

Beyond Gateways: Towns and Regional Development

Michael Keane

**Department of Economics, J.E. Cairnes School of Business and Economics, NUI
Galway**

Introduction

The key question that an economist must ask of any public policy measure is whether it makes people better off or worse off. Take, for instance, statements about towns like, 'Boyle has seen better days' or 'Belmullet is booming'. To an economist these statements are as meaningless as 'My kitchen table is sad' or 'The Shannon is doing well today'. Only people can be better off or worse off, it is people who concern us and towns are not people. They are means not ends. It is important to keep this point in mind when we try to assess the outcomes of, say, the last few years of growth and prosperity. Most towns have experienced a great deal of physical development under the policy environment of the last number of years but from an economic welfare point of view, if we are trying to evaluate this stuff we do need to weigh the costs and benefits carefully. It is not clear, for example, whether constructing many buildings or making places look better is the same as making people better off. And the economist also has to indicate which groups of people might be the beneficiaries from these measures. Finding ways to identify the linkages between growth/change and wellbeing is difficult. Some case studies e.g. quality-of-life investigations, would be welcome as a way of providing some discussion and suggestions for important variables and hypotheses around this topic.

I am basing this presentation on two pieces of research that uses a variety of tools and techniques to get some insights into towns, their performance and their potential role in regional development. There is very little research that analyzes towns' performances or roles. Yet, we do need some evidence to confirm that the strategies/roles that we have prescribed for, or expect towns to play, have a prospect of working and of making a difference. In this task we need to take detailed empirical work far more seriously. The drift towards 'thin empirics' needs to be reversed and much greater attention directed to methodology and the quality of the evidence that we rely on for our conclusions.

The Role and Performance of Towns

If one was doing this kind of work say thirty or twenty years ago one invariably would rely heavily on the framework provided by central place theory. Terms associated with central place theory — higher (lower) order centres, demand thresholds, range, market centres— have traditionally evoked clear images of urban form and function. The picture is that of a hierarchy, see Figure 1. Hierarchies are there to be climbed and therefore urban hierarchies imply competitive inter-urban relations. For example, there is following description of small town/village in Cullen (1979, pp.9-10); ‘Eyrecourt, in County Galway, is an instance of a village with exceptionally fine houses, bespeaking the presence of professional and retired classes now long departed. Like other towns in east Galway off main roads, it suffered commercially from the growth of both Portumna and Ballinasloe. The latter two towns, benefiting both from landlord attention and from the presence of professional and commercial residents have many fine houses.’

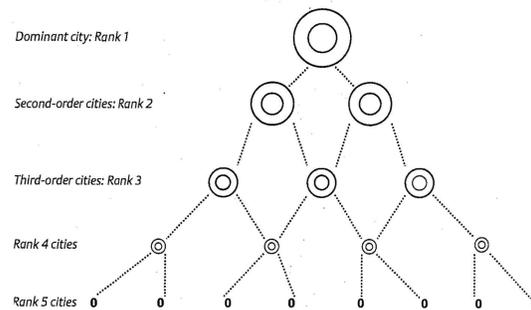
There is also a long tradition in spatial economics that one can consult to explain that most regional/towns development paths depend on the trade-offs between three factors: scale, transport costs and comparative advantage. Scale means the size of establishments, the level of sunk or fixed costs, and the side effects of community size, known collectively as agglomeration externalities. The cost of transportation is the cost of distance. And, because many key productive resources that provide places with their comparative advantage in trade, such as good land, minerals and other natural resources, are unevenly geographically distributed and completely immobile, things cannot happen either all in one place—to enjoy increasing returns to scale—nor evenly spread out—to avoid the transport costs (Kilkenny and Johnson, 2007).

These three foundation stones, scale transport costs and comparative advantage, are facts of life. They are market forces. The first two can be manipulated and they continue to

Figure 1.

Systems of Cities

The Spatial and Hierarchical Organization of the Urban System



change over time. The proper role for public policy in this context is neither to impede these changes nor to interfere with the new signals they generate for the rational use of space. The proper roles for policy are to facilitate adjustments to the changing market forces and to address the market failures.

Now the formal framework of central place theory for the classification of places and the understanding of their roles, described by Camangi and Salone (1993) as ‘the most elegant, abstract but consistent representation of the hierarchy of urban centres and the model that better interprets the spatial behaviour of many economic sectors’ is regarded as less useful as an analytical device. New economic and social complexities present a challenge to notions of inherently coherent integrated ‘territory-based’ systems of relations and suggest different concepts to help understand and frame newer territorial dynamics (Healey, 2004, 2007).

In this new ‘relational’ geography/planning there is an entirely new vocabulary with terms like compact cities, urban networks, gateways, hubs, concentrated deconcentration, polycentric development and development corridors (Healey, 2007). The European Spatial Development Perspective (ESDP) has helped to spawn and

mainstream some of this terminology. Our own National Spatial Strategy (NSS) heavily on the spatial vocabulary of the ESDP; the document refers to towns as Primary Development Centres, Gateways, Hubs, Towns with Urban Strengthening Opportunities. These descriptors are typically built around generic notions of spatial connectivity, critical mass, complementarity and capacity.

Beyond Gateways in the NSS there are hubs. Hubs in the NSS are towns designated as ‘centres supporting the national and international role of the gateway and in turn energising smaller towns and rural areas within their sphere of influence’ (DOELGU 2002). The first piece of research reported here is about these hub towns, the approach is to construct a counterfactual to ask the question ‘How have hub towns performed relative to other towns that may be similar but were not designated in the NSS’? You might say that hub towns are nothing special, they are just labels, after all to date these towns have received no systematic attention or special treatment arising out of their designation in the NSS. But, we must assume that they were designated a role in the NSS for good reasons, what we might call a ‘keystone role’, on the premise that they had the attributes/capacity to perform strongly as agents of growth diffusion and to support spatial development. So the question is a fair one to ask.

At this point I want to remind you of a key issue in any programme evaluation. Much of what passes for evaluation relies on on-site visits and comparative statistics and uses a simple before and after design. The approach is typically one that explicitly or implicitly compares local conditions before and after the programme intervention. For these studies to be valid as evaluations of the effects of the programme, however, there must be at least reasonable conviction that the changes would not have occurred without the programme. Consider the following discussion taken from a paper by Issermann & Rephrann (1995, p.351) on evaluating the impacts of the Appalachian Regional Commission (ARC);

‘Consider as an example the observations of houses now, shacks before. That statement can stand as evidence that conditions have improved in Appalachia, because houses are better than shacks. Now to the key evaluation question: did the ARC programs lead to that change? Similarly did the ARC programs cause the 801 new plants to locate in the region? The problem with the before and after design is that

during the period process other than then ARC programs were causing new houses and new factories to be built throughout the nation. How many of these houses or factories would have been built in Appalachia even without the ARC programs? The answer certainly is not zero. Therefore all the new houses and factories cannot be credited to the ARC programs'.

A proper policy evaluation study must go one step beyond the comparison of before and after, which provides data only on the change itself. Staying with the example of Appalachia and the ARC, the necessary second step is to compare the actual change with the change that would have occurred without the ARC programs. Doing so requires estimating the counterfactual, namely, what would have happened in Appalachia without the ARC.

The analysis that I want to present regarding hub twins in the NSS borrows from this technique. It constructs a counterfactual using a control group of towns that are similar to the hub towns. By matching the hub towns to others with similar economic structures, growth rates and so on, the analysis controls for macroeconomic events, industrial restructuring, and other external factors. The evaluation question then is: Have these designated hub towns performed better or worse in comparison to other towns that might have been designated but were not?

This application of the control group method rests on two major suppositions (Issermann & Rephan, 1995). The first is that we can identify towns that are similar to the hub towns. The second is that the performance of these other (similar) towns can serve, as it were, as the counter-factual. Typically most statistical evaluations of towns or areas will compare growth and performance to national averages. Our two suppositions can be restated in uncontroversial fashion: a group of Irish towns can be identified that is more like the hub towns than is the country as a whole and, therefore, is a better yardstick than the nation is for evaluating performance.

Selecting the Comparison Towns

Matching each hub town to its nearest twin amongst other Irish towns entails several steps and methodological decisions. First, the analyst must select the variables to measure similarity. Nobody need to be reminded of the difficult issues that

researchers face having to make to with local level empirical data that is limited in terms of both quality and quantity. The variables used here are listed in Table 1. Some explanation is also provided on each of these variables. They seek to capture aspects of performance, capacity and spatial structure.

Second, the researcher must select a metric that combines the variables and identifies the nearest twin. This choice of metric is, in essence, the choice of the weight to assign to each variable. A concept of statistical distance, the Mahalanobis distance metric, is used. This particular metric has several desirable features. It creates a single summary index, it gives added weight to variables that have less variation in the data, it measures similarity as a continuous variable, and it has been long used in this kind of work (Issermann&Rephann, 1995).

A third decision with this methodology is to decide on how to resolve matching conflicts. If a town is the nearest twin for tow or more hub towns, to which one should it be assigned? The correct procedure here to solve this matching problem is called optimum matching (Rosenbaum, 1989). It assigns matches to that the entire group of twins is as much like the entire group of hub towns as possible. In other words, the sum of the Mahalanobis distances is minimised. Table 3 shows the matches between the hub towns (treatment towns) and other towns (control towns). The actual distances are show in Table 4.

Table 3. The Hub Towns and their Matches

Longford	Kilkenny	Mallow	Ennis
Wexford	Roscommon	New Ross	Nenagh
Monaghan	Cavan	Tuam	Tralee
Ballinasloe	Bandon	Enniscorthy	Middleton
Killarney	Ballina	Castlebar	
Westport	Birr	Clonmel	

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Table 4. Mahalanobis Distances Between Treatment and Control Towns

	TREATMENT TOWNS										
	Wexford	Kilkenny	Mallow	Ennis	Monaghan	Cavan	Tuam	Tralee	Killarney	Ballina	Castlebar
CONTROL TOWNS											
Carlow	27.73	9.15	32.71	0.89	31.82	25.66	29.72	3.19	26.56	33.93	20.09
Clommel	0.23	10.81	6.26	10.07	1.19	7.17	6.84	2.61	4.50	1.98	0.22
Portlaoise	16.23	1.14	30.48	10.54	24.53	24.16	21.37	12.17	24.12	27.35	23.88
Middleton	13.14	11.46	6.57	2.58	13.17	11.43	18.43	0.36	9.53	12.15	2.47
Enniscorthy	4.53	19.34	2.54	14.37	7.05	5.98	0.04	3.95	16.74	4.23	11.73
Longford	0.19	9.10	9.70	2.15	4.28	5.28	3.42	8.69	7.61	4.99	11.45
Athy	2.66	5.82	13.44	6.34	7.00	11.23	4.90	14.93	18.95	6.74	20.87
Nenagh	4.17	8.41	2.87	0.07	0.73	1.55	1.81	12.27	5.40	0.47	8.23
New Ross	2.49	17.56	0.68	18.30	0.45	0.36	0.33	0.74	11.13	1.59	9.62
Thurles	5.23	13.29	3.17	15.77	3.15	4.01	0.13	1.97	3.29	5.35	2.42
Gorey	4.15	4.31	2.75	18.99	3.20	10.20	0.84	28.30	7.85	1.61	5.44
Ballinasloe	5.91	18.08	6.31	3.39	0.27	2.88	1.99	12.01	10.93	0.81	17.17
Porarlington	13.53	2.41	5.38	3.18	1.46	5.72	0.17	26.30	13.17	2.33	17.12
CarrickoSuir	7.0	37.89	4.20	40.82	9.62	8.68	5.98	18.86	24.31	5.32	22.58
Edenderry	1.05	13.14	10.41	0.5	10.70	16.38	5.97	14.26	22.66	8.23	20.54
Fermoy	5.79	9.28	1.19	6.10	3.08	1.32	1.76	9.95	4.00	3.47	3.83
Bandon	2.76	15.68	0.77	13.67	0.06	0.24	1.08	3.50	10.21	1.54	8.15
Westport	4.92	1.12	3.12	18.65	1.02	3.87	1.0	26.92	1.58	0.26	1.41
Newcastle	6.01	15.55	0.88	8.69	0.87	2.89	0.99	11.47	9.15	1.81	12.07
Birr	6.79	18.64	3.41	5.45	0.47	4.96	3.98	11.64	11.09	0.80	18.59
Tipperaary	4.67	33.85	7.65	3.26	8.60	10.35	3.13	10.87	22.25	6.57	22.21
Roscommon	12.91	0.02	4.0	12.28	6.32	0.76	6.85	26.49	2.83	4.37	12.30

Evaluating the Performance of Hub Towns.

Finding meaningful measures of performance from the available published sources is, again, difficult. The variables chosen to make the comparisons are summarised in Table 5.

Table 5. The Variables chosen to Measure Performance.*

1. Cumulative % change in the town's share of national unemployment [Live Register]
2. Change in the Employment Self-Containment Ratio [2002/2006 Census]. The change is computed as a cumulative annual rate of change (CARG)
3. Change in the share of local employment in the Banking & Financial Services sector [2002/2006 Census].
4. Rate of internal migration expressed as relative measure [2002/2006 Census]

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- Intercensal period 2002-2006.

For each hub town, its twin's performance measures establish the counterfactual. The convention in control group research is not to compare individual pairs, as the results are likely to be quite unreliable due to the large random or unpredictable components of performance that one is liable to encounter. Instead the convention is to compare groups of treated subjects with groups of untreated subjects and focus on group or mean differences in outcomes.

The mean difference between the hubs and twins performance measures, for all the hub towns, is our primary measurement. The statistical test is if the mean performance rate differences are positive and statistically significant, then the analysis provides evidence that the hub towns are, indeed, somewhat above the ordinary, they show signs of dynamic performance and that their designation has some merit.

In short, the primary statistical question is whether the hub towns performed better than their twins did. If so, the inference is that they is justification for their selection in the NSS. The evidence in control group studies is not perfect. A certain leap of faith is always necessary. For example, a higher incidence of lung cancer among smokers does not prove cigarettes are the cause, but it is a reasonable inference. If the hub towns outperform their twins, then a reasonable inference also is that their role in the NSS is supported.

Empirical Results

The analysis reported here examines differences in performance rates. Table 6 shows the mean performance rate differences for the four measures of performance. Those that are significantly different from zero at the 95 percent confidence level are shown in boldface.

Table 6. Mean Performance Rate Differences, Hub towns and their twins 2002-2006

Unemployment	-4.69
Employment	
Self Containment	-.13
Banking & Finance Jobs	-.074
Internal Migration	+.18

The results are mixed. Hub towns have performed significantly better than their twins in attracting people from within the county or elsewhere in the state. They have performed significantly worse in terms of ability to grow jobs in banking and financial services. In terms of the other two indicators hub towns have also performed worse but the differences are not significant. These comparisons, though they are limited, do not support an image of hubs as strong economic centres.

A Second Perspective on Town Performance

The second piece of work takes a more relational perspective and looks at 112 towns with a population of 1,000+, selected on the basis of data availability and a reasonable geographic spread. see Figure 2. The focus here is to investigate the likely determinants of relative economic performance.

A summary of the modelling framework used is outlined in (1)

$$\text{Performance} = f(\text{Capacity}, \text{Connectivity}, \text{Competition}, \text{Complementarity}) \quad (1)$$

The performance measure is retail turnover per capita while the independent/explanatory variables reflect educational levels, commercial size, network position, local demand and competition from other places. The general insights provided from this exercise are presented schematically in Table. 7. First, there is the general model. If we are trying to explain why businesses might perform well in a particular town setting we would

TABLE 7. Model results in schematic form

	Education Matters	Size Matters	Position Matters	Level Demand Matters	Competition Matters
General Model	+	+	+	+	-
Regime 1 No. of towns 80	+	⊕	+	+	⊖
Regime 2 No. of towns 24	+	+	-	+	-
Regime 3 No. of towns 8	+	-	+	+	+

⊕ not significant

definitely agree, I think, that size or commercial strength matters, that position/location is important, that local demand is important and that competition from other places (negative) also matters. This is how these factors work for the majority of Irish towns. Human capital is also an important factor. But, for some towns the story is somewhat different. For regime 2 towns, for example, position is negatively related to performance

while for regime 3 (8 towns in the analysis) size is a negative determinant of performance and competition from other places works to positively enhance performance. These results provide insights into some of the factors that appear to influence performance and productivity in smaller towns. They speak to a more sophisticated policy approach to rural settlements, examining more carefully how settlements and networks of settlements actually function in different places, and planning for the settlements accordingly is needed.

A preoccupation in much of new the recent new economic geography and community economics literature has been that city people are much more productive and innovative than rural or small town people because productivity depends positively on population density. It would be unfortunate, and I suggest, counterproductive as a basis for rural development policy, if we were to fully buy into these explanations of rural productivity deficiencies based on size or a lack of 'agglomeration economies'. A much more compelling explanation for the higher measured labour productivity in cities has been recently provided by Syverson (2004).. Syverson argues that heightened competition in denser markets makes it harder for inefficient producers to profitably operate. In cities, less productive firms are driven out of business. What this does is that it truncates the lower end of the urban productivity distribution. In contrast, there is little or no competition in remote smaller towns, so while the more efficient or productive small town firms can make profits, the inefficient small town ones may also. On average, measured rural productivity is just that; average. Thus measured big city average productivity is higher and the variance is lower than small town average productivity. Syverson's careful empirical work using data on the concrete-mixing industry provides robust statistical support of this hypothesis.

Kilkenny and Johnson (2007), drawing on Syverson's work, suggest that, all else equal, people in small rural towns are likely to be just as productive as people in large dense cities. A difference in measured productivity can arise simply because competition is stiffer in cities. Some new growth modellers emphasise the need for face-to-face interactions to support innovation. Other than that there is no reason why people in lower density places cannot be productive and innovative.

The implication for rural development policy is that measured productivity and competitiveness is driven by competition. Neither 'spatial spillovers' nor grants or subsidies to rural enterprises substitute for competition. To have competition in a marketplace insulated from competitors by the costs of distance, is not easy. Our towns, if they are 'to energise the smaller places and rural areas within their spheres of influence', must be able to offer innovative people a sufficiently attractive quality of life, all modern communications links and good supporting institutions.

Discussion

It is difficult to be too prescriptive about what will work in respect of towns, enhance their productivity and their regional development roles and what can be facilitated through policy interventions. Obviously there is no cheap or easy way to alter a place's economic trajectory or its developmental impact in the short term through any amount of public policy. But to plan properly for such roles we do need a progressive spatial strategy which has a sense of commitment to some vision, and some set of priorities. A broad conclusion of this paper is that national policy for rural settlements, the assumptions on which it is based and, perhaps (although not discussed here), its subsequent 'implementation' by local authorities etc., may not reflect the reality of contemporary rural settlements and thus may not be producing the anticipated outcomes.

By way conclusion I will make three suggestions for policy and planning practice.

- There must be a reappearance of support for locally designed efforts. Back in 1995, the NESC 97 document *New Approaches to Rural Development* proposed an area-based integrated approach for rural policy and planning. This area-based approach was predicated to operate on the principles of complementarity, mutuality and co-operation. An overarching concern then was whether we could design such framework when there was a clear institutional vacuum in the sense that there was no planning framework for resolving the higher level issues relating to spatial management, The argument made was that in the design for rural policy and planning it would be advisable to follow a comprehensive national approach rather than continue with a series of disparate pilot and geographically scattered programmes or

projects which 'ration' out' resources. Logically, I guess, the NSS was to provide this blueprint. But in my view the NSS has become a weakened framework and some of its architecture, as discussed above, doesn't stack up. It has fallen victim of what is a national condition— we have this overdeveloped capacity for rigorous policy analysis and an underdeveloped capacity for rigorous administrative analysis and follow-through on issues of implementation. We are constantly producing plans and blueprints, we create multiple agencies to supposedly implement these plans, we reward officials (or they reward themselves) large bonuses with little or no evidence base that about what any of these plans have achieved and some particular notions of what success means.

- What is required to give a strategy clear focus and leverage is some kind of synthetic integration. There is this interesting concept of 'framing' which points in this direction. A frame is an 'organising principle that transforms fragmentary information into a structured and meaningful whole' (quoted in Healey, 2007, p.183). A frame provides 'conceptual coherence, a direction for action, a basis for persuasion, and a framework for the collection and analysis of data' (Rein and Schon, 1993, p. 153). Again, NESC 97 talked about integrated regional development as mainly an idea; 'it is not a set of discreet measures which, if implemented would automatically guarantee certain results.. But it is possible to devise public support measures that can be compatible with one another and to achieve collaboration between agencies and local groups, provided that there is a common goal being shared by all those involved. What is relevant is not that there should be a high degree of administrative integration, but that there should be integration where it is needed. These different moments or trajectories through which strategies may emerge is nicely illustrated by Mintzberg (1994).

- The final point is one where I will wear my economist's hat and this goes back to the welfare effects of regional or rural policy. I borrow the following example from McCann (2002). If, for example, policy is based on the provision of local transport infrastructure and we want to consider from a societal perspective whether a road building scheme should be undertaken somewhere in the West of Ireland. So, the context is one which is geographically peripheral, and which also exhibits a small and highly scattered population of relatively low density. In such a region, the provision of

new improved road infrastructure will significantly reduce the average travel time between two regional locations. On the other hand, if the new road infrastructure is built in a large and densely populated area of the East which already has a large road network, the new road infrastructure will only lead to a small reduction in average travel times between locations. The difference is that these latter smaller gains will be realised across a very large number of road users. The likely outcome is that the marginal social benefit of the transport investment will actually be higher in the large and densely populated eastern region than in the small and sparsely populated west region. What this example shows is that the welfare impacts of public policy intervention not only have explicitly spatial aspects, but that spatial issues will themselves determine the absolute size of the impacts. We should constantly try to carefully evaluate the impacts of all regional and rural policy measures with explicit spatial considerations in mind. For example it might be potentially more beneficial if we sought to address transportation planning issues in the region with a systems-wide approach that seeks to identify critical infrastructure and evaluate overall network performance rather than focus on particular piecemeal local solutions which may result in small localised benefits and show up poorly in appraisal tests.

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TABLE 1. Variables and metric used to match towns

<u>Economic Structure</u>	
Employment Self Containment Ratio ¹ (ECR)	(Census of Population)
Index of Competitiveness ²	(Census of Population)
Relative Unemployment Measure ³	(Live Register)
Level of Education ⁴	(Census of Population)
<u>Spatial Structure</u>	
Population density ^(a)	(Census of Population)
Population potential ^(b)	(Census of Population)
Network position ^(c)	(Road Network Data)
Roads Quality ^(d)	(Road Network Data)
<u>Mahalanobis Distance Metric</u>	
$d^2(X_A, X_C) = (X_A - X_C)^T \Sigma^{-1}(X_A - X_C)$	
where	X is the vector of selection variables
	A is the hub town
	C is a possible control/match town
	D is the distance between the two vectors
	Σ is the variance-covariance matrix of possible control/match towns

¹ Measures the extent to which a town offers employment to the employed and living in the town

² Represented by the differential component in a standard shift-share analysis

³ Cumulative % change in the town's share of national unemployment

⁴ Proportion of the population with a 3rd level qualification

(a) Population/area

(b) Number living within a 12 mile band

(c) Eigenvalue centrality: a measure of the importance of a node in a network

(d) the number of national and secondary roads divided by the total number of roads running through a town.