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Effects of the 2002-2020 National Spatial Strategy (NSS) on Ireland's Settlement Growth, its Cities and on other Gateways and Hubs.

Critical mass is central to delivering balanced regional development, NSS (2002, P. 149)

Dr Brian Hughes, DIT ©2015

1. Introduction:

This Paper investigates the demographic growth trends and outcomes for larger settlements to 2011, being the first half time period of the now-defunct 2002-2020 Irish National Spatial Strategy (NSS). Since the foundation of this State there has never been an agreed and implemented spatial strategy designed to accelerate the population growth of its cities. The 1971 census marked the first time that the urban population of State exceeded the rural. The Buchanan Plan's 20-year projections up to 1986, for Cork and Limerick and selected smaller Growth Centres, were flatly rejected shortly after publication in 1969. More recently, the 2003 Government's Decentralisation Plan ignored over half of its own NSS-nominated Gateway and Hub settlements in favour of a broad 'pepper-spread', vide Appendix 1.

The principal strategy of the NSS was based on Balanced Regional Development (BRD). It depended on the pre-existence of urban counterweights to the primate settlement, Dublin. The physics of 'balance' as in a playground see-saw, fails to work effectively, if the aggregate population of the four provincial cities is just 37.67% that of Dublin. There is little or nothing of population concentration to 'balance' Dublin against, particularly as long as Ireland's spatial planning strategy focus remains anti-city, as the miniscule 2011 size aggregate of 418,333 for its provincial cities confirms. This aggregate population for the four provincial cities represents less than half the population size-difference between Dublin and the next largest settlement, Cork. Throughout the world, over the 1960-2000 period, the rank size relationship between many countries' cities has remained fixed and so a particularly robust spatial and economic planning intervention will be required if Ireland's city-population differentiation between Dublin's primacy and the provincial cities, is to be addressed, *vide* Henderson, JV and Wang, HG, (2007)

Planners' and other spatial strategists' advice has often been overruled, at the expense of political expediency, in pursuit of local and short-term interests. However, because of the exceptionally low population density of the Rest of State (RoS) area together with the fast-growing Dublin-Belfast Corridor, the Greater Dublin Area (GDA) together with County Louth now contains many of the largest and fastest growing towns. Furthermore, in the most recent inter-censal period of 2006-2011, the Dublin and environs settlement grew by almost 65,000 as against just 15,000 in aggregated for the other cities.

Thus, Ireland's fastest growing towns provide valuable indicators of settlements that should be preferred for growth. For example, in the Midland's Planning Region, the growth of Portlaoise during 2006-2011 – arising from its pivotal land-use and transportation interface - was equivalent to that of Athlone *plus* Tullamore *plus* Mullingar, the NSS-linked Midland's Gateway. Significantly, Portlaoise's growth was also greater than the individual increases for Limerick, Galway or Waterford cities. Yet, that town's obvious choice for growth selection was ignored by the NSS. By 2011 Portlaoise's population was larger than Gateway-selected Sligo or the linked Gateway, Letterkenny.

2. The Imperative Role and Need for Focussed Growth in Ireland's Cities:

There is a pressing need to critically evaluate the role, function and economic potential of Ireland's four provincial cities. With an average size of just over 100,000, in the context of their roles as engines of growth for their respective planning regions, it is questioned that they are not really 'cities' in a size definition context. The European Spatial Development Perspective's (1997) definition of a 'city' is a settlement of 200,000 which is marginally greater than Cork's 2011 (City and Environs) population. Whatever about Cork's impending growth to over 200,000, Limerick, Galway and Waterford's similar populations, with an average size of just 73,250, fall well short of this ESDP definition of minimum 'city settlement' population. This scale-deficiency represents a significant barrier to their potential to exert critical-mass growth leverage. It also highlights what is a 'missing' tier of settlements in the 200,000 to 500,000 size category, that modern Ireland needs in this 'knowledge' era of emerging and identified, specialist job clusters, McGrath-Keeley, H. (2005) PhD Thesis; Fujita and Thisse (2013).

Policy makers have over-relied on Ireland's provincial cities' ability to grow organically and in assuming that they will grow quickly! It is essential that the next spatial plan will address this lacuna. Like Buchanan, the urgently needed strategy will have to give particular attention to accelerating city growth, if the principal of counter-weight is to take effect, Moran (2015). Likewise, past strategies have failed to recognise the emergence of potential cities, such as the impending agglomeration of Drogheda with Laytown-Bettystown-Mornington (LBM), which up to 2011 was growing much faster than Waterford and which could exceed that city's population, by 2016, Hughes (2015, b). Instead, the NSS included a politically attractive but fatuous strategy, involving multi-settlement growth: for example to link Athlone to Mullingar and Tullamore (ATM), which are up to 57 kilometres from each other; unlike the Drogheda agglomeration of less than one kilometre in distance from LBM along the Donacarney-Colp West axis. ATM was so nominated in the mistaken belief that if one settlement was too small on its own, that somehow and despite the distance, by 'linking' it to another similar-sized one, it would be possible to achieve additional growth synergy!

In the cases of Killarney-Tralee, Ballina-Castlebar and in Letterkenny with cross-border Derry-Londonderry, it can be seen the traditional political bias working against the dynamic East of the State; in not recognising the urban economic significance of Ireland's largest town Drogheda and its merging with the 10,000-plus sized town of L-B-M. Likewise, in placing over-reliance on the promotion of tenuous, linked Gateways and Hubs in Midland, Southern and Western and Border parts of the island. The NSS proposal, to link Limerick with Shannon is incomplete, in ignoring Ennis, given its population and its proximity to Shannon and the fact that all three settlements have both motorway and rail linkages as part of the Western Corridor, Meredith and van Egeraat (2013).

Professor Rob Kitchin, NUIM University has noted that prior to signing off on the 2002-2020 NSS, the Cabinet had adopted a stance of 'one for everyone in the audience' which resulted in the intended smaller number of 'growth centres' becoming the twenty-three selected settlement. Was that NSS-identified core issue, of the need to achieve critical mass, on the minds of the government ministers in making their choices at Cabinet? As the growth data of the next section of this paper shows, this did not happen. Instead, those population-growth designated Gateway and Hub settlements comprising a 42.20% share of State population in 2002, accounted for just 27.76% of total population growth by 2011.

Conversely, the remainder of the State population, which in 2002 had a 57.81% share, achieved 72.24% of the population growth. These perverse 'performances' highlight unintended outcomes; ones that result from little or none of the normal dynamics of urban economics, agglomeration and the workings of the new economic geography of Ireland, vide Ottaviano, GIP, and Thisse, J-C, (2004). The Paper next considers the settlement growth outcomes before addressing the strategy policy reasons for these perversities.

3. Growth Data:

It is therefore instructive to analyse the population sizes and growth performance of these settlements so as to quantify and differentiate the performance of the NSS-selected Gateways and Hubs with the remainder of the State's population. Immediately, it is evident as to the extent to which most of these growth centres have fallen well short of the State's population growth benchmark of 17.13% over this nine-year period of the NSS since 2002. The following Table sets out the population growth performances for the NSS designated Gateways and Hubs, thus:

Table of Gateway and Hub Settlement Growth 2002-2011:

NSS Gateways:

2002-2011	2002 Population	2011 Population	Population Growth	% Growth
Dublin	1,004,614	1,110,627	106,013	10.55%
Cork	186,239	198,582	12,343	6.63%
Limerick/Snn	95,559	101,127	5,568	5.83%
Galway	66,163	76,778	10,615	16.04%
Waterford	46,736	51,519	4,783	10.23%
A-T-M	42,655	54,617	11,962	28.04%
Dundalk	32,505	37,816	5,311	16.34%
Letterkenny	15,231	19,588	4,357	28.61%
Sligo	19,735	19,452	- 283	-1.43%
Total	1,509,437	1,670,106	160,669	10.64%
	Note 1	**Note 2**		

NSS Hubs:

	2002 Population	2011 Population	Population Growth	% Growth
Tralee/Killarney	35,124	37,912	2,788	7.94%
Ennis	22,051	25,360	3,309	15.01%
Kilkenny	20,735	24,423	3,688	17.79%
Ballina/C'bar	21,018	23,404	2,386	11.35%
Wexford	17,235	20,072	2,837	16.46%
Cavan	6,098	10,205	4,107	67.35%
Mallow	8,937	11,605	2,668	29.85%
Tuam	5,947	8,242	2,295	38.59%
Monaghan	5,936	7,452	1,516	25.54%
Total	143,081	168,675	25,594	17.89%

Population Change (2002-2011) Gateways and Hubs

Gateways	1,509,437	1,670,106	160,669	10.64%
Hubs	143,081	168,675	25,594	17.89%
Total G + H	1,652,518	1,838,781	186,263	11.27%
Remainder of State	2,264,685	2,749,471	484,786	21.41%

Population share of growth Summary:	2002	2011	9-year growth	
State Population:	3,917,203	4,588,252	671,049	17.13%
G+H % of State	42.19%	40.08%	27.76%	11.27%
Rem. As % of St.	57.81%	59.92%	72.24%	21.41%

Source: Brian Hughes analysis, based on CSO Area Vols., 2002 and 2011

Note 1: Individual settlement populations in 2002: Limerick + Shannon = 86,998 + 8,561; ATM *i.e.* Athlone + Tullamore + Mullingar = 15,936 +11,098 + 15,621; Tralee + Killarney = 21,987 +13,137; Ballina + Castlebar = 11,371 + 9,847.

Note 2: Individual settlement populations in 2011: Limerick + Shannon = 91,454 + 9,673; ATM *i.e.* Athlone + Tullamore + Mullingar = 20,153 +14,361 + 20,103; Tralee + Killarney = 23,693 +14,219; Ballina + Castlebar = 12,318 + 11,086.

4. Findings on Gateway and Hub Growth:

Significantly, none of Ireland's cities have matched the overall State population growth of 17.13%. However, Galway City would have done so except for the fact that portion of its western suburb, Bearna was 'detached' from Galway and became a separate settlement in the census of 2011 as a result of the halving of the United Nations linear distance-rule for settlement separation from 200 to 100 metres in the 2011 census. As confirmed in the above data, during the first nine years of the intended eighteen-year life of the NSS, the aggregate population growth of the selected Gateways and Hubs was just 11.27% as compared with 21.41% for the remaining population of the State, despite the policy objective to achieve higher growth in these nominated settlements.

Thus, the first finding of this Paper confirms that the NSS-selected growth settlements achieved only 52.64% or a little over a half of the growth of the remaining, non-designated areas in the State. What must be of particular concern to strategists are the particularly low growths of Ireland's second and third cities Cork and Limerick together with the Sligo Gateway's actual loss of population during the first half of the NSS period.

Dublin's moderate growth of 10.55%, to a large extent, reflects the deflection of some of its population growth to its commuting towns such as Navan, Naas and Newbridge. This has occurred because of planners' persistent under-estimation of the capital's housing requirement, in turn aggravating the housing affordability problem in the capital and contributing to medium and long distance commuting problem. Nevertheless, because of Dublin's scale size, its population growth still represents 56.93% of aggregate Gateway and Hub growth. In turn, Dublin's 10.55% growth compares with a growth rate of 12.38% for the remaining twenty-two growth settlements.

Given the stated objectives for where fast population growth was expected to take place within the NSS, it might have have been expected that the growth outcome of 12.38% for these (excluding Dublin) Gateways and Hubs, would have exceeded the State growth of 17.13% growth. The fact that the opposite occurred raises important questions as to the direction and focus of Irish spatial strategy and its implementation: **were the right growth settlements chosen? In selecting twenty-three settlements, were too many nominated? Why were so many in the wrong locations? Why did the strategists pick so many losers instead of obvious and potential winners?** (e.g. Portlaoise = + 66.12%, Drogheda + LBM = + 35.09%; *i.e.* identified on size, growth and if more than one settlement, on proximity criterion – augmented, if required, with the dual assessment model, combining population with daytime working population criteria, vide Hughes, (2013).

The second finding is that with some exceptions, the general pattern shows that the larger the settlement, the lower is the population growth compared with the State growth of 17.13%. In this, the 'Hub' towns performed much better than most Gateways although their very small 2011 average size of just 15,334 has to be recognised wherein growth increases are based on small 2002 populations. The NSS had intended that the Gateways and Hubs were to have accelerated their growth so as to, eventually, achieve critical mass as per the selection rationale for identified towns. Given the slowdown from over 17.13% from 2002 to 2011, the likelihood is for a State growth of just 2% from 2011 to 2016 due to the return of net out-migration. Thus, with perhaps a few exceptions in the east of the State, many settlements are expected to exhibit population loss or a static population movement in the current period.

Specifically, given this dismal growth of many of the selected NSS growth centres during 2002-2011, what does this say for the underlying spatial strategy for those towns which were nominated as well as for the appropriateness of the underlying core policy of '*balanced regional development'* (BRD)?

This question is linked to the third observation. This relates to the pattern of urban and rural development that has occurred. Instead of the intended objective of achieving accelerated growth in the nominated Gateways and Hubs, Balanced Regional Development encouraged additional, geographically scattered one-off housing completions. Despite the economic downturn, to this day their construction continues apace and currently comprises nearly half of State housing output.

Furthermore, the BRD spatial policy has promoted the proliferation of hundreds, of newly-emerging villages and small-town settlements, usually occurring at the expense of urban consolidation and larger settlement-size, particularly outside of the GDA. This creates a significant economic 'drag' on the State's imperative to create economies of scale and assist national competitiveness through the intensification of urban agglomeration.

Another observation of the malevolent effects of BRD is that the NSS had also advocated and indeed promoted city-catchment growth, which has resulting in much faster population growth for their feeder towns. The 2016 census will provide details of such growth. The problem with this phenomenon to date is that it results in large increases in both long and medium-distance commuting, *vide* Williams, Hughes and Redmond (2010).

Hence, this Paper's advocacy, to promote the alternative concept of 'lumpiness', is intended to support the concentrate of future affordable housing supply to locations adjacent to employment, colleges and other extant infrastructure, Zoellick (2009). This should result in greater development taking place in 'brown-field' rather than the Irish practice to focus most growth on 'green-field' sites with semi-detached construction, so beloved by Irish builders. City-concentrated housing supply should also result in reducing the incidence of population deflection which has promoted the damaging and unsustainable growth in long commutes with their associated social and time-wasting pressures. 'Lumpiness' will likewise promote Ireland's international 'competitiveness' and will weaken the 'distributiveness' nature of the NSS, with its focus on diffusion, O'Leary, E. (2003) (ed.).

Implementation of Spatial Planning in Ireland has always created an uneasy relationship with the political realm. For about 70% of the 92 years since the State's foundation, the Fianna Fail political party has held power, either as a single-party government or more recently in coalition format. They continue to be the principal proponents for maintaining Balanced Regional Development, perhaps echoing the fact of having no current Dail representation in Dublin and with just one TD representative in all of the GDA. This ongoing representational imbalance increases the risk of its consolidating as 'a country and western' faction. Since the cancellation of the NSS, a number of Fianna Fail (FF) TDs have stridently advocated for the retention of BRD as a core element of the next Plan, vide *The Fight for Rural Ireland*, RTE TV (2015). Proponents of such counter-vailing advocacy will have to live with the inevitable consequences, of increasing the likelihood of scale diseconomies

and further village-small town proliferation, adding **more** 'distributive' strains to both Public and Private sectors of Ireland's economic life. Thus with another General Election in the offing, it would be instructive to have a balance: of FFs and likewise, of other parties' urban strategy alternatives?

5. Alternatives to Balanced Regional Development:

This writer therefore advocates that the replacement to the NSS core policy of BRD must seek to focus on promoting urban agglomeration, so as to achieve 'lumpiness', particularly with this critically important objective: to promote the growth of the States provincial cities. During that nine-year first half of the NSS, the State's four cities grew by just 8.44% in aggregate, being just 49.27% of the State average population growth rate of 17.12%. Yet, Planning Regions which do not have cities have been shown to be the most vulnerable ones to unemployment and emigration, especially during periods of economic downturn.

With the 'knowledge' economy of recent decades having replaced the 'industrial' one of Buchanan's 1960s, today's minimum-settlement 'threshold' populations have to be much larger in order to be able to provide the necessary skill-sets and labour-force numbers, thereby providing adequate FDI employment requirements together with that of nearby-located, high-end sub-suppliers. This forms the 'sustaining' momentum of clustering, Fujita M, Krugman, P and Venables, A (2001).

Given the fragility of settlement-size outside of the GDA, Ireland's ability to attract such new firms to a wider geographical territory is greatly compromised. This becomes all the more reason to grow Ireland's provincial cities, and where already growth-proven, a select number of its large towns. This will inevitably result in a smaller number of growth locations to about fifteen, but paradoxically, it will greatly increase the potential to attract FDIs to locations other than predominantly that of Dublin. Socially, it should result in combating regional unemployment and emigration.

Continuing CSO Population and Migration Estimates together with their Quarterly National Housing Survey outcomes confirm the ongoing strengthening of the eastern portion of the State, with only modest population growth in select areas in the RoS area. Why should there be the political problem of focusing Ireland's future growth where cities are emerging? More attention must be given to exploiting the potential of Ireland's provincial cities and likewise, to the Dublin-Belfast Corridor which now has some of the State's fastest growing large settlements, *vide* Hughes (2015, b).

6. Conclusions:

Today, it is evident that the intended strategic outcomes, as articulated in the NSS have failed, abysmally. Yet, there appears to be reluctance to provide evidence-based strategic policies that are urgently needed to replace the current planning 'hiatus'. Unfortunately, the direction of most 'agendas' of some of the traditional political parties, continue to persists in pandering to an over-represented rural minority and appear to be largely unaware of the growth potential of urban agglomeration to potentially benefit 'their' planning region. Instead, they continue to advocate out-dated, failed, spatial solutions so as to satisfy 'bottom-up' local and short-term' interests.

The severe corrections and economic downturn that resulted from the collapse of the Celtic Tiger economy, provides conclusive evidence that planning regions that are bereft of cities are particularly vulnerable to excessive unemployment and out-migration. In taking a view of the State's prospects the ESRI's short-term optimism for the next eighteen months, this must be placed in context, with Ireland's peripherality, its high debt to GDP ratio, high per-capita private debt, mortgages, etc. The prospect is for a return to 'normal' long-term interest rates and again, the major handicap: the

country's absence of scale-size cities to provide the engines of economic growth, vide Henderson, JV (2000). Public capital funding programmes are likely to remain constrained for the foreseeable future, thereby reinforcing the need to pick 'winning' locations, *vide* Hughes (2013).

Thus the replacement spatial imperative should focus on the U.N and World Bank-advocated efficiencies of 'lumpiness' with the objective of creating densely populated settlements based on past and current evidence of growth potential, *vide* Zoellick (2009). The most direct way of achieving this settlement-growth objective is to 'pick winners' instead of compensating 'losers' and where the population growth occurred, as the evidence adduced herein highlights, *vide* Robert-Nicoud, F (2006).

> Therein, it is postulated that urban agglomeration is driven by input-output linkages among firms, of trade in goods and in capital mobility. Where such vertical linkages are strong and transport costs are low, agglomeration enhances product variety which can *Pareto*-dominate dispersion because it lowers producer prices. From such competitiveness, policy-makers and spatial planners have the financial resources to be able to implement associated *Kaldor*-improvements which, in turn, are able to generate consumer surpluses in *both* [core and peripheral] regions, *vide*. Robert-Nicoud's Spatial Economic Analysis, RSA Vol. 1 No. 1 of June 2006, PP 101-126, *Agglomeration and Trade*.

For Ireland, the State is divided into its two geographically-distinctive constituents: the 'Core region' being the Greater Dublin Area expanded to include County Louth, in recognition of its high urban content, population density, its emerging 'sixth city' on the Boyne and because of its strategic placement within the Dublin-Belfast Corridor

Furthermore, with the abandonment of the National Spatial Strategy (NSS) 2002-2020, future population growth will depend on political bravery to implement a radical spatial and economic policy change from the underlying, failed, concept of '*balanced regional development'* that has informed that previous strategy. Unless there is a firm commitment to grow the State's cities and implement a spatial policy directed to 'lumpiness', the politically-driven 'scattergun' distribution of limited economic resources will continue.

Otherwise, as the above Table confirms the task of achieving a Zipf Law-Rank Order linearity will become even more remote. For example, in the 2011 census, the size difference between Dublin and Cork was 912,045. Accordingly, the quest to stabilise or reduce the 2011 Gini Distortion measurement of Irish cities will become even more difficult to achieve with the passing of time, *vide* Appendix 2. If the present size-gap trend persists, it can be predicted that the Dublin-agglomeration (*vide* Table 7, Area Volumes, CSO Census), size gap difference could be more than one-million greater than the population of the second-largest city, Cork, within the time-frame of the next census or two.

The overall conclusion herein, posits that as there continues to be no formal, spatial and economic strategy plan to accelerate the growth of Ireland's provincial cities, Dublin's increasing primacy and governance will relentlessly creep in the direction of city state – evidenced in the widening actual population size gap between it and other Irish cities: inevitably, this demographic and size 'imbalance' will become further pronounced, vide Hughes (2010). Is Ireland inextricably heading for such a City-State scenario? Alternatively, as Caldaza recently suggests, perhaps for Dublin's shorter-term future – as being one where devolving powers are moving from the nation state to the city region, Caldaza, I. (2015). In either such scenarios, polycentricism appears not to be the approach, particularly in a context of the State's limited resources and debt profile, both public and private. Accordingly, for the foreseeable future, it is economics and not the ESDP, which will thus determine Ireland's long-term spatial profile.

APPENDIX 1

Intended Public Sector Jobs for Gateways and Hubs Included in 2003 Decentralisation Programme

Location: NSS Gateways	Jobs
Cork	0
Limerick/Shannon	130/400
Galway	0
Waterford	200
Dundalk	0
Sligo	100
Letterkenny	0
ATM	145/300/130
Total [4 Gateways]	1,405
Location: NSS Hubs	**Jobs**
Kilkenny	0
Tralee/Killarney	0/165
Ennis	0
Wexford	325
Castlebar/Ballina	0
Mallow	200
Cavan	425
Monaghan	25
Tuam	0
Total: [5 Hubs]	1,245

A total of 53 locations involving 10,300 jobs in all counties outside of Dublin were included in the 2003 Budget-speech 'Decentralisation' announcement, by the then Minister for Finance, Charlie McCreevy – although he clarified shortly thereafter that this Programme of Government had nothing to do with the NSS Strategy. Note how many locations from the above lists of Gateways and Hubs (G+H) were omitted from the programme. Thus G+H locations together, represented less than 25% of the 53 Decentralisation locations. Gateways accounted for 13.64% of the total jobs and Hubs just 12.09%. The programme was announced only one year after launch of the National Spatial Strategy.

APPENDIX 2

Application of Zipf's Law of Primacy to Irish Cities as at the 2011 Census:

City ('000)	Rank	2011 Population **(a)**	Where Dublin = 100.00	Zipf's Law Population **(b)**	Zipf Target: Shortfall (b)-(a)	Zipf **%** extent of Shortfall [(b)-(a)/ (b)]
Dublin	1	1,110.6	100.00	1,110.6	0.0	N/A
Cork	2	198.6	17.88	555.3	356.7	64.24
Limerick	3	91.4	8.23	370.2	278.8	75.31
Galway	4	76.8	6.92	277.7	200.9	72.34
Waterford	5	51.5	4.64	222.1	170.6	76.81
Aggregate 'Provincial' city population shortfall in relation to Dublin:					**1,007.0**	**70.65**

Source: CSO *Area Volume, Table 7*, Census of 2011

Analysis: Brian Hughes.

BIBLIOGRAPHY AND REFERENCES

Buchanan, Colin & Partners (1969) *Regional Studies in Ireland*. An Foras Forbartha – The National Institute for Physical Planning and Construction Research, Dublin

Central Statistics Office, Censuses 2002 and 2011, *Area Volume*, Stationery Office, Dublin

Calzada, Igor (2015) Benchmarking future city-regions beyond nation-states, Regional Studies, Regional Science, 2:1, 350-361, DOI: 10.1080/21681376.2015.1046908

European Spatial Development Perspective (ESDP), (1997) EU, Brussels

Fujita, M and Thisse, J (2013) *Economics of Agglomeration*: *Cities, Industrial Location and Globalisation*, UK: Cambridge University Press, Second Edition.

Fujita M, Krugman, P and Venables, A (2001), *The Spatial Economy*, UK: Cambridge University Press.

Henderson, JV (2000) *The Effects of Urban Concentration on Economic Growth*, National Bureau of Economic Research, Inc., Working Paper 7503.

Henderson, JV and Wang, HG, (2007) *Urbanisation and city growth: The role of institutions* Volume 37, Issue 3, May 2007, Pages 283-313 Regional Science and Urban Economics.

Hughes, B (2010) *The Greater Dublin Area – Ireland's Potential City State of the early 21st Century*, Doctoral Thesis, Dublin Institute of Technology – Arrow website.

Hughes, B (2013) *Settlement selection: A Critical Consideration for a New National Spatial Strategy Plan?* A Spatial Planning Masters Dissertation, Dublin Institute of Technology – Arrow website.

Hughes, B (2015b) *Drogheda, Ireland's Emerging Sixth City*, A Paper written for the Drogheda City Status Committee, Drogheda, Co Louth.

Meredith, D and van Egeraat (2013) *Revisiting the National Spatial Strategy ten years on*, Administration, vol. 60, no. 3

Moran, J. (2015) Oral Deposition of Former Secretary General, Department of Finance to Banking Inquiry, Dail Public Accounts Committee, Irish Parliament

McGrath-Keeley, H. (2005) PhD Thesis, *Post Porter Industrial Clusters in North Dublin,* Dublin City University

National Spatial Strategy (2002-2020), DoECLG, Dublin, (2002)

O'Leary, E. (2003) (ed.) *Irish Regional Agenda: A New Agenda*, Dublin: The Liffey Press

Ottaviano, GIP, and Thisse, J-C, (2004) Agglomeration and Economic Geography. In Henderson, JV and Thisse, J-C, eds. *Handbook of Regional and Urban Economics, Cities and Geography*, Amsterdam: North Holland, 2563-608.

Robert-Nicoud, F (2006) *Agglomeration and Trade with Input –Output Linkages and Capital Mobility*, Regional Studies Association, *Spatial Economic Analysis*, Vol. 1, No. 1, pp. 101-126: June 2006, ISSN: 1742-1772, New York: Routledge.

Williams, B.,Hughes, B. and Redmond, D. (2010) *Managing an Unstable Housing Market,*

Urban Institute Ireland, http://www.uep.ie/pdfs/WP%201002%20W.pdf

Zoellick, RB, (2009) *Reshaping Economic Geography – World Development Report*, The World Bank. Washington, DC.