Dallas Indicators

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Leveraging Dallas Indicators

Research Brief

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James P. Murdoch, PhD
Senior Fellow,
J. McDonald Williams Institute

Jim Murdoch is a professor of Economics and Public Policy in the School of Social Sciences at the University of Texas at Dallas. He grew up in western Michigan, graduated from Grand Valley State Colleges in 1978, and received his PhD in Economics from the University of Wyoming in 1982. Before coming to UTD in 1991, Murdoch held teaching and administrative positions at the University of Louisiana-Monroe and Auburn University at Montgomery. He has authored or co-authored numerous scholarly journal articles in the areas of environmental economics, public economics, and defense economics in such journals as Quarterly Journal of Economics, Review of Economics and Statistics, Economica, Economic Inquiry, Land Economics, Journal of Public Economics, Journal of Conflict Resolution, and Journal of Environmental Economics and Management. His research generally reflects an applied econometric approach with some emphasis on policy analysis and prescription. Murdoch's current research concerns applications of spatial econometric methods. In particular, he is working on the application of spatial analysis to estimates of the air pollution-human health dose-response function. The work to date has been funded by grants from the National Science Foundation and the U.S Environmental Protection Agency.

For more information, please contact Dr. Jim Murdoch at murdoch@utdallas, 972-883-4989, or Dr. Marcus Martin at mmartin@fcedallas.org, 469-221-0707.

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Overview

The primary goal of neighborhood indicators projects such as Dallas Indicators[1] is "democratizing data"—making it accessible to all stakeholders in the local community. Not surprisingly, the visual and informational presentation of indicators varies widely among sites. This reflects alternative site development strategies by organizations with differing objectives. Beneath the end-user interface, however, are numerous, and often common, geographically referenced data elements. These data give detailed descriptions of the physical and human characteristics at various geographic scales from small neighborhoods to central and ring cities to vast metropolitan areas. The potential research value of such geographically-referenced databases is just now being realized. For example, Dallas Indicators was recently invited to be one of the initial four sample sites in *Living Cities*, a project coordinated by Robert Weissbourd of RW Ventures to create a typology of neighborhoods. It is anticipated that the typology will lead to new models for analyzing development interventions in specific communities.

Dallas Indicators has the potential to open several other avenues of research on problems of interest to all citizens of the Dallas Ft. Worth Metroplex (DFW). Research that is both motivated by local problems and initiated by local scholars is important for at least three reasons. First, there is a sense that the area is under-studied. Unlike the other

[1] Throughout this document, when we refer to "Dallas Indicators," we mean the underlying data from both the current Dallas Indicators application and the Analyze Dallas application.

nine largest metropolitan areas in the nation (Los Angeles-Long Beach, New York, Chicago, Philadelphia, Washington, Detroit, Houston, Atlanta, and Boston)[2], DFW is not served by one or more major public research universities. We do not have "joint research centers" that merge research faculty and graduate students from several local institutions with organizations and governments in order to study the economic, political, and social structure of the region and form policy recommendations.[3] While one could argue that the DFW area has developed satisfactorily without such arrangements, as discussed in detail below, most scholars suggest that future economic growth and development in cities will be closely tied to knowledge accumulation, creativity, and diversity of ideas. To some extent, the recent creation of the J. McDonald Williams Institute is evidence of the previous lack of similar institutional arrangements in DFW. By democratizing data in the Dallas area, Dallas Indicators helps level the playing field for scholars to apply their skills with Dallas data.

The second reason the research potential of Dallas Indicators is important is because it can contribute to the research capabilities of our universities. Just as local high technology firms (e.g., Texas Instruments) provide resources and problems that help to attract and educate top research engineers and natural scientists to places like Southern Methodist University, the University of North Texas, the University of Texas at Arlington and the University of Texas at Dallas, Dallas Indicators provides a resource and definition of a class of problems that help to attract research-oriented economic and policy scientists. Attracting and developing top scholars is critically important for local universities as they seek national and international recognition. By enabling the area to

[2] Dallas is ranked 9th based on the populations of Metropolitan Statistical Areas from the 2000 U.S. Census.
[3] The National Center for Policy Analysis in Dallas tends to have a national rather than local agenda.

become a laboratory for economic, political and policy science, the Dallas Indicators project will help to leverage-up the area universities. At the same time, the area benefits from the application of serious local "brain power" to area problems.

A third reason for boosting the research effort in the Metroplex stems from our growth and demographic trajectory. DFW is rapidly becoming one of the most important regional economies in the world. Of the 10 largest Metropolitan Statistical Areas (MSAs), DFW ranked second in population growth from 1990 to 2000. [4] At the same time, it is also becoming one of the most complex. The complexity reflects a host of urban/suburban issues (sprawl, transportation, education, crime, et cetera), demographic changes from immigration, and economic structure that all intersect with the unique political environment in Texas. Complexity is not necessarily negative. In fact, it offers a rich environment that will allow us to better understand not only what works and does not work in local economic development, but *why*.

The re-launch of the Dallas Indicators project provides a new starting point for research initiatives. Below, I describe two initiatives that concern economic growth in the DFW area and the drivers of neighborhood economic development. One immediate benefit of these efforts will be to broaden the scope and sharpen the definitions of some of the measures in the underlying Dallas Indicators Web site, facilitating some new indicators that are in line with the current academic thinking on the most important factors that drive local economic growth. Neither research agenda would be cost effective without the foundation of Dallas Indicators.

[4] Based on decennial censuses. Atlanta was first with a 3.7% annual rate of growth, while DFW was second with population increasing 3.1% per year.

Diversity: Measuring the Potential for Economic Growth

Regions such as DFW compete with other regions for business investment and various types of workers from immigrants to artists to highly skilled engineers.[5] "Successful" regions see rising populations *and* rising living standards. What makes regions successful? This is, of course, a monumental question, and scholars from anthropology, geography, politics, and sociology have partial answers. Economists have looked at a variety of plausible answers, but the synthesizing bottom line is that diversity or heterogeneity is generally positive. A diverse economy (not a small number of large firms), a diverse work force (not too specialized in a small number of skills), diversity in culture (an array of restaurants, shops, and architecture), a diverse population (openness to minority groups), and diversity in opinion (open government) have all been tested or considered theoretically in one form or another. There is no consensus on the most important drivers, however, much to the dismay of policy makers. The purpose of this research is to consider these various factors for United States MSAs in order to identify where DFW "fits" in terms of the overall pattern. The analysis should be able to offer some DFW-specific suggestions for ranking the importance of these factors.

The idea that cities exist because of the positive externalities or "external economics of scale" from the co-location (agglomeration) of a diverse group of production processes is at least as old as the ideas of Alfred Marshall. Internal economies of scale are evident when a firm experiences falling costs per unit as production increases. External economies of scale deal with socially increasing returns to scale even in the presence of modest sized firms. Certainly such external economies explain the

[5] The "competition" includes attracting new and keeping your own investment and workers.

growth in cities devoid of geographic advantages—cities such as Dallas and Atlanta. Quigley (1998) argues that with growth in city size and diversity, many economies are realized, such as reduced costs of matching labor to jobs, reduced costs from sharing inputs like accountants and attorneys, reduced costs from consuming public goods like parks and theaters, and the benefits of the inherent stability resulting from a diversified economy. The point is that people are better off (have higher income) in such diverse environments.[6]

For the past 20 years, economists have taken a renewed interest in economic growth and theories of economic growth. Barro and Sala-i-Martin (2004, p. 19) noted that "growth theory effectively died as an active research field by the 1970s…" but "experienced a boom, beginning with the work of Romer (1986) and Lucas (1988)."

Many of the recent empirical applications of the new growth theory (or endogenous growth theory) apply the notion of "dynamic externalities." Dynamic externalities, like external economies of scale, allow for social increasing returns. One example is "knowledge" that accumulates, and then in aggregate is available to all firms, hence, augmenting production and increasing growth. The process re-enforces itself (hence, is endogenous) over time (hence, is dynamic) and growth continues. The new growth theory has had a significant influence on the way economists study the economies of cities.

Building from Jacobs (1969) and Arrow (1962), Romer (1986) and Lucas (1988) formally modeled the role of knowledge or accumulated human capital in sustaining economic growth. At the city level, knowledge spillovers (dynamic externalities) are

[6] Cities cannot reap these external economies forever—eventually, diseconomies (negative externalities) associated with congestion, pollution, etc. will offset the external economies.

clearly one of the most important benefits from co-location (or agglomeration) to both firms and individuals. Firms invest more in capital to take advantage of human capital and the benefits can even accrue to workers with less human capital. Exactly how, and to whom, the benefits spillover is open for debate. In their seminal paper, Glaeser et al (1992) found that industries grew faster in cities that were economically diverse; i.e., growth of industry "X" was slower when "X" was concentrated in the city. They note that their findings are consistent with the hypotheses of Jacobs (1969)—that variety and diversity promote economic growth.

The role of population "diversity" is now an active area for research. Florida (2002a, 2002b, 2002c, 2005) has considered what attracts human capital to an area. If we believe in knowledge spillovers, we need to ask what makes cities better at attracting human capital. He considers the association between "talent" (highly educated, in professional and technical fields, scientists and engineers) and several diversity measures, including the percentage of the population that is gay, and, for example, the number of bars, clubs, theaters, art galleries, and museums per capita. His argument suggests that regions need to consider their "people climate" as well as their "business climate" to reach higher levels of growth.[7]

Extending the work of Glaeser, Scheinkman and Shleifer (1995), Rappaport (1999), and Alesina and La Ferrara (2005) consider the role of "fractionalization" on growth. They use data from U.S. counties from 1970 to 2000, but some of their insights are applicable to metropolitan areas. Fractionalization increases when the population is

[7] There is some debate about the robustness of Florida's associations. For example, in an executive briefing, Weissbourd and Berry (2004) note that they did not find a strong association between percentage of the population with college education and Florida's measures of diversity. Additionally, Florida stresses technology and tolerance in addition to talent as drivers of economic growth.

more diverse in terms of race or ethnicity, or both. They have found that for counties that are initially poor, fractionalization hurts growth, but for higher income counties, it can be positive. Does this imply that as we get wealthier, racial and ethnic diversity will become positive drivers of economic growth?

Alesina and La Ferrara explain their results by examining the positive and negative outcomes of diversity. The negatives include oppression of minorities, conflict of preferences, and racism. Diversity can directly enter the utility function—a notion that comes from social identity theory. Individuals attribute positive utility to the utility of the members of their own group and negative utility to the utility of members of other groups. Hence, decisions based on race or ethnicity are "rationalized" in the decision-making process of individuals.

Diversity can affect the decisions of individuals even if there is no direct effect through utility or preferences. With asymmetric information and self-enforcing contracts, individuals involved in collective action (e.g., a neighborhood watch program, community center, Parent Teacher Association, or urban planning) may simply find that the better strategy is to transact with members of their own group. In the language of group behavior, both punishment and reciprocity can be directed at group members, thereby making it easier to realize collective action.

The positives stem from the external benefits from variety in abilities and cultures that enhance productivity. Diversity may enter the production function of a firm because a group of cognitively diverse problem solvers often solve complex problems more easily than homogeneous groups. It may also be true that diverse groups of people with limited abilities outperform homogeneous groups with more abilities. However, there is a trade

off between the benefits of diversity and the costs in terms of communication and coordination, so one can imagine an optimal amount of diversity (or turning point) for a firm and even a region. These external benefits are similar to those proposed by Marshall. On the individual side, this type of diversity can enhance culture and thus be a driver for additional growth.

The preceding discussion suggests that, usually, "diversity" is a good thing for cities. Diversities in the economy, the culture, and the population seem to attract human and physical capital, and these are fundamental drivers for improving our welfare. The logical next step is to try to rank the drivers so that policymakers can get the greatest payoff for their economic development dollars.

Neighborhood Studies: Get it Right at Small Scale

Comparisons of a region's competitiveness to other regions require measures at regional scale—counties, cities, MSAs, etc. Within a region (or sub-regionally), in order to develop indications and drivers of development, we need data at much smaller scale. Ideally, we would like to know something at the "parcel" or address level. Is it residential or commercial? What are the characteristics of the occupants? How is its accessibility? What are the characteristics of its neighbors? Some parcel-level data is readily available. For example, the appraisal districts maintain parcel files with assessed valuations of the property and the improvements. Local governments also maintain various geographic information systems (GIS) applications based on parcels and addresses.

The problem is that, at small scale, the importance of incorrect and missing data is exaggerated. Population characteristics from the U.S. Census are never available at the

parcel or address level. At larger scales, such as census blocks, summary population data is available and a few bad data elements may not have much impact on averages or percentages. However, these statistics are not that good at predicting the characteristics or choices of individual households.

To adequately study neighborhood development and to identify the key factors that influence economic development, we need at least a few cases where we have accurate and detailed address-level data. Hence, a team effort is mounting that will collect and make available through comprehensive GIS accurate and detailed information about the physical and human assets in a specific section of Dallas—the Fair Park area. The overall goal is a set of benchmark measures about the area and its population so that we can make meaningful comparisons over time. The research initiative will proceed in three phases.

The team will consist of J. McDonald Williams personnel, faculty and students from the School of Social Sciences at the University of Texas at Dallas (UTD), and City of Dallas personnel. The proposed research will take approximately one year, but the academic and Institute members of the team plan to seek additional funding in order to establish a longer term research agenda in the Fair Park area.

Phase One Agenda

During the summer of 2006, faculty and students from the School of Social Sciences at UTD will work with personnel from the Department of Economic Development in the City of Dallas and the J. McDonald Williams Institute to design the GIS and collect the primary measures of the physical assets. The phase one data elements are listed in Table 1. As noted, most of these will be collected via a

"windshield" survey of the area during the month of June. Hence, by the end of July, we anticipate that the core of the GIS will be complete. Parts of this GIS will be integrated with the Analyze Dallas data and provide the input for a simulation model that will estimate the impacts of alternative development strategies in the area.

Phase Two Agenda

The second phase of the research will be to integrate existing data with the phase one elements. Existing data include data from the Dallas Independent School District (DISD), the Office of Economic Development, aerial photography from the North Central Texas Council of Governments, the Dallas Police Department and U.S. Census data. This will provide a relatively complete and accurate database and GIS of the physical assets in the area as well as estimates of the population characteristics. The GIS and data will be used to:

- Analyze the potential impacts of alternative scenarios of development in the area;
- Benchmark essential baseline measurements of assets;
- Test observed measures against predicted measures (for example, income and expenditures);
- Explore social science theories of family and group behavior as they relate to economic development;
- Evaluate prior policies;
- Asses the prospect for sustainable development; and
- Offer specific policy recommendations.

Phase Three Agenda

The third phase of the research involves establishing a social science "lab" in the area for collecting information on individuals. The lab will facilitate a series of initial measurements about the population in the area in 2006 and lay the foundation for funding from the National Science Foundation (NSF), the National Institutes of Health (NIH), and other organizations. For the first year, we envision: (a) focus groups, (b) pre-tests of a household survey, and (c) pre-tests of experimental methods designed to complement the household survey.

The "applied" research objectives concern accurate measurements of the population and its characteristics. This will facilitate a comparison of the true demographic profile with estimates based on the 2000 U.S. Census. The household survey will also measure economic resources, education, religiosity, political participation, and beliefs about safety.

In terms of "pure" research, we are mainly interested in measuring individual preferences in terms of interpersonal preferences, attitudes towards risk, and inter-temporal preferences. Essentially, we are hypothesizing that these three dimensions of decision-making offer potential in explaining some of the primary (known) determinants of sustainable economic development (e.g., family emphasis on education, trust in civic or other local organizations, and willingness to invest in human capital).

Inter-personal preferences explain, for example, trusting and altruistic behavior. At the neighborhood level, such behaviors may be a crucial determinant of the success of, for instance, a re-vitalization effort, a local PTA, or a neighborhood watch program.

There are two primary methods in the behavioral and social sciences for measuring individual preferences. One way is to collect measures of attitudes and beliefs using survey instruments. Surveys such as the General Social Survey and the Health and Retirement Survey have included questions that attempt to measure a respondent's trust of others as well as other closely related phenomena. The other way is to use experimental manipulation. Experimental economists, for example, use "games" with financial incentives to collect measurements about preferences. The outcomes of the experiments constitute measures based on what people actually do rather than what they say they would do. In contrast to survey measures, experiments involve "real" decisions (in artificial environments) that are consequential for the subjects' payoffs. Because participants make decisions involving real monetary stakes, the experimental measures may be more precise than survey-based measures.

There are only a few studies where experimental procedures have been used to measure preferences in field settings.[8] Instead of in the field, most studies are done with college students in university labs. There are even fewer studies that have been able to compare the experimental data with survey data.[9] This project has the potential to make important advances in this nascent line of research. Moreover, the eventual integration of experimental methods with a household-based survey will allow us to gather information

[8] Binswanger (1980, 1981) used experimental methods to measure the risk preferences of residents of two villages in rural India. Henrich (2000) used experiments to examine pro-social preferences among the Machiguenga, a primitive people in South America. The experiments have been replicated by anthropologists and economists among primitive societies around the world (Henrich et al., 2001).

[9] Existing studies include Carter and Castillo (2002), who look at experimental measures of trust, trustworthiness, and altruism and compare them to family economic well-being in South Africa. Johnson et al (2003) measured risk and time preferences and compared them to decisions to pursue post-secondary education for a sample of adults in Canada. This study provides the strongest evidence yet of a systematic relationship between experimental measures of preferences and actual behavioral outcomes.

on a rich set of social, demographic, and economic behaviors in the Fair Park area, providing a unique information resource for thoroughly evaluating the area over time.

Summary

Building from the foundation of the Dallas Indicators project, the intersection of the interests of the J. McDonald Williams Institute and the aspirations of local universities provides a great opportunity to focus research efforts on local problems. The two initiatives described here illustrate the range of potential studies that deal with the drivers of long term local economic development and growth.

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Table 1. Phase One Data Collection. Fair Park Research Initiative. (WS-Windshield Survey, EData-Existing Data, HS-Household Survey, Private-Private or proprietary data)

Data	Mechanism for Collection	Comments
Residential Property		
Zoning	EData	
Land Use	WS	
Condition	WS	Condition indices
Occupancy	HS	Human subjects—third phase
Code Violations	EData	Requires specialized City personnel
Vacant lots	WS	"Gap tooth" assessment
External Quality	WS	Condition indices ("burn-outs", landscaping)
Commercial Property		
Zoning	EData	
Land Use	WS	
Condition	WS	Condition indices
Code Violations	EData	
Public Property		
Roads	WS	Condition indices
Sidewalks	WS	Condition indices
Alleys	WS	Condition indices
Sewage	EData	Requires specialized City personnel
Drainage	EData	Requires specialized City personnel
Water	EData	Requires specialized City personnel
Utilities	Private	Contact for electric, gas, communication
Parks	WS	Condition indices
Other Measures		
Encroachment	WS	Inconsistent land use types
Edges/Barriers	WS	Existence of item preventing flow of activity
Animal control issues	WS	
Visual	Photograph	Experimental collection
Ambience	Film	Experimental collection

Dallas Indicators

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www.dallasIndicators.org

The Dallas Indicators Research Team

Project Director

Marcus Martin, PhD, MPH, Director, J. McDonald Williams Institute

Sr. Researcher

Danielle Lavin-Loucks, PhD, Assistant Professor, UT-Dallas

Dallas Indicators Program Manager

Megan Thibos

Sr. Writer

Victoria Loe Hicks, J. McDonald Williams Institute

Senior Editor

Julie Kibler, J. McDonald Williams Institute

GIS Mapping Consultant

Justine Hines

Compass Point Researchers: Economy

Jim Murdoch, PhD, Professor of Economy, UT-Dallas and J. McDonald Williams Institute Senior Fellow

Environment

Terry Gratton, PhD, Assistant Professor of Environmental Sciences, Univ. of North Texas Health Science Center School of Public Health

Health

Kathryn Cardarelli, PhD, Assistant Professor of Epidemiology, Univ. of North Texas Health Science Center School of Public Health

Science & Technology

Donald Smith, PhD, CEO, Generations

Education

Angela Valenzuela, PhD, Professor of Curriculum and Instruction, UT-Austin

Civic Health

Danielle Lavin-Loucks PhD, Assistant Professor, UT-Dallas

Transportation

Teri Wesson, J. McDonald Williams Institute ,Research Consultant

Crime

Tim Bray, PhD, Associate Director, J. McDonald Williams Institute

Housing

Megan Thibos, Program Manager, Dallas Indicators

Arts & Culture

Gail Clark, J. McDonald Williams Institute, Research Consultant

Dallas Indicators

Dallas Indicators Partnership

Dallas Indicators, a collaborative effort, is a comprehensive database of key community measures, based upon the theory that "what gets measured gets done."

Dallas Indicators

Analyze Dallas seeks to become a catalyst toward real progress and change in the city of Dallas and is based on the philosophy that measurement is followed by impact.

Detailed sub-city level data is presented for Dallas across eight categories: Civic Health, Crime, Economy, Education, Environment, Health, Housing, and Transportation.

www.analyzedallas.org

Established in 1929, The Dallas Foundation is a publicly supported charitable foundation consisting of named funds established by many separate donors for the benefit of the Dallas area, although the Foundation's grantmaking extends nationally. The Foundation's grants include the arts, education, health, and social services.

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2001 Ross Avenue, Suite 3350 • Dallas, Texas 75201

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