(2020) 50, 323–328

The Review of Regional Studies

The Official Journal of the Southern Regional Science Association

2020 Presidential Address

Identities and Regional Science*

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Abstract: Our identities as regional scientists may have origins from an advisor, a theory, or a regional science meeting. Further, how we identify regions may be influenced by how our regional data have been historically organized. We must continue to innovate how we apply these identities for our discipline to maintain its pragmatic value and be sustainable long-term.

Keywords: regional definitions, pragmatism, disciplinary sustainability

JEL Codes: C82, N9, J10

1. EVOLUTION OF MY REGIONAL SCIENCE IDENTITY

My first experience with regions dates back to 1982. That was the year my father ran for school board in our local school district. In that district, school board members were elected from individual geographic "wards." Since we lived in a relatively rural location of Louisiana, the geographic area required to support the average ward population was large. The ward was further subdivided into eight polling precincts. Prior to election day rules changes, each of the candidates could travel to each precinct.

While we were not allowed to actively campaign at the polling location, we could drop off donuts to the poll workers. I was eight years old at the time. I recollect riding in my father's pickup truck traveling between precincts and asking him the question why the precincts had specific names. He told me that these precincts were the center of small concentrations of people in the parish from past decades. In fact, some of those precincts even had schools 20 to 40 years prior. However, due to population stagnation and decline, these communities only existed at that time through the names of the polling precincts. My father would run for re-election four years later, and by that time, the state went through a financial crisis

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ISSN 1553-0892, 0048-49X (online)
www.srsa.org/rrs

resulting in the consolidation of most of these precincts. These regional identities officially vanished except in historical records and personal memories.

While the experience of the polling precincts gave me some context to the nature of the changing status of regions, some of my teenage years exposed me to some of the earliest concepts that we have adopted in Regional Science. For example, my father opened a farm supply store when I was a freshman in high school. The store sold feed, seed, fertilizer, and garden supplies. Each year when we would tally up the total yearly sales, I would ask my father why we had a good year (or a bad year). I was often reminded that the farm supply store business was highly dependent on the expansion or contraction of the local parish (county) paper mill. I would later come to understand that our farm supply store was a nonbasic sector of the local economy and the paper mill was an export base sector for our parish.

My career arc started bending towards Regional Science as an undergraduate. I took a course as a junior titled "Rural Resource and Community Development" from David Hughes. David, advised under both Jim Hite (Clemson) and David Holland (Washington State), taught this course from a Regional Science perspective. I was required to write a report about the economic contribution of our home parish. As a part of that activity, I was introduced to input output modeling, multipliers, and the IMPLAN input-output software. Input-output was a very attractive model because it helped me connect my understanding of how the local paper mill where I grew up both positively and negatively impacted my father's business as well as the local government finances to support roads and schools in the parish.

The next step in my Regional Science journey was attending a regional science meeting. I was blessed that David Hughes paid for a trip for me to attend an SRSA meeting in Memphis as a master's student. I remember getting to meet some of the Clemson University Regional Science scholars for dinner at the time. Jim Hite seemed to control the conversation of the evening almost like an emcee of an event.

I recollect that evening Regional Science transforming itself in my mind. It felt like it would be a great fraternity to join because there was a joint sense of purpose from everyone in the room during sessions for how we could take quality science and apply it to practical issues. I was blessed to continue my academic training working under Tom Johnson who had moved to the University of Missouri at that point in his career. He was nice enough to allow me to be a part of a major international research project using economic development as a tool for reducing conflict and bringing about reconciliation between residents in the border region of the Republic of Ireland and Northern Ireland. I enjoyed the opportunity of applying and constructing Social Accounting Matrix models to look at policy and development strategies along the border and in other regions of the Republic of Ireland. It was also my first exposure to working in interdisciplinary teams of economists, statisticians, mathematicians, and other social scientists in a federal statistical agency. There was very much an interest at that time in Ireland to make more of the government survey and administrative data published at smaller geographic units. I felt that my project of building a sub-national Social Accounting Matrix in the Republic of Ireland was one small effort at their larger initiative.

2. CHALLENGING OUR REGIONAL SCIENCE IDENTITIES IN RESEARCH

One of the areas that we need to be ever present in conceptualizing is the region. I'm always reminded of the taxonomy of regional classifications I was taught (homogeneous, nodal-functional, and administrative). Our challenge in empirical regional science research is that our readers' applications of our findings do not always fit our preconceived structures of regional classification and interpretation. In some cases, we will use a specific regional definition because of its ease of use and its approval by the academic community.

A classic example that comes to mind is the use of straight-line distance as a proxy for road mile distance between two points. While we know that the proxy can be problematic in small isolated geographic contexts (e.g. distance across a mountain range or distance across long rivers) where straight line distance is not well correlated with road distance, we often apply the assumption at a national level because of its high correlation. This approach again is acceptable when our research is typically used to test the specific hypotheses spread across a large geographic area, but can be more problematic if it gets applied in cases where the accuracy of the individual observation matters.

As of the date of this writing, The United States Census Bureau plans to incorporate white noise algorithms into the individual point estimates for the 2020 U.S. census population counts. The U.S. Census Bureau is not "green" to the application of these procedures as one of their major regional data product series incorporates such algorithms (On the Map) (Machanavajjhala et al., 2008). These white noise procedures, described by the U.S. Census Bureau and others as "differential privacy," will not be necessarily problematic when looking at the average error across all sub-state geographies within the U.S. However, a simulation of the algorithm applied to the 2010 U.S. officially enumerated census counts shows sizeable deviation for many populations and crosstab population and housing subgroups with the incorporation of differential privacy (Wiley, 2019). The concern coming from some social scientists (especially Sociologists) is that this approach will be very damaging to evaluating specific demographic conditions and changes that are occurring in these places (Cai, 2020). I have not heard the similar differential privacy concerns from the Regional Science community at the same level as compared to the collective response of Regional Science when agencies such as the Bureau of Economic Analysis propose reductions in industrial specificity or complete elimination of certain regional data series.

As Regional Science scholars, we should be concerned about how procedures such as differential privacy impact our definitions of regions and given those definitions, how they might impact our research findings into the future. As it relates to differential privacy, this may have an impact on some of our classic definitions of rural and urban regions. For example, we know that census block- and census tract-level population counts are used as the building blocks for developing urban clusters and urbanized areas. These definitions are the foundational blocks for core based statistical areas such as Micropolitan areas and Metropolitan areas (Office of Management and Budget, 2010).

We need to be aware as regional scientists of the implications that differential privacy may have given the current knife edge nature of these population counts adjusted for differential privacy. For example, an initial assessment of commuting pattern data between 2000 and 2010 suggests that not considering these types of measurement errors can have implications

for regional definitions. A student of mine, presenting at the 2019 Southern Regional Science Association meeting, estimated that approximately 75 percent of the counties that switched core based statistical area status based on the 2006-2010 ACS five-year commuting patterns would have not switched if the point estimate from 2000 fell within the margin of error reported in the commuting data from the 2006-10 ACS (LaHaye, 2019).

Similarly, given that the building blocks of core based statistical areas are individual urban clusters and urbanized areas defined by threshold population levels, entire Micropolitan and Metropolitan areas could be created or eliminated based on the margin of error of the data sources applied. As regional scientists, we should at a minimum be aware, but also assess the relevant volatility these definitions have toward creating changes that are more a function of the artifacts of the formulas than true demographic or commuting change. Regional scientists can assist by bringing our theories and tools to help improve on these regional classifications. Craig Carpenter and I are currently looking at demand threshold analysis to address the central county definitions of core based statistical areas. The 50,000 population threshold of an urbanized area used as the starting point for Metropolitan Statistical Areas has not changed since the 1950s while the threshold population to hold the "metropolitan character" constant has changed since the 1950s (Office of Management and Budget, 1998). Goetz et al. (2018) argue for a review of our threshold for urbanity given a comparison to similar peer nation-states. Demand threshold is one potential option. Identifying the average number of grocery stores or restaurants present in a 50,000 person urban area in 1950 and identifying the population at present needed to support that same number of grocery stores or restaurants from the past could be a strategy for adjusting these population thresholds while holding metropolitan character constant.

3. NOSTALGIA AND OUR FUTURE REGIONAL SCIENCE IDENTITY

The historical timing of my graduate training in Regional Science aligned at the height of the work of Paul Krugman and other scholars in developing the "New Economic Geography." In 2008, Paul Krugman's efforts in international trade and economic geography resulted in his receiving the Nobel Prize in Economic Sciences (Nobel Prize, 2008). I remember fondly in graduate school using system dynamics software to model his classic core-periphery model and evaluate different equilibria based on initial shares of manufacturing employment in two locations under low, intermediate, and high transportation cost scenarios. I found myself enamored with these models and how they helped to explain differential growth patterns of regions. I sometimes believe in Regional Science that we can grow nostalgic to a given theory, model, or dataset because of its success in explaining some past hypothesis of regional behavior.

However, Krugman (2008) was very retrospective of his own contributions in his own Nobel Prize acceptance speech. As much as the Nobel Prize was an affirmation of the contributions of his theories, he was very much concerned that economists would need to consider alternative theories to explain at the time the changing trade patterns that had occurred with the growth of China as a major trading partner with much of the Western world. Krugman's words are very appropriate for us as we embark on a new decade of Regional Science research.

The sustainability of Regional Science in the future as a functioning sub-discipline, I believe, relies less in our ability to center around historical or new dominant research paradigms and navel-gaze on those paradigms, but on continuing to make our scholarship practically relevant to non-academic constituents. This runs contrary to others that may argue Regional Science was not able to maintain a separate identity because it could never identify and maintain a distinct identity between macroeconomics at the nation-state level and microeconomics and urban economics at smaller distinct units of analysis (Econospeak, 2014). My PhD students have mostly been employed either by state governments or the private sector. Many of these employers continue to come back seeking graduates with Regional Science training because of their ability to conduct independent research and test hypotheses on regions that are of policy importance. There never seems to be a shortage of important applied development and policy questions, and as long as there is demand for objective, evidence-based scholarship to address these issues, Regional Science should not lose its relevance.

In my academic career, Regional Science has always been accommodating to bring in the best theories from the disciplinary homes of its members (Economics, Sociology, Geography, Community Development, etc.) and compliment it with the best methods and tools from the body of scholarship of regional scientists to address regional challenges. While Krugman may have felt Regional Science did not have mathematically elegant models to model economic activity in space (Krugman, 1995), he did give credit to the practical value these theories provided to explaining regional behavior and their real world application. We should continue to value this practicality and be inclusive to the best theories and methods to address regional questions under the Regional Science flag in the future.

As the Southern Regional Science Association, I believe we have valued and maintained the practical, applied value of our scholarship to regions in which our scholarship is targeted. Looking back to the most recently attended 2019 meetings, many of the sessions were very traditional to our Regional Science identity such as labor market, spatial statistical applications, economic impact, and state forecasting. However, membership continues to invest in practical research that has immediate value towards decision making around topics such as gender analysis, disasters, broadband, and opioid analysis. This inclusion of new topic areas continues to bring attendees to our conference and membership to our association.

At the same time, I believe two intentional efforts have led to our association's stability and growth during a decade in which our traditional membership base (university faculty) has declined from attrition related to flat and declining budgets. In particular, the association has made an intentional effort in the past 10 to 15 years to increase investments in graduate student participation at the meetings including developing additional activities at our meetings targeted to graduate students. This has in more recent years extended to a small cohort of undergraduate students as well. Anecdotally, almost every graduate student I visit with who attends for the first time leaves our meetings with their expectations of our meetings exceeded. Continuing to exceed expectations for graduate students and first-time attendees will be important for retaining members in the future.

Second, I believe SRSA has been effective at increasing the role of women in our organization. While there are many in our organization to thank, my immediate thoughts go to the work of Judy Stallmann and Nancy White. These SRSA Fellows along with others

have made great strides to increase the diversity of the membership that has led to increased diversity in our leadership.

The Southern Regional Science Association has sustained itself through many decades to serve its members. It has faced both financial and leadership challenges over that time. Its future will be brighter if it does not indulge on the nostalgia of its past but innovates to the needs of its members and their demands to improve the quality of Regional Science scholarship to the next generation of regional challenges.

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