# Regional Economic Growth; Socio-Economic Disparities among Counties

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**Abstract.** *State level economy has always been relying on its major metropolitan area's economic success. So, such metropolitan agglomerations have been considered the only agents that can foster the state's economic standing as if other economic places do (or may) not have significant contribution to the regional economy. In contrast, as some major cities enhance their economic well-being and agglomerate in specialized sector, the rest of the region lose their economic grounds or stay constant by widening the economic gap among cities. Therefore, an institutional approach can help to establish new regional arrangements to substitute all economic places to coordinate each other and succeed the economic growth as part of state government by reducing the disparities. In this sense, this study builds upon the inquiry that seeks the impacts of some economic disparities among economic places (counties) on the performances of state level regional economy.*

**Keywords:** regional economic development, economic disparities, institutional approach

**JEL classification:** H10, H11

## 1. Introduction

It is crucial to recognize how economic well-being of a state is identical to sharp disparities among cities within particular socio-economic indicators. The focus has always been that cities can enhance their economic standing by different set of arrangements. Public choice theorists consider that the autonomy of a jurisdiction within the present of coercive force of competition among different locality give rise to the economic prosperity of the jurisdictions. On the other hand, regionalist scholars conceive more of a comprehensive entity which coordinates the regional economy and, by doing so, prospers the economy of particular region- mostly metropolitan area [Hooghe and Marks, 2003], because the spillover effect, coordination dilemma and spatial mismatches hidden the opportunity costs that the economic region has

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to bear [Barnes and Ledebur, 1992]. This empirical study intends to go through one step further of regionalist approach by posing the possible necessity of state level reforms that could foster the regional economic growth within political and structural coordination among different levels of economic regions.

The hypothesis of this study is that economic disparity among cities leads to a relatively less economic well-being of state level arrangements. Barnes and Ledebur [1992], in their analysis, point out that city and suburb together share the destiny of metropolitan area's economic standing in comparison to other metropolitan regions. In this manner, regionalist approach offers to deal with free-rider issues and to take advantage of economies of scale through relatively empowered comprehensive institutions [Savitch and Vogel, 2000]. Like other regionalists conceive that regional arrangements are not alternatives to the poly-centric set of jurisdictions but complements to existing institutions in which they have a chief role in prospering the sustainable economic growth of metropolitan areas [Hooghe and Marks, 2003]. This study has the same approach that state level regional reforms can enhance the economic standing within equal share among each jurisdiction by implementing critical programs for the same purpose. The space of agglomeration economies has always been thought as metropolitan area and this misleads to see the potential economic growth within the state level cooperation.

## 2.  Literature Review

There are two main approaches about how government should be arranged in terms of contributing the economic growth of spatial arrangements by allocating the resources and designing the institutional structures. One approach is in favor of fiscal autonomy where the locality can compete with one another. It is also known as public choice perspective in which Tiebout [1956] offers multiple jurisdictions that their quasi-costumer residents can find their preferences of public goods. The basic assumption of this approach is that economic well-being can be obtained through the coercive force of competition among localities without overwhelming government interventions. On the other hand, the spillover effects, negative externalities, coordination dilemma and the lack of scale economy advantages lead some scholars to be skeptical about multiple jurisdiction based spatial arrangements. It is the regionalist approach that sets forth the set of public interventions designed to fulfill such tasks to relieve collective action problem by designating a comprehensive governmental entity [Savitch and Vogel, 2000]. These perspectives are directed to the failures of current situations which are called - market failure or institutional failure [Keating, 2004]. The efficiency and equity of resource allocation are the most socially desirable, and expected to be implemented otherwise the deviance from both purpose is mainly deemed as the market failure in the liberal politic economy.

Regional studies have usually been focusing on the metropolitan areas as constitutes of central city and its surrounding suburbs. The place of analysis, therefore, was to solve the collective action problem in fragmented metropolitan regions by offering a regional government entity. This unilateral regional perspective is important to inquiry the metropolitan areas' social problems. However, the regional

approach should also see the state government as a political device, fiscal entity and coordinating structure in terms of whether it can foster the regional economic growth within the similar theoretical perspective directed to the metropolitan studies.

Michael Keating in his article "The Political Economy of Regionalism" clarifies how we should see the regionalist approach's theoretical base;

"The term region takes different forms in different places and refers to a variety of spatial levels. Spatially, it exist somewhere between the national and the local and is the scene of intervention by actors from all levels, national, local, regional and now supranational…even though, the theme of regionalism is increasing in importance, it is often weakly institutionalized itself ".

As such, the regionalist approach attracts many scholars in the need of economic well-being of different level of spatial organizations. There are many arguments why interventionist arrangements are necessary and how it should form;

Olberding [2002] states that proponents of regionalism have asserted a more optimal outcome is achieved when local governments recognize their interdependencies and act in a coordinated way…Some scholars have found that large economic differences among cities in a region demonstrate a need for a regional approach; however, others have concluded that large differences in local economies make it more difficult to pursue a regional strategy.

David Rusk in his article "Growth Management: The Core Regional Issue" points out that growth management is rapidly emerging as the top regional issue of the next decade. There are two key targets: state legislatures, which control land-use rules, and federally required metropolitan planning, which shape the allocation of federal transportation grants… There are only twelve states that have enacted statewide growth management laws. They vary in effectiveness from strong (Oregon) to almost purely exhortatory (Georgia)…Maryland governor Parris Glendening's Smart Growth Act strengthens a weak state planning law adopted in 1993…In some states existing regional planning organizations are likely to have their planning authority extended into housing policy, regional revenue sharing, and economic development policy. Some may also become vehicles for management of region-wide infrastructure programs formerly carried out by independent authorities.

Miller et al. [2000] pose the importance of regional consensus; "The hyper-complex nature of US federalism requires multilevel intervention, using state and federal powers to reinforce local moves in the direction of regional co-operation and consolidation…Luther Halsey Gulick [1962], *The Metropolitan Problem and American Ideas*, reflected the spirit of John Kennedy's 'New Frontier'. Gulick's one of the main points was that: all levels of US government—especially the states—must be brought to bear on emerging urban problems… Top-down directives, though out of favor, are necessary for managing metropolitan development and ensuring fiscal equalization. These are increasingly unlikely in Canada and a long shot in

the US. Nonpublic groups, a potential regional force, lack unity and coherence. Voluntary consensus building is nice but not enough to shape regional patterns".

Keating [2004] criticizes that there could be an increase in inequality between regions and within those regions without a regional set of arrangements;

"Regional anti-disparity policies emerged in the postwar era as an extension of Keynesian macro-management within the aim of rectifying what were seen as market failures in the allocation of resources... The main instruments of diversionary policies were grants and incentives to private investors to locate in development regions; restrictions on investment in booming locations; the diversion of public sector investments into development regions; public infrastructure investment in advance of need, to create favorable conditions for growth...In many cases, regional policy was given inadequate administrative means, consisting of grants and incentives without the necessary coordination, monitoring and follow-up".

Olberding [2002] indicates the weakness of multiple jurisdictions by quoting that "public administration traditionalists assert that fewer local governments result in economy-of scale benefits, greater political accountability, more equitable treatment of citizens, and greater opportunity to address significant problems".

Hooghe and Marks [2003] points out that collective action problem arises among multiple jurisdictions since the free riding issue dominates the current view of governance structure. They offer how to deal with the coordination dilemma; "one strategy is to limit the number of autonomous actors who have to be coordinated by limiting the number of autonomous jurisdictions. The second is to limit interaction among actors by splicing competencies into functionally distinct units". Likewise, Olberding [2002] states that "Scholars have long recognized the difficulty of achieving and sustaining voluntary cooperation among a large number of individuals with no central authority- the so-called "dilemma of collective action".

Other scholars have concluded that cooperative norms-or something conceptually similar-are critical for shifting from competitive to cooperative behavior. For example, in her comprehensive review of the cooperation literature, Ostrom [1998] concludes that the key determinant of cooperation is "norms of reciprocity"-or the tendency of individuals "to react to the positive actions of others with positive responses and the negative actions of others with negative responses [Olberding, 2002].

## 3. Method and Data

In order to evaluate the economic disparity among counties of the states (not including Alaska and Hawai), the units of analysis will be counties in each given state to find out the differences in terms of economic well-being. To deal with different factors that might affect the comparison analysis, it is crucial to classify them whether they are counted as MSA, micro statistical area or not in a metropolitan area by Census Bureau to control for urbanization and agglomeration effect. At the second step, the regional

classification of the states will be important to rule out regional features such as historical or natural advantages. Furthermore, the number of counties can influence the diversity measurements since the large number of counties might result with a relatively big disparity and thus should be controlled. Another issue might be that some counties of a state can be located in a metropolitan area where its most part located in another state. Since the analysis compares the disparities among counties with state level economic performance, dropping such counties can result some important mismatches in the model equations where the values of state level economic indicators will overweight the variables of lacking counties in aggregate. Therefore, counties will be listed based on their state location.

To answer the hypothesis, economic performance of state governments will be modeled as a function of the disparity of income level, education and employment rates among their counties within other controlling factors. The model design will be used to compare relative importance of the state governments' economy with the variation among their counties. For 48 states, the disparity value of each independent variable for given set of counties are expected to be predictors of the economic standing of state governments. Independent variables are the differences of median household income, education level (percentage of population with associate, bachelor's, master's, professional, doctorate degree), employment rates (percentage of population in labor force -16 years and over) for each state's counties. Dependent variables are the rates of per capita income and the percentage of individuals above poverty level of state governments.

To find out the disparity among counties, generalized inequality index will be used for our inquiry. Each value will be divided by the mean value then the average deviation will be inequality level for the use of determinant independent variables. For example, there is perfect income equality when everyone's income equals the mean income but as the value deviates, the average of total deviation will be the inequality value for our set of independent variables.

A multicollinearity problem might appear since the inequality levels are based on the variables that might be highly correlated each other. We can expect the income, education and employment to show the similar tendency then it might affect the diversity value for each state. The expected result may not be statistically significant in that the sample size for each model will be 48 and 41 respectively. However, we can obtain some identical partial coefficients when other factors are controlled.

Model I:  per capita income (state) = β (disparities of median household income, education level, employment rates in counties) + Controlling factors

Model II: the percentage of individuals above poverty level (state) = β (disparities of median household income, education level, employment rates in counties) + Controlling factors The data set is obtained from the US Census Bureau's 2000 Summary Files of The Decennial Census

## 4. Results

The descriptive statistics show the range of disparities for each independent variable. From the general inequality index, each value indicates how it is deviating from the perfect equality which is 1. The widest disparity seems to be of education level for each model. The counties of Georgia, New Mexico, Tennessee and Virginia, which are located in MSA and MicroSA have the most inequality level of education among those of all states. On the other hand, the mean value of labor force disparity is relatively lower for both two models than other independent variables regardless of whether the counties are in MSA or not. Another noticeable finding is that the counties in Non-MSA and Non-MicroSA have lower range of disparity than the ones in MSA and MicroSA for independent variables except the labor force disparity. Finally, the states' economic indicators- per capita income and percentage of individuals above poverty level- have the highest value in Connecticut and New Hampshire respectively, the lowest in Mississippi.

The correlation values show that independent variables are positively related each other at 0.01 level. In other words, the inequality level of median income, education and labor force among counties have consistent tendency as it might be theorized. Besides, the dependent variables of the models- per capita income and percentage of individuals above poverty level- are also positively correlated (.704) at .01 significant level. At the same time, it is important to look at the correlation values of the number of counties within the independent variables. In fact, the reason why the number of counties is included in each model as controlling factor is that it might affect the disparity level since the inequality level is measured by the average deviation from perfect equality 1. In the tables, it is shown that the number of counties is positively correlated with income disparity (.34), education disparity (.51) and labor force disparity (.33) level in MSA, MicroSA counties at .05, .01 and .05 level respectively. For the disparity levels of counties in nonMSA and MicroSA, the number of counties is significantly correlated just with the labor force disparity (.33) at .05 level.

The states' per capita income and percentage of individuals above poverty level are regressed on the median income disparity, education disparity, labor force disparity and number of counties in MSA and MicroSA. Two models explain .26 and .22 (respectively) of the variation in the dependent variables at .001 and .01 levels. For all models, we expect the coefficients to be negative according to our hypothesis. Interestingly, the median income disparity among counties in MSA and MicroSA has a positive predictor on state's per capita income. In other words, the state whose counties have more inequality in income level is better off in terms of per capita income. This might be because the median income can be skewed since multi-national, high wage offering firms agglomerate at specific advantageous locations which foster the state's economic performance within a few economic places. On the other hand, education disparity has a deleterious impact on per capita income of a state at .05 level as the hypothesis expected. Finally, only significant partial coefficient is that of labor force disparity on state's percentage of individuals above

poverty level. As labor force disparity increase one unit, the model predicts the percentage of individuals above poverty to decrease .38 at 0.1 significant level.

When we look at the disparities among counties in Non-MSA and Non MicroSa, median income disparity loses its significance on per capita income which indicates that the disparity is much more identical in agglomeration (or urbanization) effect. Surprisingly, the education disparity has positive predictors in each model at .01 level. The state's per capita income and percentage of individuals above poverty is expected to be better off where its nonMSA and nonMicroSA counties have more education inequality. One skeptical approach can be raised that the better off states can help their some Non-MSA counties' educational attainment to a particular level while others stay constant. Finally, in Table 6, the labor force disparity seems to have negative impact on the percentage of individuals above poverty at .05 level.

In last two tables, the range of predictors' effect is seen based on the regions. The weight of income and education disparity among MSA, MicroSA counties is greater in the West and Midwest than South and Northeast. It is similar in the second model for education disparities' positive impact of Non-MSA and Non MicroSA counties. On the other hand, in the Northeast and West, labor force disparity among Non-MSA and NonMicroSA counties has more deleterious effect on percentage of individuals above poverty level of the states.

## 5. Policy Implications

Case studies of regional partnerships for economic development have found that economic need is a key factor in the formation of regional partnership [Olberding, 2002]. In this manner, this empirical study seeks to answer how government organizations can stimulate sustainable economic development in efficient way by also reducing the economic disparity. Specifically, it offers to establish state level regional arrangements to implement such tasks through its institutionalizing opportunities.

As Hooghe and Marks [2003] implies, the regional approach may not necessarily mean that institutional arrangements are to be at the tradeoffs between public choice and regionalist perspectives. Some misspecifications might lead us to see narrowly the regionalist arguments as if they don't provide us a ground to account for Tiebout's model. Therefore, this study goes beyond the extreme theoretical arguments within the view of institutional necessity for the economic growth and equal distribution of the outcomes, even though the study seems to be built on regionalist perspective. In order to provide a better environment for economic growth, all possibilities should be taken into account through the mix of counter considerations

The empirical results explicitly show us that economic disparities especially in labor force and education level in metropolitan areas are identical to the state's economic performance in negative way. However, what makes difficult to accept the hypothesis is that education level and median income

disparities surprisingly have positive coefficients in the models. Thus, a further inquiry is necessary to see what the fact behind it actually is. Nevertheless, it partly supports the argument that the concentration of economic well-being at particular counties results with less successful economy at state level.

Under the state governments, an economic development commission, in which the representatives of counties can cooperate for stimulating economic growth within the state by accounting not only specific successful places but within all counties, should be established and empowered through federal funds. The policy outcomes of such regional commission must not only focus on the current agenda but it is crucial to discuss other substantial improvements such as education, employment and infrastructure.

## 6. Appendix

*Table 1. Descriptive Statistics*

|  | Min | Max | Mean | Std Dev. |
|---|---|---|---|---|
| Per Capita Income | 15853 | 28766 | 20712 | 2892.9 |
| Percentage of Individuals Above Poverty Level | .801 | .935 | .879 | .031 |
| Income Disparity Among Counties (MSA,MicroSA) | .095 | .350 | .180 | .056 |
| Education Disparity Among Counties (MSA, MicroSA) | .166 | .445 | .302 | .069 |
| Labor Force Disparity Among Counties (MSA, MicroSA) | .030 | .140 | .075 | .024 |
| Income Disparity Among Counties (Non-MSA, Non-MIcroSA) | .063 | .236 | .128 | .037 |
| Education Disparity Among Counties (Non-MSA, Non-MIcroSA) | .114 | .393 | .205 | .063 |
| Labor Force Disparity Among Counties (Non-MSA, Non-MIcroSA) | .040 | .161 | .084 | .029 |
| Number of Counties | 3 | 254 | 64.7 | 46.4 |

*Table 2. Economic Disparities among Counties in MSAs and MicroSAs*

| Dependent Variable Above Poverty Level | Per Capita Income | Percentage of Individuals |
|---|---|---|
| Median Income Disparity | **29307.4**** | .068 |
| | **(.573)** | (.122) |
| Education Disparity | **-21021.8*** | -.129 |
| | **(-.504)** | (-.283) |
| Labor Force Disparity | -6848.5 | **-.387**‡ |
| | (.057) | **(-.296)** |
| Number of Counties | -8.9 | .000 |
| | (-.143) | (-.035) |
| Constant | **22883.4**** | **.937**** |
| F | 3.877 *** | 3.093** |
| $R^2$ | .265 | .223 |
| Adjusted $R^2$ | .197 | .151 |
| N | 48 | 48 |

Notes: Unstandardized coefficients (standardized); significant predictors in **bold**.
‡ $p<0.1$ *$p<0.05$ **$p<0.01$ ***$p<0.001$

*Table 3. Economic Disparities among Counties in Non-MSAs and Non-MicroSAs*

| Dependent Variable Above Poverty Level | Per Capita Income | Percentage of Individuals |
|---|---|---|
| Median Income Disparity | -12448.5 | -.054 |
| | (-.194) | (-.065) |
| Education Disparity | **20213.1**** | **.249**** |
| | **(.542)** | **(.513)** |
| Labor Force Disparity | -13034.5 | **-.545*** |
| | (-.162) | **(-.520)** |
| Number of Counties | 3.992 | .000 |
| | (.074) | (.029) |
| Constant | **18332.4**** | **.876**** |
| F | 2.225‡ | 3.045* |
| $R^2$ | .198 | .253 |
| Adjusted $R^2$ | .109 | .170 |
| N | 41 | 41 |

Notes: Unstandardized coefficients (standardized); significant predictors in **bold**.
‡ $p<0.1$ *$p<0.05$ **$p<0.01$ ***$p<0.001$

*Table 4. Economic Disparities among Counties in MSAs and MicroSAs*

| Dependent Variable | Per Capita Income | | | |
|---|---|---|---|---|
| | Northeast | Midwest | South | West |
| Median Income Disparity | **24487.2*** | **29388.6**** | **28988.4**** | **29810.2**** |
| | **(.479)** | **(.574)** | **(.567)** | **(.583)** |
| Education Disparity | **-18183.7*** | **-20916.2*** | **-20642.0*** | **-21096.6*** |
| | **(-.436)** | **(-501)** | **(-.495)** | **(-.506)** |
| Labor Force Disparity | 6909.3 | -6286.1 | -5806.2 | 627.0 |
| | (.058)       (-.052) | (-.048)  (.005) | | |
| Number of Counties | -4.5 | -9.4 | -8.6 | -14.3 |
| | (-.073) | (-.151) | (-.139) | (-.231) |
| Northeast | 1920.9 | | | |
| | (.273) | | | |
| Midwest | | 106.6 | | |
| | | (.016) | | |
| South | | | -150.5 | |
| | | | (-.024) | |
| West | | | | -1356.2 |
| | | | | (-.199) |
| Constant | **21168.0**** | **22800.1**** | **22778.8**** | **22911.2**** |
| F | 3.793** | 3.033* | 3.035* | 3.543** |
| $R^2$ | .311 | .    .265 | .265 | .297 |
| Adjusted $R^2$ | .229 | .    .178 | .178 | .213 |
| N | 48 | 48 | 48 | 48 |

Notes: Unstandardized coefficients (standardized); significant predictors in **bold**.

‡ p<0.1 *p<0.05 **p<0.01 ***p<0.001

*Table 5. Economic Disparities among Counties in Non-MSAs and Non-MicroSAs*

| Dependent Variable | Percentage of Individuals Above Poverty Level | | | |
|---|---|---|---|---|
| | Northeast | Midwest | South | West |
| Median Income Disparity | -.055-.078-.040- .062 | | | |
| (-.067)(-.094)(-.048)(-.075) | | | | |
| Education Disparity | **.247**** | **.325***** | **.229**** | **.274**** |
| | **(.509)** | **(.671)** | **(.473)** | **(.565)** |
| Labor Force Disparity | **-.562*** | **-.423*** | **-.428‡** | **-.532*** |
| **(-.537)** | **(-.404)** | **(-.409)** | **(-.509)** | |
| Number of Counties | .000 | .000 | .000 | .000 |
| | (.016) | (-.145) | (.158) | (-.034) |
| Northeast | -.007 | | | |
| | (.-077) | | | |
| Midwest | | **.040***** | | |
| | | **(.593)** | | |
| South | | | **-.028**** | |
| | | | **(-.440)** | |
| West | | | | -.009 |
| | | | | (-.122) |
| Constant | **.879***** | **.850***** | **.871***** | **.876***** |
| F | 2.433‡ | 8.304*** | 4.842** | 2.485‡ |
| $R^2$ | .258 | .  .543 | .409 | .262 |
| Adjusted $R^2$ | .152 | .  .477 | .324 | .157 |
| N | 41 | 41 | 41 | 41 |

Notes: Unstandardized coefficients (standardized); significant predictors in **bold**.

‡ p<0.1 *p<0.05 **p<0.01 ***p<0.001

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