



a creative
momentum
project

Creative Economy Index



Whitaker
Institute



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About *a creative momentum project*

A three year (2015-2018), transnational project co-funded by the EU Interreg Northern Periphery and Arctic Programme, *a creative momentum project* focused on the development of the creative industries sector in regions across Europe's Northern Edge. This report emerged from the 'Intelligence and Influence' aspect of *a creative momentum project*. For more information visit: <https://mycreativeedge.eu/>

Disclaimer: This report is prepared on behalf of a creative momentum project partnership. Every effort has been made to ensure the information it contains is correct. We cannot assume responsibility or have liability to third parties arising out of or in connection with this information being inaccurate, incomplete or misleading.



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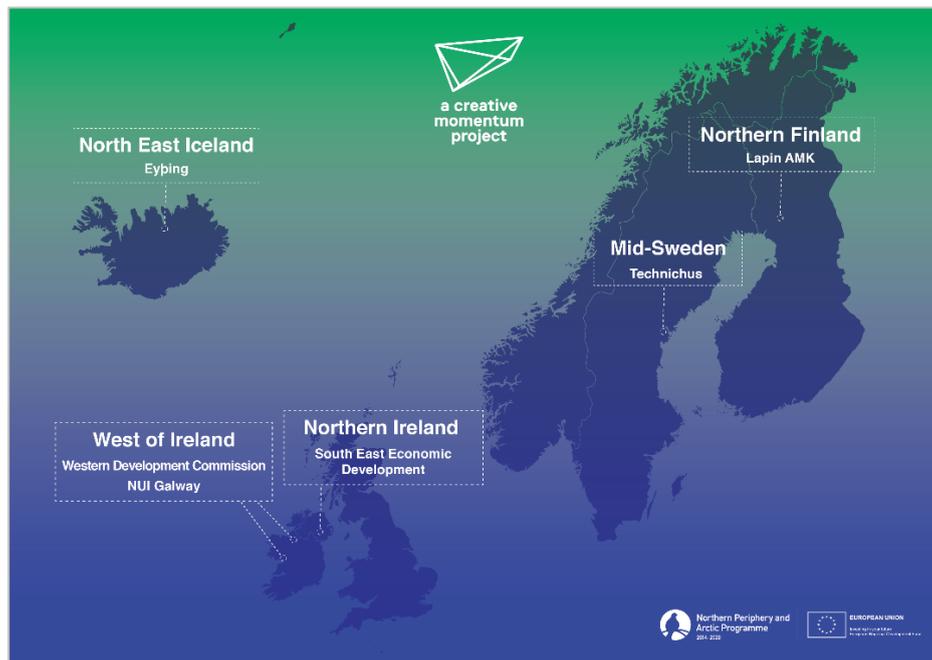
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1. Introduction

Indices bring together a range of data to assist evaluation of complex concepts and phenomena (OECD, 2008). The creative economy is diverse and multifaceted, which has led researchers and policymakers to use indices as an assessment and analysis tool. For example, Richard Florida’s Creativity Index was published in 2002. The Creative City Index developed by Charles Landry and Jonathan Hyams was published in 2012. However, creativity indices are rare in peripheral contexts. As part of *a creative momentum project* we have developed a series of indices assessing different aspects of creative sector development in the project partner regions.

This report presents the ‘Creative Economy Index’ which aims to provide a measure of the development of the creative economy. The regions focused on are the five peripheral European partner regions part of *a creative momentum project* (see Figure 1 and Appendix 1, Table 1a).

Figure 1: Creative Momentum Project Regions



2. Index structure

Indices are composed of indicators of certain types of activity. Our Creative Economy Index includes data on 26 indicators grouped into five themes (see Figure 2). Core, essential indicators used in similar types of indices include a measure of creative enterprise development, such as company numbers, employment and turnover (e.g. see Florida, 2002; KEA European Affairs, 2009; Hartley et al., 2012; Correia and Costa, 2014). Theme one includes data on the extent of the creative industries sector in the regions. The number of creative, cultural and craft enterprises and employment in these enterprises are core indicators in this theme and also form a centrally important aspect of the overall index. Informed by debates on defining the creative industries (e.g. see Smith and Warfield, 2008; The Work Foundation, 2007; Bakhshi and Cunningham, 2016) we use NACE codes to define the parameters of creative, cultural and craft enterprise (see Appendix 1, Table 1b).

Because of the complex nature of creativity it is important to use a wide range of measures to assess creative economy development in the regions. Our approach goes beyond focusing on the extent of development of creative sector enterprises but also includes themes and indicators to encompass the wider creative ecosystem in the regions.

Theme two includes data on the environment for entrepreneurship and innovation. This theme includes indicators of innovation inputs (R&D expenditure) and outputs (patents). It also includes a measure of the overall business environment through the 'Ease of Doing Business' ranking. Arts funding indicators are also included because arts and culture have been found to have a significant role in supporting the wider creative industries such as through incubating creative talent and encouraging creative innovation (e.g. see Albert et al., 2012; Centre for Economics and Business Research, 2013).

Theme three includes measures of cultural infrastructure and consumption. This theme is important as the broader cultural environment is understood as essential to developing a creative society (KEA European Affairs, 2009). The cultural environment is also linked closely to indicators under theme five such as the presence of a student population, as well as a young, diverse population.



Figure 2: Creative Economy Index – Indicators

Theme 1: Creative Sector Industries (weighting 0.4)
Number of cultural enterprises
Number of creative enterprises
Number of craft enterprises
Employment in cultural enterprises
Employment in creative enterprises
Employment in craft enterprises
Theme 2: Environment for Creative Entrepreneurship and Innovation (weighting 0.2)
Local government arts funding spend in the region
National arts council funding spend in the region
Total R&D expenditure as a percentage of GDP
Ease of doing business index ranking
Patent applications to the European Patent Office
Theme 3: Cultural Infrastructure and Consumption (weighting 0.2)
Number of cinemas
Number of libraries
Number of museums
Number of higher education institutions
Average annual household expenditure on recreation and culture
Theme 4: Digital Connectivity and Cultural Production (weighting 0.1)
Number of videos uploaded to YouTube from within the geographic region
Number of images uploaded to Flickr from within the geographic region
Percentage of households living in sparsely populated areas with internet access
Percentage of individuals who use the internet to sell goods or services
Percentage of individuals participating in online social networks
Theme 5: Population Diversity and Peripherality (weighting 0.1)
Youth population (number of people aged between 15 and 24)
Young population (number of people aged between 25 and 49)
Non-national population
Number of enrolments in higher education
Population density of the region (per sq. km)

Theme four includes measures of digital connectivity and digital cultural production. Digital technology has a significant influence on the creative economy enabling new business models for creative entrepreneurs as well as changing patterns of cultural production and consumption (KEA European Affairs, 2009; Hartley et

al., 2012).

Theme five includes measures of the diversity of the population which it is argued influences the development of the creative economy (KEA European Affairs, 2009; Florida, 2002). This theme assesses diversity regarding the level of non-nationals among the population. It also includes indicators on certain types of population groups relevant to the creative economy, such as a young population. For example, according to Creative Skillset (2014), 76% of the Creative Media workforce is in the 25 to 49 age bracket. Density of networks is also important to create connections in the creative economy and society which introduces population density as a measure under this theme.

This index applies weights to the five themes (see Figure 2). This is driven by the overall aim of the Creative Economy Index which is to assess the level of development of the creative economy in the regions. This is also influenced by the wider objectives of *a creative momentum project* and its focus on creative entrepreneurship to support regional development. In this context, the extent of the creative industries is a key measure and theme one is given the highest weighting accounting for 40% of the final score. Themes two and three are also important in this context each account for 20% of the final score. Themes four and five while still significant are given the lowest weighing of 10% of the final score.

To arrive at our index results, we first standardised our data by population levels in each region (where necessary) and then used the 'distance to reference' method to arrive at a score. This method measures the distance between each indicator and the highest value for that indicator across the five regions. This index also comes with some of notes of caution:

- It should be understood as a pilot index testing how creative sector development in peripheral regions might be measured. The index can help to open debate on creative sector development and how to refine methods used to evaluate the creative sector in peripheral contexts.
- The indicators chosen are essential measures of creative sector development, but they are also one-dimensional statistical indicators. The results should be used as one part of a broader evidence base evaluating creative sector development in the five peripheral regions.
- Comparative analysis of performance helps us identify similarities and differences across the regions. However, the index only compares the five partner regions which are in a narrow range of

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comparison.

- Available data also drive the indicators included. Initially, our search for data was driven by ten themes and over 100 indicators. Limited availability of comparable data resulted in our final five themes and set of 26 indicators.
- Research has noted international comparisons of arts and culture spend are fraught with pitfalls and often result in compromise for the sake of comparison (e.g. Schuster, 1987). However, despite this comparisons are essential. Our data gathering has been conscious of these issues, but confidence in the absolute comparability of indicators using data on local government arts funding and national arts funding is difficult.

Nevertheless, this index acts as a helpful tool to understand the relative strengths and weaknesses of the creative economy in these five regions.

3. Results

The Creative Economy Index results overall, as well as for each of the five themes making up the index, are presented in Figure 3 and 4 (see p.10 and p.11). While some regions emerge stronger than others, none of the *creative momentum project* regions have a low performance on the Creative Economy Index. The creative economy has a notable presence in all of these peripheral regions. Strengths and weaknesses emerge when results at the theme level are analysed. The Creative Economy Index results highlight the strengths each region can build on, but also weaknesses in the overall creative economy ecosystem in these five peripheral places.

North East Iceland emerges at the top of the Creative Economy Index and shows a medium to high level of development. At the theme level, the regions weakest result is in relation to the 'Environment for Creative Entrepreneurship and Innovation'. The region scores very highly in the 'Cultural Infrastructure and Consumption' and 'Digital Connectivity and Cultural Production' themes showing a high level of development in these areas.

While second on the Creative Economy Index, Mid Sweden achieves a score close to North East Iceland



and shows a medium to high level of development. In contrast to North East Iceland, it achieves a medium to high score in the 'Environment for Creative Entrepreneurship and Innovation' theme. Its highest performance at the theme level concerns 'Creative Sector Industries' and lowest in relation to 'Cultural Infrastructure and Consumption'.

Northern Finland achieves a score indicating a medium level of development on the Creative Economy Index and emerged in third place. At the theme level, its highest score is on the 'Environment for Creative Entrepreneurship and Innovation' theme. Its weakest performance was in the Cultural Infrastructure and Consumption' theme, where its score indicated a medium to low level of development.

While the West of Ireland emerges as the fourth best performing region overall, it is just one point behind Northern Finland. The region achieves a score indicating a medium level of development on the Creative Economy Index. Its highest performance at the theme level was regarding 'Population Diversity and Peripherality', followed by 'Creative Sector Industries'. Both showed a medium to high level of development. A weakness emerged in relation to 'Cultural Infrastructure and Consumption' where its score indicates a medium to low level of development.

South East Northern Ireland emerges in fifth place on the Creative Economy Index. However it performs well on two themes, 'Population Diversity and Peripherality' and 'Digital Connectivity and Cultural Production' which both showed a medium to high level of development. Scores indicated a medium to low level of development on the three remaining themes: 'Creative Sector Industries'; 'Environment for Creative Entrepreneurship and Innovation' and 'Cultural Infrastructure and Consumption'.



Figure 3

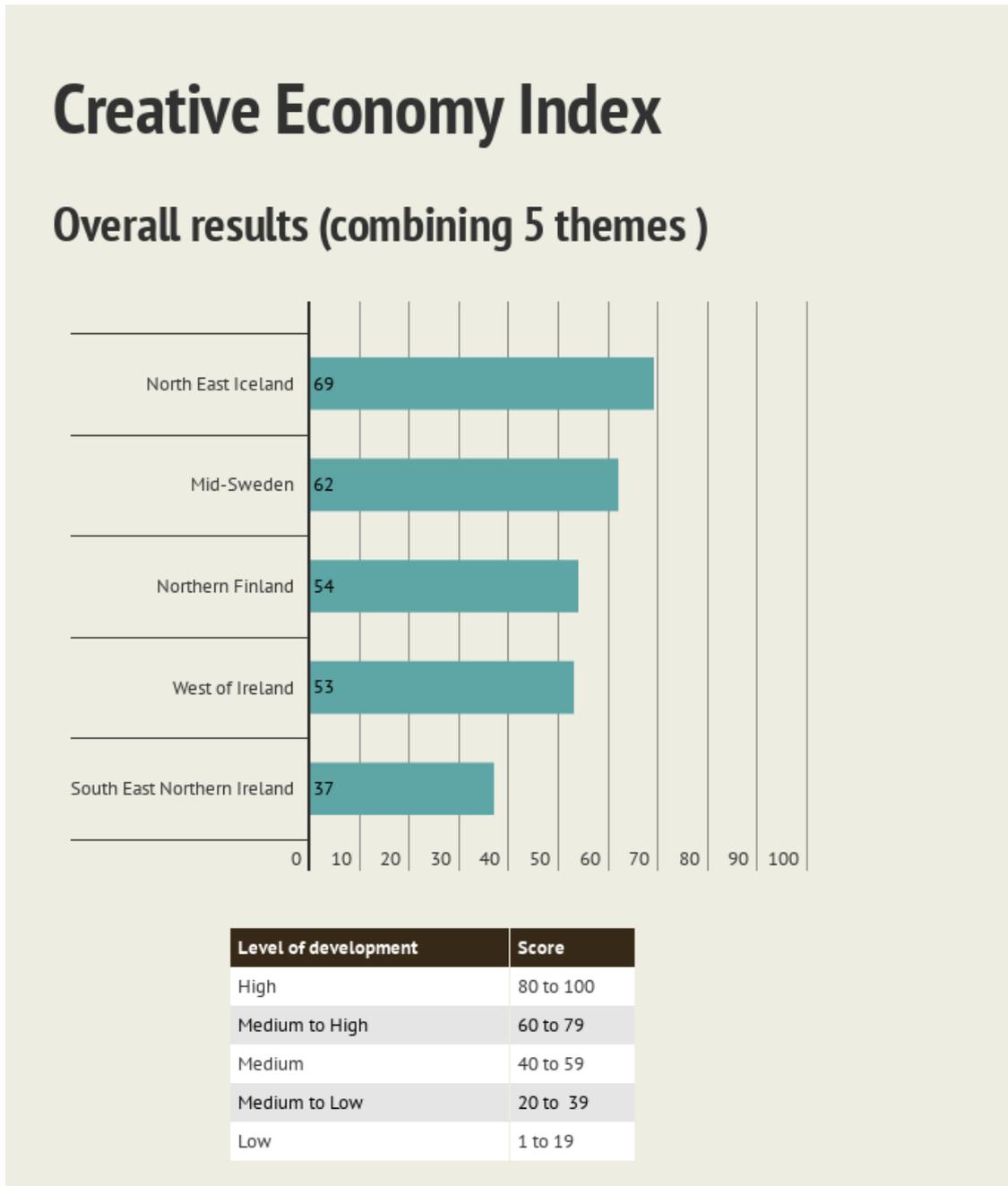
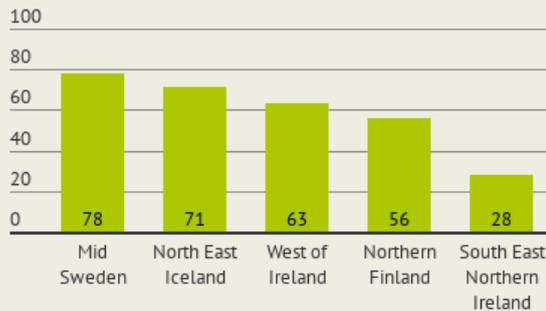


Figure 4

Creative Economy Index: Theme Results

1 Creative Sector Industries



2 Environment for Creative Entrepreneurship and Innovation



3 Cultural Infrastructure and Consumption



4. Digital Connectivity and Cultural Production



5. Population Diversity and Peripherality



Level of development	Score
High	80 to 100
Medium to High	60 to 79
Medium	40 to 59
Medium to Low	20 to 39
Low	1 to 19

Appendix 1: Additional tables

1a. The Creative Momentum regions

Region	Specific area covered
North East Iceland	<u>13 municipalities:</u> Akureyri, Norðurþing, Fjallabyggð, Dalvíkurbyggð, Eyjafjarðarsveit, Hörgársveit, Svalbarðsstrandarhreppur, Grýtubakkahreppur, Skútustaðahreppur, Tjörneshreppur, Þingeyjarsveit, Svalbarðshreppur, Langanesbyggð
Mid Sweden	<u>1 county:</u> Västernorrland (Härnösand, Kramfors, Sollefteå, Sundsvall, Timrå, Ånge, Örnsköldsvik)
Northern Finland	<u>2 regions:</u> Lapland, North Ostrobothnia
South East of Northern Ireland	<u>3 Local Government Districts:</u> Armagh City, Banbridge & Craigavon Borough Council; Ards & North Down Borough Council; Newry, Mourne & Down District Council areas
West of Ireland	<u>7 Counties:</u> Donegal, Sligo, Leitrim, Roscommon, Mayo, Galway and Clare

1b. Parameters used to define creative, cultural and craft industries

Creative industries	
NACE CODE	
	Software Publishing, Computer and Information Technology
58.21	Publishing of computer games
58.29	Other software publishing
62.01	Computer programming activities
62.02	Computer consultancy activities
62.03	Computer facilities management activities
62.09	Other information technology and computer service activities
63.11	Data processing, hosting and related activities
63.12	Web portals
	Media (News, PR, advertising, marketing)
63.91	News agency activities

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63.99	Other information service activities n.e.c.
70.21	Public relations and communication activities
73.11	Advertising agencies
73.12	Media representation
73.20	Market research and public opinion polling
	Architecture, design and photography
71.11	Architectural activities
74.10	Specialised design activities
74.20	Photographic activities
	Translation and other professional service activities (weighted at 0.35)
74.30	Translation and interpretation activities
74.90	Other professional, scientific and technical activities n.e.c.
79.90	Other reservation service and related activities
	Engineering, Research and Development (weighted at 0.5)
71.12	Engineering activities and related technical
72.11	Research and experimental development on biotechnology
72.19	Other research and experimental development on natural sciences and engineering
72.20	Research and experimental development on social sciences and humanities
Cultural industries	
	Publishing
58.11	Book publishing
58.12	Publishing of directories and mailing lists
58.13	Publishing of newspapers
58.14	Publishing of journals and periodicals
58.19	Other publishing activities
	Film, TV, Music, Radio
59.11	Motion picture, video and television programme production activities
59.12	Motion picture, video and television programme post-production activities
59.13	Motion picture, video and television programme distribution activities
59.14	Motion picture projection activities
59.20	Sound recording and music publishing activities
60.10	Radio broadcasting
60.20	Television programming and broadcasting activities
	Cultural Education, Arts and Recreation
85.52	Cultural education
90.01	Performing arts
90.02	Support activities to performing arts
90.03	Artistic creation

90.04	Operation of arts facilities
91.01	Library archives activities
91.02	Museums activities
91.03	Operation of historical sites and buildings and similar visitor attractions
91.04	Botanical and zoological gardens and nature reserves activities
93.21	Activities of amusement parks and theme parks
93.29	Other amusement and recreation activities
Craft industries	
Manufacturing (textiles, clothes, bags, footwear) (weighted at 0.3)	
13.10	Preparation and spinning of textiles
13.20	Weaving of textiles
13.30	Finishing of textiles
13.91	Manufacture of knitted and crocheted fabrics
13.92	Manufacture of made-up textile articles, except apparel
13.93	Manufacture of carpets and rugs
13.99	Manufacture of other textiles n.e.c.
14.11	Manufacture of leather clothes
14.12	Manufacture of workwear
14.13	Manufacture of other outerwear
14.14	Manufacture of underwear
14.19	Manufacture of other wearing apparel and accessories
14.20	Manufacture of articles of fur
14.31	Manufacture of knitted and crocheted hosiery
14.39	Manufacture of other knitted and crocheted apparel
15.11	Tanning and dressing of leather; dressing and dyeing of fur
15.12	Manufacture of luggage, handbags and the like, saddlery and harness
15.20	Manufacture of footwear
Printing (weighted at 0.3)	
18.11	Printing of newspapers
18.12	Other printing
18.13	Pre-press and pre-media services
18.14	Binding and related services
18.20	Reproduction of recorded media
Manufacturing (glass, ceramics, stone, metals) (weighted at 0.3)	
23.13	Manufacture of hollow glass
23.14	Manufacture of glass fibre
23.19	Manufacture and processing of other glass, including technical glassware
23.20	Manufacture of refractory products

23.31	Manufacture of ceramic tiles and flags
23.41	Manufacture of ceramic household and ornamental articles
23.49	Manufacture of other ceramic products
23.70	Cutting, shaping and finishing of stone
23.99	Manufacture of other non-metallic mineral products n.e.c
24.41	Precious metals production
24.51	Casting of Iron
24.53	Casting of light metals
24.54	Casting of other non-ferrous metals
25.71	Manufacture of cutlery
25.99	Manufacture of other fabricated metal products n.e.c
	Manufacturing (electronics, computers, clocks) (weighted at 0.3)
26.11	Manufacture of electronic components
26.12	Manufacture of loaded electronic boards
26.20	Manufacture of Computers and peripheral equipment
26.30	Manufacture of Communication equipment
26.40	Manufacture of consumer electronics
26.51	Manufacture of instruments and appliances for measuring, testing and navigation
26.52	Manufacture of watches and clocks
	Manufacturing (perfumes, jewellery, musical instruments, games) (weighted at 0.3)
20.42	Manufacture of perfumes and toilet preparations
32.12	Manufacture of jewellery and related articles
32.13	Manufacture of imitation jewellery and related articles
32.20	Manufacture of musical instruments
32.40	Manufacture of games and toys
32.99	Other manufacturing n.e.c.
	Other Manufacturing (wood, paper) and Roofing (weighted at 0.3)
16.29	Manufacture of other products of wood; manufacture of articles of cork, straw and plaiting materials
17.23	Manufacture of paper stationery
17.24	Manufacture of wallpaper
31.01	Manufacture of office and shop furniture
31.02	Manufacture of kitchen furniture
31.09	Manufacture of other furniture
43.91	Roofing activities



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