FAST ADJUSTING URBAN REGIONS, LEADERSHIP AND REGIONAL ECONOMIC DEVELOPMENT

Mark DESANTIS* and Roger R. STOUGH**

Abstract *- This paper presents and tests a model that argues that institutional resources amplified by strategic community leadership are the factors that dominate a region's ability to achieve sustained economic performance and, therefore, to adjust rapidly to changing conditions. The argument is formulated as a path analytical model and tested with data from 35 U.S. metropolitan regions. Analysis shows that strategic community leadership amplifies the effect of institutional resources on regional economic performance. It is concluded that regions with stronger strategic community leadership not only perform better economically but also adjust more effectively and quickly to change.*

* President, De Santis Associates, Pittsburgh, PA and Adjunct Professor, H. John Hienz III School of Public Policy and Management, Pittsburgh, PA.
**NOVA Endowed Chair in Public Policy. Director, Center for Regional Analysis, The Institute of Public Policy, George Mason University, Fairfax, VA 22030-4444, USA.

1. INTRODUCTION

The purpose of this paper is to formulate a leadership led theory of local regional economic development with a test in the context of a sample of U.S. urban regions. The significance of this is that successful urban regional economic development strategy and planning necessary for adjustment to rapidly changing technology, political, social and economic conditions requires sustained endogenous local leadership. Despite this rather obvious conclusion little systematic research has been focused on the role of endogenous leadership in local regional economic development.

Several years ago Charles Sable (1991) noted that regional economies had for the first time in nearly a century and half become basic components in the global economic system. This trend, driven by rapidly changing core or enabling computer and information technology and the concurrent replacement of highly vertically structured organizational form with a flatter, organizationally networked, and learning capacity model, has been observed by numerous scholars (Birch, 1993; Camagni, 1991; Illeris, 1991; Noyelle and Stanback, 1984; Ohmae, 1993; Porter, 1990; Scott, 1988; Storper, 1989; Storper and Harrison, 1991; Storper, 1994; and Zeitlin, 1990). The rise in importance of economic regions, often called new industrial or technology districts (regions), can be explained exogenously on the basis of widespread technical and organizational change, as noted above. However, the growing importance of regions in the new global economy may also be explained in terms of endogenous factors. The focus of this paper is on endogenous development (see, Romer, 1990; Stough, 1998)) and, in particular, on the role of local regional leadership and institutional infrastructure.

While the rise of new technology led regional economies has been used to introduce our interest in endogenous growth we could alternatively have emphasized the immense restructuring that has occurred in many of the mature regional economies of Europe, North America and Japan over the past two decades to emphasize the importance of endogenous development factors. For example, the same exogenous forces (changing technological and organizational forms) have induced the need for economic restructuring in regions such as Baltimore (MD), Indianapolis (IN), Cleveland (OH) and Buffalo (NY) in the U.S. and have driven these regions to rebuild their manufacturing based infrastructures and economic bases to better fit the information age. However, in each case, endogenous factors have been essential to the success of restructuring efforts and related economic

performance.

While the broad effect of core enabling technological change and organization form may explain the rise in the importance of technology regions and the need for restructuring in general, more micro and endogenous factors are critical to development and sustainability in most cases. The desire on the part of many regional communities to build highly networked technologically driven regional economies raises a variety of important policy issues ranging from "how to achieve and sustain such development?" to "how to address related interregional equity considerations?" The model presented and tested in this paper argues that institutional resources amplified by strategic community leadership are the factors that dominate a region's ability to achieve sustained economic performance and, therefore, to adjust rapidly to changing conditions. The paper is organized in several parts: model, test, conclusions and discussion.

1. A LEADERSHIP MODEL OF LOCAL REGIONAL ECONOMIC DEVELOPMENT

Stough (1990) on the basis of a number of regional economic development case studies in the U.S. identified five characteristics of successful initiatives. These are:

1. Local initiative is critical for initiating and sustaining community economic development,

2. Local initiative is consistently undertaken by nongovemment community (intermediate) organizations,

3. Community organizations are effective economic development planning organizations,

4. Economic development plans are a basis for cross-sector collaboration,

5. Successful communities have access or create access to a broad range of local and extra local national resources.

DeSantis (1993) in a further review of this topic identifies several factors that effect local regional economic development effectiveness. These are:

1) weak and fragmented public authorities,
2) degree of cooperation between the local stakeholders,
3) the level of locally available resources for economic development,

4) the tendency of a community to engage in local problem-solving.

The last factor is a distillation of the five characteristics described by Stough. DeSantis concludes, however, that more fundamental forces underlie these attributes: economic development effectiveness is influenced by leadership and resource endowments, where the basic elements of the leadership construct are included in factors (1), (2), and (4) and the resource endowment concept is accounted for in factor (3).

In the following part of this discussion the resource endowments and leadership constructs are explicated and then used to define a conceptual model of local regional economic development.

1.1. Leadership

Leadership has many definitions. For example, Burns (1978) asserts leadership is "one of the most observed and least understood phenomenon on earth..." and he defines it as (p. 19) "(the act) of persons with certain motives and purposes to mobilize, in competition or conflict with others, institutional political, psychological, and other resources so as to arouse, engage, and satisfy the motives of followers...". Gardner (1990, p. 1) defines leadership as "the process of persuasion or example by which an individual (or group) induces a group to pursue objectives held by the leader or shared by the leader and his followers". For Bennis and Nanus (1991, p. 218), leadership "invents and creates institutions that can empower (individuals) to satisfy their needs, choices purposes and visions that are based on key values of the work force and creates the social architecture that supports them, and, finally moves followers to higher degrees of consciousness".

Leadership for economic development that is community-wide in impact necessarily is not based on traditional hierarchical authority relationships between leader and follower, but is rather a collaborative relationship between local institutional actors and is based on mutual trust and cooperation (Bower, 1982; Bryson and Crosby, 1992; Fosler, 1992; Gray, 1989; Judd and Parkinson, 1990; Osborne, 1988). That is, no single local individual or institution is in a position of authority to undertake fully effective community-wide economic development. As a result, local leaders must inspire and motivate followers through persuasion, examples, data informed arguments and empowerment, not through command and control (Bums, 1978; Kouzes and Posner, 1987;

Bunch, 1987; Neustadt and May, 1986).

Political theorist Bower (1983) maintains that "when problems or opportunities... exceed the capabilities of individual institutions, we must look for plans from associations of the institutions (at which)... there follows a series of meetings among leaders of the various institutions that might be-involved in the problem (or opportunity)... formally or not, an intermediate-level institution" gets created." Bryson and Crosby (1992) perceive a new world in which no single institution is "in charge" or has the legitimacy, power, authority, and knowledge required to tackle any major public policy issues, and institutions must "join forces" in a "shared-power world." For Bryson and Crosby (1992, p. 13), shared-power is "shared capabilities exercised in interaction between or among actors to the further achievement of their separate and joint aims". The concepts of "shared-power" or "intermediate institutions" are basic elements of local leadership for economic development.

Leadership for economic development requires a multidisciplinary approach to understanding and defining this phenomenon and must therefore include leadership theory, community leadership, and regional economic development. Rost (1991) provided a summary of definitions of leadership which is appropriate as a starting point for defining leadership for economic development. Rost (1991, p. 102) defines leadership as "an influence relationship between leaders and followers who intend real changes that reflect their mutual purposes". Theories of community leadership compliment Rost's definition and, as a consequence, build on the leadership construct by pointing out that local groups or coalitions and their interactions affect local public policy (Friedland and Bielby, 1982). Further, economic development theory and practice reveals that these identifiable local leadership groups cooperate to influence the economic future of the community. A definition of leadership for local regional economic development is thus: *the tendency of a community to collaborate across sectors in a sustained, purposeful manner to enhance the economic performance of its region*.

1.2. Resource Endowments

One of the most original and fundamental concepts in economic analysis is that economic growth and performance are related or tied to resources. The more well endowed a region is in terms of resources the better it should perform, *ceteris paribus*. However, physical resources are only a minor part of the value of finished products in the economies of the late 20th Century.

A contemporary expression of a resource dependent model may be erected on the concept of slack institutional resources which is defined as the difference between "the resources available to a firm ... (organization) ... and the total necessary to maintain (it)" (Cyert and March, 1963, p. 36).

Organizational slack exists at varying levels and times in all organizations and represents an organization's "excess" resources. This excess or slack is the source of voluntary contributions to civic activities, or locally based and focused community efforts by local public, private and nonprofit organizations. Therefore, resource endowments are defined as: *the aggregate concentration or mass of public, private and non-profit organization's capacity to voluntarily commit resources to economic development.*

2. THE MODEL

Specifying a leadership model for local regional economic development is a straight forward extension of the above discussion. In short, regional economic development effectiveness is directly related to a region's resource endowments and its propensity for leadership *ceteris paribus*. That is once exogenous factors are controlled for regional economic performance depends on leadership and resources as depicted in Figure 1. In this formulation leadership is modeled as a variable that amplifies the independent effect of resources.

Figure 1: Path Model
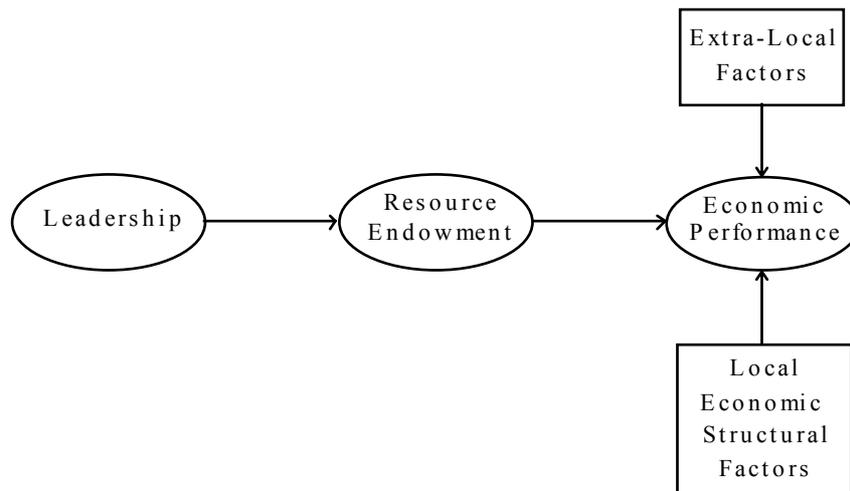
2.1. Testing the Model

Sample Selection: Metropolitan regions in the U.S. were selected as the basic unit of analysis for testing the theory. The sample includes 35 of the approximately 350 Metropolitan Areas (MAs) in the U.S. (Office of Management and Budget, 1990; Federal Committee on Standard Metropolitan Statistical Areas, 1979). An MA must contain either a place with a population of 50,000 or a Census bureau-defined urbanized area and a total MA population of at least 100,000 (75,000 for New England). An MA comprises one or more central counties and it may include one or more outlying counties that have close economic and social relationships with the central county. An outlying county must have a specified level of commuting to the central counties and also must meet certain standards regarding metropolitan character, such as population density, urban population, and population growth.

Conceptually, a metropolitan "region" is a functional economic area constituting an integrated labor market surrounding an urban core (Wolman, 1987, p. 1-2). Metropolitan Statistical Areas (MSAS) and Primary Metropolitan Statistical Areas (PMSAS) or regions, have several major advantages as units of analysis. First, they are discrete economic entities that allow for analytic comparability (Wolpert, 1988). Second, a great deal of data describing the economic and social aspects of regions is readily available. Third, regions typically encompass multiple political jurisdictions, resulting in a likely higher occurrence of leadership in local economic development (Giarrantiai, 1991).

A list of the sample metropolitan areas appears in Table 1. The sample reflects data availability rather than a specific sampling strategy. Although recent and comprehensive profiles of local economic development organization activity are scarce, a Council for Urban Economic Development (CUED) study (1992) provided a 1990 survey of economic development organizations in 34 metropolitan regions in the U.S. The CUED survey sample includes only those metropolitan areas that had response levels sufficient to make an accurate assessment of the aggregate funding .levels of regionally focused economic development.

Two sample biases may exist in this data. First, the sample regions are "self selected" in that only those regions with significant development efforts responded to the CUED (1992) survey. Second, regions that did not have a region-wide economic development effort, but, nevertheless had significant regional aggregate development budgets (suggesting a highly regionally fragmented approach) are

excluded from the survey. For example, regions with large numbers of sub-regional development organizations such as neighborhood development organizations, were excluded from the survey if there were no development organizations whose geographic area of concern was the entire region.

The sample may be defended on several grounds. First, the self selection inherent in the sample was essential in order to obtain a sample of regions with significant, but varying levels of regionally focused economic development. Second, leadership for regional economic development is by definition regionally focused and thus inclusion of regions with highly fragmented neighborhood level development efforts would misrepresent the actual level of economic development effort of such regions. The sample regions ranged in size from Eugene, Oregon with a total population of 280,000 to New York City with over 8.9 million. The median population was 2.9 million.

Table 1: Sample Metropolitan Regions

Albuquerque, NM (MSA)	Atlanta, GA (MSA)
Austin, TX (MSA)	Baltimore, MD (MSA)
Boston, MA (PMSA)	Charlotte, NC (MSA)
Chicago, IL (PMSA)	Cleveland, OH (PMSA)
Dallas, TX (PMSA)	Denver, CO (PMSA)
Detroit MI (PMSA)	Eugene, OR (MSA)
Houston, TX (PMSA)	Indianapolis, IN (MSA)
Jackson, FL (MSA)	Kansas City, KA (MSA)
Las Vegas, NV (PMSA)	Los Angeles, CA (PMSA)
Louisville, KY (MSA)	Miami, FL (PMSA)
Mobile, AL (MSA)	New York, NY (PMSA)
Orlando, FL (MSA)	Philadelphia, PA (PMSA)
Phoenix, AZ (MSA)	Portland, OR (MSA)
Sacramento, CA (MSA)	St. Louis, MO (MSA)
San Antonio, TX (MSA)	San Diego, CA (MSA)
San Francisco, CA (PMSA)	Seattle, WA (PMSA)
Tampa, FL (MSA)	Washington, D.C. (MSA)

2.1.1. Variable specification and measurement

The three theoretical variables: leadership, resources and economic performance, are operationalized in multiple ways given the exploratory nature of this paper (Table 2). First, and most straight forward, is economic performance which is specified in terms of local employment and earnings (Table 3). Throughout, all measures are standardized for population size.

The theoretical formulation implies that the independent variables are either coincident with (static relationship) or precede in time the occurrence of the dependent variable (dynamic relationship). Thus, the variables are specified in terms of both coincident (static) and lagged (dynamic) frames of reference (Table 2) . Variable specification for the static formulation are 1990 values. The lagged (dynamic) specifications are the actual changes in the mean data values from 1980 to 1985 for the independent variables and actual changes in the mean data values for the dependent variables from 1985-1990.

Table 2: Variable Descriptions

DEPENDENT VARIABLES	
Economic Performance (P)	
Static Variables (1990)	
LEMP	Local Employment
LERNP	Local Earnings
Dynamic Variables (actual change 1985 to 1990)	
ΔLEMP	Change in Local Employment
ΔLERNP	Change in Local Earnings
INDEPENDENT VARIABLES	
Leadership Variables (L)	
Static Variables (1990)	
VCEL	Voluntary Community Effort
NVCOL	Number of Voluntary Community Orgs.
EVCOL	Voluntary Community Org. Expenditures
EDEL	Economic Development Effort
Dynamic Variables (actual change from 1980 to 1985)	
ΔVCEL	Change in Voluntary Community Effort
ΔNVCOL	Change in Number of Voluntary Community Orgs.
ΔEVCOL	Change in Expenditures of Voluntary Community Organizations
ΔEDEL	Change in Economic Development Effort
INDEPENDENT VARIABLES	
Resource Endowment Variables (R)	
Static Variables (1990)	

NCHR	Number of Corporate Headquarters
ECHR	Employment at Corporate Headquarters
NFIR	Number of Financial Institutions
MDFIR	Marker Deposits of Financial Institutions
NCUR	Number of Colleges and Universities
ECUR	Enrollment of Colleges and Universities
PIR	Personal Income
Dynamic Variables (actual change from 1980 to 1985)	
ΔNCHR	Change in Number of Corporate Headquarters
ΔECHR	Change in Corporate Headquarters' Employment
ΔNFIR	Change in the Number of Financial Institutions
ΔMDFIR	Change in Market Deposits of Institutions
ΔNCUR	Change in Number of Colleges and Universities
ΔECUR	Change in Enrollment of Colleges and Universities
ΔPIR	Change in Personal Income

Table 3: Operational Economic Performance Variables

$$\frac{\text{Total region 1990 employment}}{\text{Total region 1990 population}} = \text{Local Employment}$$

$$\frac{\text{Total region 1990 earnings}}{\text{Total region 1990 employment}} = \text{Local Earnings}$$

Ideally the leadership variable should be measured on the basis of substantive local information and knowledge. Unfortunately, resources to achieve this were not available to the authors. Consequently, surrogate measures of leadership were developed. That is, it was assumed that leadership would be manifested in various outcomes. Four outcome (surrogate) leadership variables were specified: 1) Voluntary Community Effort, 2) Number of Voluntary

Community Organizations, 3) Expenditures of Voluntary Community Organizations, and 4) Economic Development Effort (see Tables 2 and 4).

The Voluntary Community Effort variable measures the local propensity to commit resources to community problem-solving. United Way fund raising is a useful measure of this variable because its by laws require funds to be spent where they are raised. Further, Whitt and Lammers (1991) found, in a case study of Louisville, Kentucky, that of 47 non-profit organizations that the local metropolitan United Way fund raising was most strongly and positively correlated with the presence of local regional economic development organizations.

Table 4: Operational Leadership Variables

$\dfrac{\text{Total region 1990 United Way dollar contributions}}{\text{Total region 1990 population}}$	=	Voluntary Community Effort
$\dfrac{\begin{array}{c}\text{1990 number of social} \\ \text{service organizations} \\ \text{based in the region}\end{array} + \begin{array}{c}\text{1987 number of selected} \\ \text{service organizations} \\ \text{based in the region}\end{array}}{\text{Total region 1990 population}}$	=	Number of Voluntary Community Organizations
$\dfrac{\begin{array}{c}\text{1990 expenditures} \\ \text{of social service} \\ \text{organizations} \\ \text{based in the region}\end{array} + \begin{array}{c}\text{1990 expenditures} \\ \text{of selected service} \\ \text{organizations} \\ \text{based in the region}\end{array}}{\text{Total region 1990 population}}$	=	Expenditures of Voluntary Community Organizations
$\dfrac{\text{Total region 1990 economic development budgets}}{\text{Total region 1990 population}}$	=	Economic Development Effort

The Number of Voluntary Community Organizations is a measure of the propensity for local voluntary extra-governmental community problem-solving. Non-profit social service organizations and selected membership organizations define this variable. Non-profit social service organizations include the following: individual and family social service establishments; job training and vocational rehabilitation services; child day care services; residential care; and community and neighborhood improvement organizations. Selected membership organizations include: business associations; professional membership organizations; and, civic,

social and fraternal associations. These three classes of organizations represent membership organizations most active in local community affairs for which comprehensive data is readily available.

The Expenditures of Voluntary Community Organizations are defined by the annual expenditures of non-profit social service organizations and selected membership organizations included in the Number of Voluntary Organizations variable.

Economic Development Effort is measured by the local commitment of resources to economic development. This variable is defined by the region's total public, private and non-profit economic development organization budgets. Only the budgets of economic development organizations whose area of focus is most or all of the region were included in the measurement of this variable.

The resource endowment variable is easier to measure than leadership in that a variety of archival data sources provide direct measures for this variable. The resource endowment variable is specified in seven ways: 1) Number of Corporate Headquarters, 2) Corporate-wide Employment of Corporate Headquarters, 3) Number of Financial Institutions, 4) Market Deposits of Financial Institutions, 5) Number of Colleges and Universities, 6) Enrollment of Colleges and Universities, and 7) Level of Personal Income.

The variables are defined in Table 2 and specifications given in Table 5. Corporate Headquarters are places where the activities of multi-location businesses are planned and monitored, including staff functions, such as finance, general counsel, planning, employee relations, marketing, advertising, public relations and are the location for top operating executives (Boyle, 1988). All manufacturing and nonmanufacturing corporations with the following attributes: 1) maintain a net worth of at least $500,000, 2) conduct business from more than one location, and 3) retain a controlling interest (51 % or more) in at least one subsidiary company are included in the sample.

Employment of Corporate Headquarters includes the total corporate-wide employment of all of the corporate headquarters in the previously described corporate variable. Including total world-wide employment in this measure is important because this represents a measure of scale of influence that is controlled or directed from headquarters.

The Financial Institution variable is defined by the central offices of banks and financial services organizations, exclusive of holding companies within a region. The functions included in central offices are analogous to those included in the definition of corporate headquarters presented above (see Boyle, 1988). Market Deposits of Financial Institutions is again a measure of the scale of influence of the locally based central office.

Colleges and Universities comprise all two and four year post secondary education institutions based in a region. Vocational and technical institutions were not included in the analysis. Enrollment is, again, a measure of the scale of influence of the set of colleges and/or universities. Personal Income is defined as income from all sources to all individuals that reside in a region.

Table 5: Operational Resource Endowment or "Slack" Variables

Total region 1990 number of corporate headquarters (Total region 1990) / 1,000,000 population	=	Number of Corporate Headquarters
Total region 1990 corporate-wide employment of all corporations headquartered in the region (Total region 1990)/ 10,000 population	=	Employment of Corporate Headquarters
Total region 1990 number of all central offices of financial institutions (Total region 1990)/ 1,000,000 population	=	Number of Financial Institutions
Total region 1990 number of colleges and universities (Total region 1990)/ 10,000 population	=	Number of Colleges and Universities
Total region 1990 enrollment of all colleges and universities based in the region Total region 1990 population	=	Enrollment of Colleges and Universities
Total region 1990 personal income (dollars) Total region 1990 population	=	Level of Personal Income

2.1.2. Multiple regression analysis

The first step in the analysis was to conduct an unconstrained multiple regression analysis for both the static and dynamic specifications of the model, i.e., each dependent variable (employment and earnings) was regressed on all four leadership and all seven resource variables. The results are presented in Table 6. The multiple adjusted R^2 is near or above 0.7 for all four models. There was considerable multicollinearity among the leadership and resources variables. An attempt to manage this was made using factor analysis but with speculative results (see, DeSantis, 1993). Similar results obtain for the dynamic formulation (Table 7).

Table 6: Multiple Regression Analysis of the Static Variables

Dependent Variable	Correlation Results
LEMP	Adjusted R^2 = 0.7329, p<= 0.0002
LERNP	Adjusted R^2 = 0.6925, p<= 0.0009

Table 7: Multiple Regression Analysis of the Dynamic Variables

Dependent Variable	Correlation Results
LEMP	Adjusted R^2 = 0.7554, p<= 0.0001
LERNP	Adjusted R^2 = 0.7182, p<= 0.0001

2.1.3. Static stepwise regression analysis

Stepwise regression was adopted for a second part of the analysis. Stepwise regression creates the most efficient regression model (i.e., the one employing the fewest independent variables as noted in Feldman. et. al., 1987, p. 152). A stepwise regression for the static formulation using employment variable LEMP) as the dependent variable generated a relatively strong statistically significant model (adjusted R^2 = 0.54) with one resource endowment variable PIR and one leadership variable VCEL. Similarly, a stepwise regression for an alternative model using the dependent earnings variable LERNP produced a statistically significant model (adjusted R^2 = 0.59) with one leadership variable EVCOL and two resource endowment variables MDFIR and PIRR. In this case PIR is negative despite the expectation that it would be positively related to the dependent variable. However, it is not uncommon to find sign reversals occurring in stepwise regression when there is multi-collinearity among the independent variables. Further, collinearity is not a problem unless one is trying to interpret the coefficients. Here, the concern is with identifying the most efficient model.

It is important to note that two statistically significant models were identified for the static formulation of the hypothesis. Further, the first two steps in each model included one leadership and resource endowment variable. Thus, the static analysis suggests that there are two underlying explanatory dimensions corresponding to the theoretical concepts in the hypothesized model.

2.1.4. Dynamic stepwise regression analysis

The dynamic formulation and test of the model parallels the static approach. Dynamic analyses are conducted by lagging the mean values of the explanatory variables five years behind the mean values of the dependent variables. The five year lag has no rationale other than data availability.

The stepwise regression model using the dependent variable ΔLEMP was statistically significant (adjusted $R^2 = 0.67$) and was composed of two leadership variables ΔNVCOL and ΔEDEL, and one resource endowment variable ΔNFIR. This model has a strong bias toward leadership in that the first two steps entered leadership variables and is, therefore, a notable deviation from the structure of the static models.
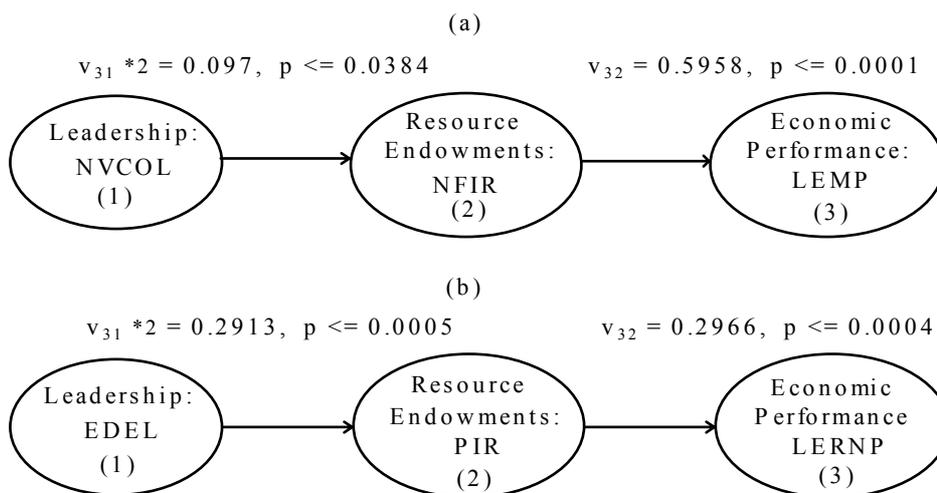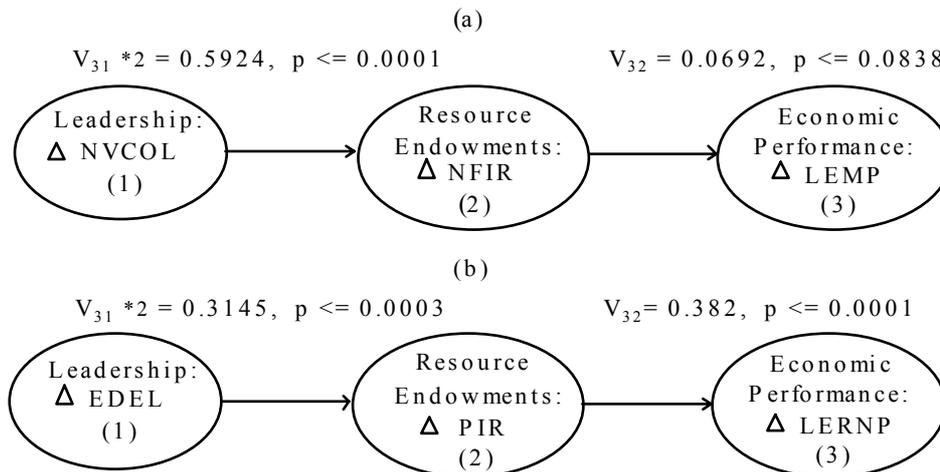
Figure 2: Static Path Analysis

(a)

$v_{31} *2 = 0.097, \ p <= 0.0384$ $v_{32} = 0.5958, \ p <= 0.0001$

Leadership: NVCOL (1) → Resource Endowments: NFIR (2) → Economic Performance: LEMP (3)

(b)

$v_{31} *2 = 0.2913, \ p <= 0.0005$ $v_{32} = 0.2966, \ p <= 0.0004$

Leadership: EDEL (1) → Resource Endowments: PIR (2) → Economic Performance LERNP (3)

Figure 3: Dynamic Path Analysis

(a)

$V_{31} *2 = 0.5924, \ p <= 0.0001$ $V_{32} = 0.0692, \ p <= 0.0838$

Leadership: Δ NVCOL (1) → Resource Endowments: Δ NFIR (2) → Economic Performance: Δ LEMP (3)

(b)

$V_{31} *2 = 0.3145, \ p <= 0.0003$ $V_{32} = 0.382, \ p <= 0.0001$

Leadership: Δ EDEL (1) → Resource Endowments: Δ PIR (2) → Economic Performance: Δ LERNP (3)

The stepwise regression model using the dependent variable ΔLERNP defines a model with one leadership variable (ΔEDEL) and three resource endowment variables ΔPIR, ΔMDFIR and ΔNCHR as illustrated in Figure 3. The adjusted R^2 for this model is 0.67. While somewhat complex, this model is consistent with the static models that identified leadership and resource endowment variables at the first two steps of the analysis.

2.2. Path Analysis

Results of selected static and dynamic path analytic model tests are presented in Figures 2 and 3. Three of the models (two static and one dynamic) support the argument that leadership amplifies the effect of resource endowments on economic performance. The dynamic model with ΔLEMPP as the dependent economic performance variable, ΔNFIR as the resource variable and ΔNVCOL as the leadership variable shows leadership as the dominant factor. Generally however, these models may be viewed as supporting the leadership amplification hypothesis.

3. SUMMARY AND CONCLUSIONS

Multiple and stepwise regression were used to examine the general hypothesis that regional economic performance depends on a region's resource endowments and its leadership. Causal models were formulated and path analysis (Figures 2 and 3) was used to test the hypothesis that leadership amplified the

effect of resource endowments on economic performance. The results of the analyses of static and dynamic specifications support the general and interactive (leadership amplifies) hypotheses.

A new theoretical model of the relationship between regional economic performance and leadership was developed through a review of the literature. The model posits leadership as a factor that amplifies the effect of resource endowments on economic performance. The empirical tests presented in this paper provide some support for this model. While the results are encouraging there are a number of contingencies.

First, measures used for the independent leadership variables were all surrogates. Other surrogate measures could be developed that might better operationalize this theoretical construct. More direct measurement of this variable would be ideal but it is difficult-to see how to accomplish this without the kind of insight that is acquired through in-depth on site information and analysis.

Second, there is some multi-collinearity among the independent variables. In a separate study DeSantis (1993) applied factor analysis to the set of independent surrogate variables used in this study and then regressed the dependent economic performance variables on the factors. The results were inconclusive and the factors were difficult to interpret.

Third, the five year mean value lag used in this paper may not be an appropriate time period for the dynamic analysis. However, the multiple regressions for both the static and dynamic analyses showed strong relationships between the dependent and independent variables. An examination of different lagged values may yield a more robust relationship.

Fourth, there appears to be some interaction (correlation) between the leadership and resources constructs. Thus, it is possible that leadership in its amplifying role levers the effect of a region's resources. A multiperiod analysis could provide deeper insight into this possibility.

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CAPACITÉ D'ADAPTATION AU CHANGEMENT, POUVOIR LOCAL ET DÉVELOPPEMENT DES RÉGIONS URBAINES

Résumé - *Le modèle proposé montre que les structures institutionnelles et la gouvernance locale sont des facteurs essentiels qui agissent sur la capacité d'adaptation au changement d'une région et sur ses performances écono-miques. Le modèle est testé sur 35 régions métropolitaines américaines.*

AJUSTE RÀPIDO DE LAS REGIONES URBANAS, LIDERZGO Y DESARROLLO ECONÓMICO REGIONAL

Resumen - *El modelo propuesto muestra que las estructuras institucionales y el poder local son factores esenciales que influyen sobre la capacidad de adaptación al cambio de una región y sobre sus resultados económicos. Se ha sometido a una prueba a 35 regiones urbanas de Estados-Unidos.*