Classifying regional development in Iran (Application of Composite Index Approach)

Extended abstract

1- Introduction

The spatial economy of Iran, like that of so many other developing countries, is characterized by an uneven spatial pattern of economic activities. The problem of spatial inequality emerged when efficiency-oriented sectoral policies came into conflict with the spatial dimension of development (Atash, 1988). Due to this conflict, extreme imbalanced development in Iran was created. Moreover spatial uneven distribution of economic activities in Iran is unknown and incomplete. So, there is an urgent need for more efficient and effective design, targeting and implementing interventions to manage spatial imbalances in development. Hence, the identification of development patterns at spatial scale and the factors generating them can help improve planning if development programs are focused on removing the constraints adversely affecting development in potentially good areas.

There is a need for research that would describe and explain the problem of spatial development patterns as well as proposal of possible strategies, which can be used to develop the country and reduce the spatial imbalances. The main objective of this research was to determine spatial economic development level in order to identify spatial pattern of development and explain determinants of such imbalance in Iran based on methodology of composite index of development. Then, Iran provinces were ranked and classified according to the calculated composite index. To collect the required data, census of 2006 and yearbook in various times were used.

2- Theoretical bases

Theories of regional inequality as well as empirical evidence regarding actual trends at the national or international level have been discussed and debated in the economic literature for over three decades. Early debates concerning the impact of market mechanisms on regional inequality in the West (Myrdal, 1957) have become popular again in the 1990s. There is a conflict on probable outcomes between the neo-

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classicalists and structuralists. The neo-classicalists, optimistic about market forces, regarded regional inequality as a passing phase and postulated that market forces would ensure that the returns to all factors of production would approach their marginal products. Regional inequality initially arises in the process of the allocation of resources, but factor mobility and efficient market forces would eventually ensure regional equality (Smith, 1975); although a prerequisite of efficient markets is the existence of fully competitive markets, which are not present in most developing countries. Similarly, the inverted U hypothesis predicts that regional inequalities within developing countries will eventually be reduced through factor mobility. In contrast, the structuralist school of dualism postulates that regional inequality is an inevitable outcome of capital accumulation and profit maximization and that market forces tend to increase rather than decrease regional inequality. Myrdal's (1957) circular and cumulative causation thesis proposes that the creation of a favored region may have its origin in a historical accident, but there is a natural tendency for all economic activities with higher than average returns (such as industry, commerce, banking and insurance), know-how and all the social amenities that go with these, to cluster within such a core region with backwash effects on unflavored regions. There may be some centrifugal spread effect (like trickle-down effects), but these do not point to the achievement of equilibrium. On the contrary, "even in a rapidly developing country many regions will be agging behind, stagnating or becoming poorer; and there would be more regions in the last two categories if market forces alone were left to decide the outcome" (Myrdal, 1957,p. 32).

3- Discussion

In order to measure spatial development, composite index is developed based on nine phases method including: Selection of Indicators, Grouping Selected Indicators, Validating Indicators, Judging the Indicators, Transforming the Indicators, Normalizing the Indicators, Weighting the indicators, Calculating the sub-indices and Combining the sub-indices into the Composite Development Index. In this research, 41 indices in which data were available were used and grouped in three categories including: social, population and cultural (14 indicators), economical (13 indicators) and infrastructural and service (14 indicators). Calculated weights for development components revealed that infrastructural and services and economical components have more weight to spatial disparities analysis of development.

4- Conclusion

The results of calculated composite index for social, population and cultural group showed that Tehran, Guilan and Mazandaran are ranked in the first position. In this context Kordestan, Hormozgan and Sistan-Baluchestan are at the bottom of ranking scale. Economical composite index results indicated that Khuzestan, Esfahan and Markazi are top and Lorstan, Kohkiloyeh-Boyrahmad and Sistan-Baluchestan are bottom of ranking scale. Based on composite index of infrastructural and services, Semnan, Qom and Esfahan have the highest rank and North Khorasan, Lorestan and Sistan-Bluchestan have the lowest rank. According to final calculated composite index, Tehran, Semnan and Esfahan were ranked in the first position and Kohkiloyeh-Boyrahmad, Lorestan and Sistan-Bluchestan were ranked in the last position. The spatial pattern is divided into

three development categories: high (9 provinces), medium (16 provinces) and low (5 provinces), based on Geographical information system (GIS). Such pattern confirms core-prophecy in Iranian spatial economic development.

5- Suggestion

- Decentralization policy and giving more attention to less developed province such as Sistan-Baluchestan.

- Development of regional markets, supply networks and export in less developed provinces.

- Improvement and development of infrastructural service especially transport system in periphery areas.

- Development of commercial and industrial cropping system to save non-renewable resources.

- Extending and strengthening cooperation between stakeholders of planning in national level.

- Formulating policies aimed at reducing regional inequalities and population concentrations in the urban areas of a few richer.

Key words: development classifying, zoning, composite index, spatial development, regional development

References

Abbasinejad, H., Rafie-Emam, A. (2006), Assessing human development index in Iranian rural area. Economic researches, 72: 31-54.

Amini, N., Yadollahi, H., Enanlo, S. (2006), Health Ranking of Iranian provinces. Research and Scientific Journal of Social Welfare, 5 (20): 27-48.

Amirahmadi, H. (1986), Regional Planning in Iran: A Survey of Problems and Policies. The Journal of Developing Area, No 20, pp. 501-530.

Amirahmadi, H. (1989), The State and Territorial Social Justice in Post-Revolutionary Iran. International Journal of Urban and Regional Research; 13, 92-120.

Amirahmadi, H., and Atash, F. (1987), Dynamics of Provincial Development and Disparities in Iran. Third World Planning Review; pp: 155-185.

Arief, S. 1982. Regional Disparities in Malaysia. Social Indicators Research, 11: 259-267.

Azar, A., Gholamrezaei, D. (2006), Ranking of province using data envelop analysis (application of human development indices). Iranian Journal of Economical Research, 8 (27): 153-173.

Bhatia, Y. K., Rai, S. C. (2004), Evaluation of Socio Economics Development in Small Areas. Sponsored by Planning Commission Government of India, New Delhi.

Booysen, F., (2002), An overview and evaluation of composite indices of development. Social Indicators Research, 59: 115–151.

Cziraky, D., Sambt, J., Rovan, J., Puljiz, J. (2006), Regional development assessment: A structural equation approach. European Journal of Operational Research, 174: 427–442.

Deichmann, U. (1999), Geographical Aspects of Inequality and Poverty. Text for the World Bank's Site on Inequality, Poverty and Socio-Economic Performance, [http://www.worldbank.org/poverty/inequal/povmap/].

Ebrahimzadeh, E., Eskandari-Sani, M. Esmaeilnejad, M. (2010), Application of factor analysis to explain pattern of urban-regional spatial development and un-development in Iran. Geography and Development, 17: 7-28.

Ewusi, K. (1976), Disparities in Levels of Regional Development in Ghana. Social Indicators Research, 3: 75-100.

Fanfani, R., Brasili, C. (2003), Regional Differences in Chinese Agriculture: Results from 1997 First Agricultural Census. Journal of Peasant Studies, 30, 3-4, pp 18-44.

Friedmann, J. (1966), Regional development policy: a case study of Venezuela. Cambridge, Mass: MIT Press.

Friedmann, J. 1972. Regional Policy Reading in Theory and Application; the MIT Press, Cambridge, USA.

Ghossipour, H. (2006). Analytical hierarchical process (AHP), Poly-Techniques University Press. Tehran.

Higgins. B.J. (1956), The dualistic theory of under developed Areas. Economic development and cultural change, 4 , P. 333.

Hirschman, A. O. (1958), The strategy of economic development. New Haven: Yale University Press.

Hosseini, M. A. (1996), Human development index among rural area in national and global scale. Monthly Journal of Jihad, 17(192-193): 23-31.

Hosseinzadeh-Dalir, K. (2005), Regional planning. Samt publication. Tehran.

Hosseinzadeh-Dalir, K., Maleki, S. (2006), Study of human development indices in province of Elam. Journal of Geography and Development, 6: 1-26.

Kalantari, K. (1998), Identification of backward region in Iran. Geographical research quarterly. No 48. Mashhad.

Kalantari, K. (2001), Regional development and planning (theories and techniques). Khoshbin Publication. Tehran.

Kalantari, K., Rosstami, F. (2004), Spatial Analysis Agricultural Development In Iran: Plans and Policies. Journal of Rural Development, 23 (4): 475-490.

Khan, H., Islam, A. (1990), Regional Disparities in Indonesia: A Social Indicators Approach. Social Indicators Research, 22:69-81.

Khataei, M., Razavi, M. R., Jamali, M. A. (2000), Geography concentration of industry in Iran. Plan and Budget Journal, 4 (12): 43-57.

Krajnc, D., Glavic, P. (2005), How to compare companies on relevant dimensions of sustainability. Ecological Economics, 55: 551– 563.

Lipshitz, G., Raveh, A. (1998), Socio-economic differences among localities: A new method of multivariate analysis. Regional Studies, 32: 747–757.

Mahmoudi, V., Fayzpour, M. A. (1996), Measuring agricultural development level in Yazd province. Journal of Agricultural Economy and Development, 13: 133-144.

Mandal, S. K. (1987), Regional Disparities and Imbalance in India's Economic Development. Deep & Deep Publications, Rajouri Garden, New Delhi.

Masoumi-Eshkavari, S. H. (2004), Industrial development and regional disparities in Iran (after 1960 decade). Unpublished dissertation in urban planning. University of Tehran. Tehran.

Matin, N. A. (1995), Study of agricultural development in Iranian provinces. Jihad Journal. 15 (175): 17-25.

Mcgillivray, M. (1991), The Human Development Index: Yet another Redundant Composite Development Indicator? World Development, 19 (10): 1461-1468.

Molaei, M. (2008), Study and comparison of agricultural development degree of Iranian province between 1994-2004. Journal of Agricultural Development and Economy. 63: 71-88.

Mousavi, M. N., Hekmatnia, H. (2005), Factor analysis and integrating indicator to explain determinants of human development in Iran. Journal of Geography and Development, 6: 55-70.

Mtukudzi, B. (1999), Aspect of economic geography. ZEB: Harare.

Myrdal, G. (1957). Economic Theory and Underdeveloped Regions. Duckworth. London

Nardo, M., Saisana, M., Saltelli, A., Tarantola, S., Hoffman, A., Giovannini, E. (2005), Handbook on constructing composite indicators: Methodology and user guide. OECD Statistics Working Papers 2005/3, OECD Statistics Directorate.

Noorbakhsh, F. (2002), Human development and regional disparities in Iran: a policy model. Journal of International Development, 14, pp. 927–949.

Office of researches and policies for production sectors. (1995), Industrial location of Iranian province in 1991. Journal of economic Researches and Policies. 3 (1-2): 54-67.

Organization of Plan and Budget. (1985), Identifying under-development regions in Iran. Organization of Plan and Budget. Tehran.

PBOUNDP (Plan and Budget Organization of the Islamic Republic of Iran and United Nations Development Programme) (1999), Human Development Report of the Islamic Republic of Iran 1999. Tehran: Plan and Budget Organization of the Government of Iran and the United Nations.

Perroux, F. (1955), Note sur la notion de 'pole de Croissance', economie Appliquee, 307-320. Translated as: Note on the concept of growth poles, in: D. McKee, R. Dean and W. Leahy, eds. regional economics Theory and practice,
1970 (The Free Press, New York), 93-104.

Ram, R. (1982), Composite Indices of Physical Quality of Life, Basic Needs Fulfillment, and Income A 'Principal Component' Representation. Journal of Development Economics, 11: 227-247

Ravallion, M. (1996), Issues in measuring and modeling poverty. The Economic Journal, 106: 1328–1343.

Regional Planning Office of Organization of Plan and Budget. (1994), Analyzing inter-provincial imbalance. Organization of Plan and Budget. Tehran.

Research Center of Iranian Urban Planning and Architecture. (1991), Measuring regional industrial development in Iran. Islamic culture office publication. Tehran.

Richardson, H. W. (1978), The state of Regional economics; a survey article. International Regional Science Review, Vol 3, No 10.

Saadat-Mehr, M. (2005), Comparative analysis of relative agricultural development level in counties of Lorestan province. Journal of Economic Review, 2 (4): 74-104.

Saaty, T.L. (1995), Decision making for leaders: the analytic hierarchy process in a complex world. RWS Publications, Pittsburgh.

Saisana M., Tarantola S. (2002), State-of-the-art report on current methodologies and practices for composite indicator development, EUR 20408 EN, European Commission-JRC: Italy.

Salimifar, M. (2002), Study trend of industrial development levels and regional development in Iran between 1996-1998. Journal of economic researches, 61: 77-105.

Saltelli, A. (2007), Composite indicators between analysis and advocacy, Social Indicators Research, 81: 65-77.

Sharbatgholei, A. (1999), Urbanization and Regional Development in Post Revolutionary Irna. West view Press, Oxford.

Sivramkrishna, S., Panigrahi, R. (2003), Articulating Uneven Regional Development: artificial intelligence as a tool in development planning. Journal of Human Development, 4 (3): 437-456.

Smith, D. (1975), Neoclassical growth models and regional growth in the US, Journal of Regional Science, 15, pp. 165–181.

Soares, J.O., Marqus, M.M.L., Monteiro, C.M.F. (2003), A multivariate methodology to uncover regional disparities: A contribution to improve European Union and governmental decisions. European Journal of Operational Research, 145: 121–135.

Todaro, M.P.: 1989, Economic Development in the Third World (Longman, New York, pp. 108–113.

Wilson, R.K., Woods, C.S. (1982), Patterns of World Economic Development. Longman Sorrett, Melbourne, p. 11.

Ziari. K., Jalalian, A. (2008), Comparison of counties of Fars province using development indicators 1976-1996. Geography and Development, 11: 77-96.