city has been aiming to “keep some of the youth”. Additionally, another public sector respondent suggested that if “people leave...we would go back to the ‘80s when there was poverty”, implying that immigration benefits economic growth. Consequently, people, and the populations that they form are a crucial part in the equation for achieving economic resiliency.

**Physical Infrastructure.** Physical infrastructure drivers refers to the existing resources related to the built environment that provide an economic benefit including physical buildings, energy distribution, waste and water management, telecommunication, transportation networks, schools, parks, green and open spaces. The results showed that presence of community infrastructure, presence of resources for business attractiveness, and presence of infrastructure for business attractiveness

First, presence of community infrastructure represents the physical components of the micropolitan areas, which drive the infrastructure necessary for quality of life. For example, the Executive Director of the Health Department (Respondent 6), mentioned that they were implementing the community trail system with the vision to improve health indicators in the city.

Second, respondents mentioned the importance of infrastructure for business attractiveness, specifically in this case transportation infrastructure. These include the capacity of the roads and rails

through which companies can transport goods. A public sector respondent (Respondent 7) conveyed that people come to the city because driving is easy and “transportation and the incentives [companies] can get makes a difference to them”. Investment in physical infrastructure have unique effects on economic growth. The CEO of the at the Chamber of Commerce (Respondent 3) echoes that the companies coming to the city “unlike a telemarketing firm have invested huge sums of money”.

Third, respondents mentioned the importance of the incentives for these companies including the resources available to them. This incorporates both manmade as well as natural resources, such as corn, water and animals which subsequently allows for the existence of certain industries. The CEO of the Chamber of Commerce (Respondent 3) argued that large employers use “indigenous resources as their inputs” which give them “a reason to be here”.

***Institutional Infrastructure.*** Institutional infrastructure represents the means that the government, business, and non-profit organizations is expected to impact job creation. This included economic policies and programs, large employers, quality of cross-intuitional collaboration

First, economic policies and programs refer to programs that allow for workforce development and policies that build human capital. The City planner (Respondent 1) described the importance of local community college as the place which “make(s) sure that we’re attracting the jobs that could stay in the community. So we’re teaching our students jobs that could stay here”. In this case, the community college created a policy that tailored towards build human capital and workforce development in the micropolitan city.

Second, respondents mentioned the importance of large employers such as companies of large size and global companies which have the capacity to invest significantly in the local economy. An available example of a large employee includes the corn milling ethanol plant which had a major operation the city’s industrial park and was described by a local economic development leader as “the largest privately-held company in the U.S. who are into everything and have facilities in 66 countries around the world. They are \$115-billion-a-year company in sales”.

Third, respondents mentioned the importance of cross-institutional collaboration which represent the strong lines of communication including dissemination of information. Cross-institutional collaboration was mentioned by a number of interviewees and was described well by a local business leader (Respondent 8) as “the people that are making it happen, it’s the people that are open to change, open to dialogue and discourse even if they disagree, just having that ability to at the end of the day rolling up your sleeves and getting to work”.

Fourth, planning refers to the creation of strategic plans, needs assessments, and the creation of goals and visions that lead to economic growth. A business owner in the city (Respondent 8) identified planning as an element in the economic growth following historical downturns from the 1970’s through the early 2000’s by saying that much of the growth stemmed from “major quality planning” that addressed the general question “Hey, what do we need to fix?”.

Fifth, respondents mentioned the importance of economic related coalitions including groups and alliances whose goals include economic and community development. Although several were identified over the course of the interviews, a respondent mentioned the importance of working in coalitions to address community needs “one of the benefits of the [chamber of commerce] working with the region is how economic development is tied to community development, and importance they don’t sit siloed, it’s a merge.”

Finally, provision of services for business attractiveness refers to amenities and services provided by companies, the city, or outside organizations. For example, a planner for the city (Respondent 1) discussed acting on the “community’s really desire and need to establish those quality of life features – trails, better school system” as a method of attracting firms and employment. Other respondents mentioned that importance of water and sewer extensions which were necessary for industrial activities.

## ***Discussion***

Economic decline has been primarily studied in urban and rural areas (Flora and Flora; 1993, Sharp et al. 2002). Economic shocks can have a negative effect on the quality of life including creating corrosive communities (Freudenburg 1997). While economic models are primarily used to explain economic resilience, previous work has shown the importance of other factors including feeling of belonging (McManus et al. 2012) and social capital (Besser 2013). The research contributes to theory of geographic

resiliency by identifying a set of adaptive capacities in the face of an economic shocks (Norris et al. 2007) and provides an improved understanding about resiliency by approaching it in a holistic manner. A holistic understanding of resiliency addresses the gap in the engineering literature which shows that resiliency has been studied in reductionist manner where physical aspects of resiliency (e.g. infrastructure) were analyzed separate from institutional and organizational characteristics.

Furthermore, the research refines understanding regarding individual adaptive capacities for economic resilience. First, respondents mentioned that workforce development was a critical component of economic growth. Attracting young people and families to micropolitan allowed building communities and also provide the necessary workforce for the industries in the micropolitan. Second, the availability of physical infrastructure such as transportation systems makes the location attractive to businesses. Respondents mentioned that having the infrastructure capacity, which allowed for diverse businesses to come to the area was key for the economic growth. For example, the presence of two rail systems in the city was attractive to businesses since they were able to choose a more cost-efficient transportation system. Finally, this research shows that the way institutions collaborate and their willingness to invest in certain policies is important for economic growth. Respondents mentioned the willingness of the local government to provide the infrastructure capacity to open certain industries. Additionally, the local government emphasized cross-institutional coalitions as essential to align goals and missions towards economic growth.

For practitioners, the different forms of capacities underscore the diverse areas of focus for strengthening communities' abilities to cope with economic shocks. This is especially applicable to the context of micropolitan areas whose viability is frequently threatened by economic shocks.

### **Limitations**

Importantly, these interviews represent stakeholders' interpretations regarding resilience. While the stakeholders interviewed in this project represent central institutions which have a good historical perspective, their perspective can be partial and not representative of other actors (e.g. community members).

### **Conclusion**

The research studies the topic of economic resilience in the context of micropolitan areas. Micropolitan areas have been an understudied geographic region and require further attention considering their experience with economic shocks. The adaptive capacities to economic shocks are not well known in this context, nor have they been studied in a holistic manner. The research was conducted with twelve actors working for a wide range of local institutions within one micropolitan in the Midwest. The micropolitan was selected based on census data regarding micropolitans which have experienced jobs drops and jobs recovery. The research shows the importance of social, physical and institutional infrastructures. Social infrastructure included the importance of attracting people and families to the micropolitan area. The people provided the skills necessary for building the workforce in the micropolitan. Physical infrastructure was a critical component especially as it provided the necessary resources for industry activities. This included the presence of the infrastructure (e.g. wastewater capacity) and specific materials (e.g. gypsum) allowing industries to start their business. Finally, the institutional infrastructure included the presence of institutional coalitions and policies which were geared towards economic growth. This institutional actors in this research have especially emphasized the need to combine efforts and has shown a mindset geared towards collaborating with economic actors.

### **References**

- Blanchard, O. J., Katz, L. F., Hall, R. E., & Eichengreen, B. (1992). Regional Evolutions. *Brookings Papers on Economic Activity*, 1992(1), 1. <https://doi.org/10.2307/2534556>
- Brown, J. (2018). The Widening Divide in Business Turnover between Large and Small Urban Areas. *The Federal Reserve Bank of Kansas City Economic Review*. <https://doi.org/10.18651/ER/3q18Brown>
- Chassang, S. (2009). Economic Shocks and Civil War. *Quarterly Journal of Political Science*, 4(3), 211–228. <https://doi.org/10.1561/100.00008072>



- Cortes, B. S., Davidsson, M., & McKinnis, M. (2015). GROWTH AND VOLATILITY OF MICROPOLITAN STATISTICAL AREAS IN THE U.S., 9(4), 14.
- Cortés, D., Santamaría, J., & Vargas, J. F. (2016). Economic shocks and crime: Evidence from the crash of Ponzi schemes. *Journal of Economic Behavior & Organization*, 131, 263–275. <https://doi.org/10.1016/j.jebo.2016.07.024>
- Doran, J., & Fingleton, B. (2014). Economic shocks and growth: Spatio-temporal perspectives on Europe's economies in a time of crisis. *Papers in Regional Science*, 93(S1), S137–S165. <https://doi.org/10.1111/pirs.12048>
- Fort Dodge Crime Rates and Statistics - NeighborhoodScout. (n.d.). Retrieved February 20, 2019, from <https://www.neighborhoodscout.com/ia/fort-dodge/crime>
- Hill, E., Clair, T. S., Wial, H., Wolman, H., Atkins, P., Blumenthal, P., ... Friedhoff, A. (n.d.). Economic Shocks and Regional Economic Resilience, 70.
- Hill, E., Wial, H., & Wolman, H. (2008). *Exploring regional economic resilience* (Working Paper No. 2008,04). Working Paper. Retrieved from <https://www.econstor.eu/handle/10419/59420>
- Kolko, J., & Neumark, D. (2010). Does local business ownership insulate cities from economic shocks? *Journal of Urban Economics*, 67(1), 103–115. <https://doi.org/10.1016/j.jue.2009.08.006>
- MULLIGAN, G. F. (2014). Employment Change in Micropolitan America: 1980–2000. *Southeastern Geographer*, 54(4), 348–365.
- Oliver, R. D., & Thomas, V. A. (2014). Micropolitan areas: Exploring the linkages between demography and land-cover change in the United States cities. *Cities*, 38, 84–94. <https://doi.org/10.1016/j.cities.2014.01.002>
- Recker, N. L. (2009). Resilience in small towns: an analysis of economic shocks, social capital, and quality of life, 109.
- Tiongson, E., Gueorguieva, A. I., Levin, V., Subbarao, K., Sugawara, N., Sulla, V., & Taylor, A. (2009). *The Crisis Hits Home: Stress Testing Households in Europe and Central Asia*. The World Bank. <https://doi.org/10.1596/978-0-8213-8222-6>
- Vias, A. C. (2012). Micropolitan areas and urbanization processes in the US. *Cities*, 29, S24–S28. <https://doi.org/10.1016/j.cities.2011.12.005>
- Wahl, A.-M. G., & Gunkel, S. E. (2007). From Old South to New South? Black-White Residential Segregation in Micropolitan Areas. *Sociological Spectrum*, 27(5), 507–535. <https://doi.org/10.1080/02732170701434674>