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Creating a New Path through Creative Capital: Theories and Evidence from the Northern Periphery

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Abstract

This paper is a review, reflection and synthesis of the last several years of work on creative economy and creative capital in peripheral, remote and northern regions. The focus of this discussion is on the evolving conceptual foundations and supporting evidence from various case studies. Specifically, the paper builds on the new knowledge generated by the Creative Arctic project to expand our understanding of the 'new path creation' mechanisms in northern and remote regions though engaging creative capital. The paper summarizes earlier findings and outlines the key ideas that form the foundation of the *creative peripheries* conceptual framework.

Keywords: creative capital; economic development; knowledge economy; periphery; Arctic

1.0 Introduction and Background: New Frontiers for Creative Capital

An inquiry into the knowledge economy and creative capital in remote and northern regions has now been in progress for almost a decade. Given that the 'mainstream' knowledge and creative economy studies largely omit peripheries from their analysis, focusing instead on metropolitan areas (Mellander, Florida, Asheim, & Gertler, 2013; Florida, 2014; Bathelt, Feldman, & Kogler, 2011), the discontent with this limited scope led to the emergence of the *creative peripheries* literature.

A metropolitan emphasis is understandable and justified: it is well documented that frontier economies are marginal, vulnerable, structurally unbalanced and functionally dependent (Bone, 2009; Petrov, 2012; Larsen & Fondahl, 2014). A lasting economic disadvantage of northern periphery has been captured by the Harold Innis's 'staple theory' (Innis, 1956) and since then has been similarly interpreted by the variety of regional development theories (see overviews in Huskey, 2006; Petrov, 2012). Distance to innovation hubs, shortage of skilled labor,

truncated education systems, and lack of access to capital are just a few of the common characteristics of peripheral economies (Bourne, 2000). Under these conditions, it is difficult to expect a flourishing creative economy. In a staple economy, the physical nature of a resource, not the knowledge, provides a necessary comparative advantage. Here, regional innovation systems depend on extremely thin 'pipelines' of knowledge managed by a few institutional agents, corporations and government entities (Bone, 2009, Zbeed & Petrov, 2017). There are few competing technologies or other forms of innovation that could challenge path-dependency (Clark, Tracey, & Smith, 2001). It is typical for peripheral regions, which heavily rely on resources or the public sector, to develop a culture of dependency that discourages entrepreneurship and innovativeness (Polèse & Shearmur, 2002; Suorsa, 2009; Paquette, 2008). Moreover, the disconnectedness of the local firms from communities and networks of practice (Gertler, 2005; Lagendijk & Lorentzen, 2007) prevents the acquisition of the tacit knowledge that is crucial for the modern economic development.

However, in the last decade we grew to understand that peripheral regions are not 'hopeless places' (Petrov, 2007) in terms of the knowledge economy and innovation. Path creation, or regional reinvention, when a region develops new forms of competitiveness (Bathelt & Boggs, 2005), is also possible outside of the metropolis. Rural and remote areas experience institutional, economic, and social shifts that produce conditions for inventing or adopting new knowledge. There is now a considerable volume of studies demonstrating the ways in which peripheries benefit from and contribute to creative and knowledge economies (Hall & Donald, 2009; McGranahan & Wojan, 2007a, 2007b; McGranahan, Wojan & Lambert, 2011; Petrov, 2007, 2008, 2014; Stolarick, Brydges, & Matheson, 2012; Asheim & Hansen, 2009; Juhulainen & Suorsa, 2008; Lagendijk & Lorentzen, 2007; Suorsa, 2009; Nuur & Laestadius, 2009; Duxbury & Campbell, 2009; Selada, Cunha, & Tomaz, 2011; Gibson, 2012; Lorentzen & Van Heur, 2012; Slee, Hopkins, & Vellinga, 2015; Escalona-Orcao, Escolano-Utrilla, Sáez-Pérez, & García, 2016).

The main lesson from these regional inquiries is that creative economy in the periphery does not necessarily follow the template of larger metropolitan areas. It takes its own forms and demonstrates unique patterns, while remaining generally consistent with the basic principles of the creative capital theory. As pointed out by McGranahan and Wojan (2007b) "while developed with major metropolitan areas in mind, the creative class thesis seems particularly relevant in rural areas" (p. 18).

The main element of the creative capital theory, as seen from the periphery, is that human agency is a key transformative factor. Agents of transformation are another critical and necessary component of change. These agents can be political institutions, firms or non-governmental organizations. However, ultimately, the agents of change are individuals and their groups who 'write' the innovation history of a region (Bassanini & Dosi, 2001). Creative capital (CC), by an analogy to human capital, may be defined as a stock of creative abilities and knowledge(s) that have economic value and are embodied in a group of individuals who either possess high levels of education and/or are engaged in creative—scientific, artistic, entrepreneurial or technological—types of activities, that is, what Richard Florida (2005; 2014) calls 'the creative class'

It became conventional to recognize human capital, and specifically creative capital, as a major driver of regional development and to consider it as a key element of regional competitiveness in the core and in the periphery (Jacobs, 1969; Desrochers,

2001; Florida, 2014, 2005; Polèse & Tremblay, 2005; Schienstock, 2007; Pelyasov, Galtseva, Batsaev, & Golubenko, 2011). The ability of regions to attract and accumulate creative capital is now firmly understood as a condition underpinning innovative development and knowledge-based economic growth (e.g., Desrochers, 2001; Florida, 2014; Petrov, 2008, McGranahan & Wojan, 2007a; Pelyasov et al., 2012). Finally, there is growing evidence that creative capital is firmly associated with elevated competitiveness and successful economic development (Florida, 2014; Mellander et al, 2013).

Recent studies of innovation in peripheral areas point to an important role of creative capital that, however, must be embedded into social networks and embraced by community (Aarsæther, 2004; Polèse & Shearmur, 2002, Petrov & Cavin, 2013, Freire-Gibb & Nielsen, 2014; Zamyatina & Pelyasov, 2016). As argued earlier, although the preoccupation with large urban regions reflects the concentration of the creative capital in metropolitan areas, it unjustly marginalizes peripheries as study sites. Instead, there are indications (Copus & Skuras, 2006; Petrov, 2008, 2011; McGranahan & Wojan, 2007b) that creative capital is likely to play an important or, perhaps, even more important role, in regional transformation of peripheral areas than in the large cities.

The importance of creative individuals in innovative processes in peripheral areas has been demonstrated in a number of studies from different regions (Aarsæther, 2004; Copus & Skuras, 2006; Doloreux, 2003; Jauhiainen & Suorsa, 2008; Barnes, Hayter, & Grass., 1994; Hall & Donald, 2009; Petrov, 2008, 2011, 2014). Some researchers have observed that less favorable business and social environments amplify the importance of creativity and require individual innovators and firms to be more creative than in the core (Aarsæther, 2004; Copus & Skuras, 2006; North & Smallbone, 2000; Petrov, 2011). Looking at results of creative capital analysis in the Canadian North and other similar reports, Petrov (2008) argued that there is now enough evidence to suggest that the availability of creative capital improves the prospects for future economic transformation and development in the periphery. Much of the literature has since confirmed this claim (e.g., Juhulainen & Suorsa, 2008; Lagendijk & Lorentzen, 2007; Suorsa, 2009; Nuur & Laestadius, 2009; Gibson, 2012; Lorentzen & Van Heur, 2012; Slee et al., 2015; Stolarick et al., 2012). Various case studies have been presented and conceptual approaches have been applied in order to understand and interpret the role and nature of CC outside the urban core. This includes amenities-focused and 'experience economy' studies (Lewis & Donald, 2010; McGranahan et al., 2010; Verdich, 2010, Brouder, 2012; Argent, Tonts, Jones, & Holmes, 2013; Lorentzen, 2013), proximity, connectivity and networks analysis (Stolarick et al., 2012; De Propris, Chapain, Cooke, MacNeill, & Mateos-Garcia, 2009; Whitacre, Gallardo, & Strover, 2014), creative suburbs (Gibson, 2012; Herslund, 2012), creative countryside (Bell & Jayne, 2010; Escalona-Orcao et al., 2016), learning rural regions (Maskell, 1998), CC as an agent of path creation (Petrov, 2008), peripheral regional innovation networks (Suorsa, 2009; Jauhiainen and Suorsa, 2008), to name a few streams of research.

Creative capital in rural and remote areas manifests itself as a *local* driving force of economic development that often provides a way to reconcile the realities of capitalism and local modernities, which rely on communities' endogenous capacities. Due to the endogenous nature of such development, it may be less prone to decoupling and marginalization effects. Development driven by creative economy is an enabling process that not only brings prosperity, but also empowers

communities to define their own economic future. It is also important to point out that this development is not a mere substitution for natural resources as a driver of development. The difference lies in the local embeddedness of the creative capital, and its likely connectedness to local knowledge and institutions. Evidence from success stories shows that economic returns from creative economy tend to be less decoupled with local economies (Voswinkel, 2012), and can dwell on local knowledge and stimulate the creation of civic and economic institutions. This is partially determined by a tight link between creative capital with other forms of the in situ societal capital in the periphery, such as social, civic and other community capitals (Aarsæther, 2004, Petrov, 2011).

These early studies have led to a growing debate about the role of creative capital in economic development in non-metropolitan regions. Many who studied creative capital and the driving forces of its accumulation outside the metropolitan areas have disagreed with Florida's metro-centric approaches and methods (McGranahan & Wojan, 2007; McGranahan et al., 2011; Petrov, 2007). Some developed alternative conceptual and methodological frameworks for measuring creative capital and estimating non-metropolitan regions' ability to accumulate or retain creative professionals and creative economy.

2.0 Creative Capital in the Northern Periphery: Key Conceptual and Methodological Advancements

The traditional representation of CC found in the literature have either been limited to overly restrictive notion of 'high-tech' workers, spanned across a broad range of occupational categories, or relied on human capital measures such as a preponderance of higher education (e.g., Florida, 2002, 2014, Gertler, Florida, Gates & Vinodrai, 2002). However, the standard methodologies of analyzing CC have been found poorly suited for non-metropolitan areas (McGranahan & Wojan, 2007a; Petrov, 2007; Selada et al., 2011). Below, we discuss some of the approaches used to quantify creative capital and knowledge economy non-metropolitan regions. We primarily focus on the two-ring-four-sector model that recognizes and incorporates several kinds of creative capacity in order to account for various types of 'agents of transformation' within the CC.

Florida (2005, 2014) viewed creative occupations to be the most appropriate route to take in measuring knowledge economy. Occupation-based indicators provide a potentially more robust measure of human capital capable of capturing what is missed by the educational characteristics, but is important to economic growth (Florida, Mellander, & Stolarick, 2008; Mellander & Florida, 2006). Most studies looked at the multiple indicators in a combined effort to capture the characteristics of knowledge economy and regional innovation systems (Boshma & Fritsch, 2009; McGranahan & Wojan, 2007a; McGranahan et al., 2011; Petrov, 2008). However, within the literature on creative capital there is a disagreement over how to apply these measures to different geographical regions—outside of North America, or even more specifically, outside of North American big cities. For example, Gertler et al., (2002) adopted Florida's creative class and applied it to Canada city regions. Research that has been done in Europe has noted that Florida's definition of creative class is not suited for their regional context (Asheim & Hasen, 2009; Boschma & Fritsch, 2009). Ashiem and Hasen (2009) reframed creative class within groups of types of knowledge production rather than types of the creative occupation classification as Florida (2014) did. A number of regional case studies have also

adapted the CC metrics to reflect local realities (Mellander, Florida, Asheim, & Gertler, 2014)

In an early attempt to apply creative class principles to rural areas—in the USA—McGranahan and Wojan (2007a) chose not to use certain occupations in education, healthcare and legal that were originally classified as creative class in an urban context. The studies remove them because the authors believed that excluding them would better represent the 'rural' creative class as a whole. They used both education and creative occupation to test economic development and how they are related to each other (McGranahan & Wojan, 2007a; McGranahan et al., 2011). Among studies which focused on rural and remote areas, there has been some attention to measuring entrepreneurial capital since it plays an important role in the connection to creative capital and economic development (Herslund, 2012). The studies devoted to rural or periphery communities changed the occupations used in defining the CC. Educational attainment is also seen as an important factor and is used with creative capital rather than as a separate measure for innovation and economic growth within the peripheries (Petrov, 2007, 2011).

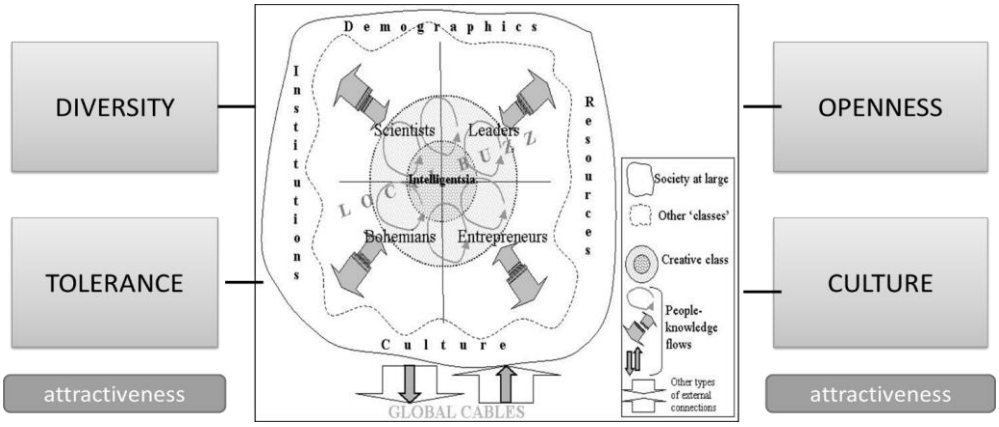
To better define the terms of reference for analyzing CC in non-metropolitan regions, Petrov (2007) offered a two-ring-four-sector conceptual representation of the creative capital that, as argued, appears to better reflect the structure of this form of capital in the periphery. Originally designed to illustrate the structure of the 'creative class'—workers in creative occupations—in the Canadian periphery, the model (see Figure 1) reserves the heart of the creative class for the 'super-creative core'—those "scientists, engineers, professors, artists, writers, 'cultural' figures, [etc., who] produce new forms or designs that are readily transferable and broadly useful" (Florida, 2005, p. 34). The outer ring includes other creative professionals, whose work involves creative problem-solving. Since knowledge and creativity may take different forms (e.g. Asheim & Gertler, 2005), the 'creative class'—and the creative capital it embodies—is heterogeneous.

Based on types of creative activities, the creative class could be subdivided into four major sectors: Scientists—including social and applied scientists, computer programmers, and skilled health workers—, Bohemia, Leaders and Entrepreneurs. This approach extends the creative class beyond highly educated individuals or high-tech employees. It would also be inclusive to the bearers of local, including Indigenous, knowledge who may lack formal education—in its 'western' understanding. Figure 1, building on Petrov (2007, p. 456), also points to the connection between CC and a 'regional creativity system' with its internal people-knowledge flows and global 'cables' linking it to other regions. It also points out four main elements of 'attractiveness' for the system to the CC.

When creative class-based indicators were first used as a way to measure innovation and economic growth, Florida (2002, 2005) utilized three main components to measure of attractiveness to the creative class or also known as 'quality of place'. 'Quality of Place' is referred to as unique characteristics that help to define a place that makes it attractive. There are three main factors that are traditionally considered. These three factors that are believed to attract the creative class are tolerance, technology and talent, also known as the three T's (Florida, 2002). Just as with creative class, there is a disagreement in respect to the three T's for different regions (Asheim & Hasen, 2009; Hoyman & Faricy, 2009). Several other factors have been noted and were used. In the wider context of factors that affect the creative class, research has looked into amenities or service sector industries, proximity, population

density, universities, tolerances or openness—to minorities, women leadership, and gay and lesbian population— (Florida et al., 2008; Lagendik & Lorentzen, 2007; McGranahan & Wojan, 2007a; Mellander & Florida, 2006; Petrov, 2007; Stolarick, Denstedt, Donald, & Spencer, 2010). For the purpose of studying rural regions researchers have looked especially at landscapes, outdoor amenities, tourism, entrepreneurship, cultural and historical features, and proximity to urban centers (e.g., McGranahan & Wojan, 2007a; McGranahan et al., 2011; Stolarick et al., 2010). Many of the original urban-based 'quality of place' indicators have been found ineffective in the rural and northern regions, especially those based on urban understandings of diversity—for example, visible minority ratio, mosaic index, and so forth—while alternative measures appeared to be more useful—for example women leadership index, Indigenous population ratio—(see Petrov & Cavin, 2013; Petrov, 2014).

Figure 1. Two-ring-four-sector model of the creative class within a 'regional creativity system'



Source: Authors.

Overall, the literature seems to point to the following 'quality of place' indicators for rural regions and northern communities. The important demographic measure is population density, since high density increases the chance for personal interaction which could lead to knowledge and innovation to be transferred (Knudsen, Florida, Stolarick, & Gates, 2008). Knowledge spillover is an important part of innovation and knowledge production. Measuring proximity or distance between communities and to major urban centers is considered and is a critical indicator of attractiveness (Knudsen et al., 2008; McGranahan & Wojan, 2007a; Stolarick, 2012). Tolerance is the acceptance of and openness to individuals, groups of people, and new ideas. Tolerance has been viewed as an important characteristic in attracting and maintaining a strong presence of CC (Florida, 2014). It is a measure of attractiveness through social diversity and degree of openness that helps to insure the notion of a 'low barrier of entry' which is viewed as attractive to the creative class workers (Florida, 2014; Gertler et al., 2002). In order to measure tolerance and openness of a community the literature used the Women Leadership Index (WLI), Visible Minority Index (VMI), and Mosaic Index, with the first index being considered most effective in the periphery (Petrov, 2008).

Another set of non-metropolitan 'quality of place' indicators deals with amenities and tourism. Tourism helps promote community amenities which can be a key

component in helping to attract creative people. These amenities can be defined as services, entertainment, recreational amenities, 'artistic havens', and cultural and historic features. Amenities can help to support a vital tourism community that can attract long-term residents with creative potential (Aarsaether, 2004 Florida, 2014; Stolarick et al., 2010). Not only tourists are attracted to the amenities and 'quality of place' provided though tourism industry, but creative workers are also lured in (Beyers & Lindahl, 1996; Florida, 2014; Stolarick et al., 2010; Swenson & Eathington, 2003). Finally, studies of single industry towns and periphery regions in Canada (O'Hagan & Cecil, 2007; Petrov, 2011) have demonstrated that resource dependent communities showed less innovation and knowledge production. Some argued that this is due to the fact that these communities lack CC and are unable to embark upon new paths of economic development (Petrov, 2007). Therefore, it is important to measure the dependence of these non-metropolitan communities on natural resources—agriculture, forestry, and mining—and manufacturing industries.

3.0 Creative Capital and Development in the Periphery: What Do We Know?

Contrary to the metropolitan bias, the results from multiple studies indicate that northern communities are not places fully deprived of CC. Creative capital in northern regions exists, and some communities could become centers of regional reinvention. The analysis indicates that the CC in northern regions is diverse—represented by four major groups—and the groups are clustered. However, there is a considerable—and systematic—difference among various types of communities. For example, communities with large Indigenous populations are strong on cultural CC, but are typically weak on entrepreneurial capital—this mismatch points to a fundamental impediment to developing profit-making cultural economies in Indigenous communities.

In respect to the conceptual discussions, it is important to point out that findings from rural and northern regions, while being in line with the overall 'creative capital theory', counter some stylized representations and illuminate a peculiar role, structure and geography of the CC in remote, peripheral areas. At the same time, the role of CC in 'new path creation' could also be quite distinct.

Based on the scope of the research to date, the list below incorporates the most important findings that elucidate the nature and dynamics of CC in the periphery. In general, peripheral regions demonstrate that the creative capital 'logic' is applicable in the peripheral context. This indicates that the major relationships are upheld, and the behavior of the CC metrics is very much like the rest of the world. At the same time, there are important differences, which emphasize the unique place of peripheral areas in the creative capital theory and give additional importance to further studies of the non-metropolitan CC and its role in economic development.

- *Increasing role of creative capital—and demand for creative capital—in advancing economic well-being, fate control and human development in general.* Although by a standard definition CC in the North is underdeveloped, it could be argued that this representation no longer reflects the variability and diversity of northern regions, some of which demonstrate substantial levels of creativity that is based on non-codified informal knowledge and therefore might not conform to the stylized notion of CC. On the other hand, there is a strong theoretical argument that CC is critical

for economic development and socio-economic transformation in the North as it often becomes the engine of economic reinvention and revitalization of a region (e.g., Selada et al., 2011).

- *Clustering and synergy of creative capital in the periphery.* There is evidence of close associations among different CC indices. Different groups of creative capital which are clustered in space attract each other and reinforce the region's innovative potential. Separated or disjoined, these components are much less powerful. In addition, a strong creative capital coincides with top levels of attractiveness. The idea here is that 'creative synergy' is a critical condition for utilizing local creative capacities.
- *Complex relationships between creative capital, social and civic capital.* The 'success stories' of adopting and creating knowledge in the periphery suggest that there must be a number of ingredients available in order for innovation to take a root (Petrov, 2011). It appears that the best innovation environment is built though community synergies, where creative and social capital reinforce each and when the innovation process engages community institutions and receives support from public organizations (see also Freire-Gibb & Nielsen, 2014). This, indeed, is a different mix from a traditional combination of factors thought to be inducive for innovation in core areas (Feldman, 2000; Florida, 2014). In other words, in peripheral areas a 'weakness of strong ties' (Granovetter, 1973) may become a strength, if an innovative activity builds appropriate networks and involves the community. By the same token, an innovator in the periphery is not an "atomized subject, apparently, with a preference for intense but shallow and noncommittal relationships" (Peck, 2005, p. 746), but one who is ready to embrace and cooperate with the community.
- *Peripheral disconnect.* A geographic disconnect between the entrepreneurial and other forms of CC.
- *Uneven geography and differentiation.* Studies reveal a very uneven geography of the creative capital with strong concentrations. It is characterized by the dominance of economically privileged, larger communities, northern 'creative hubs'.
- *High mobility of creative capital in the North.* Prevalence of 'brain drain', 'brain turnover'—intensive in- and out-migration of creative capital—and 'brain waves'—surges and dips of CC associated with the boom-and-bust economic cycles.
- *Possible positive impacts of remoteness on creative capital accumulation* (for example Copus & Skuras, 2006; Petrov 2008). Remote areas may have a higher concentration of CC than more southerly located, less remote peripheral areas. This phenomenon, while primarily caused by the influx of temporary migrants employed in extraction industries and by the metropolitan 'backwash', may also indicate a higher level of creative potential, independence and self-reliance of remote areas compared to less remote peripheries. Remote settings may also be more attractive to creative individuals and provide better conditions for retaining local creativity, for example, opportunities to stay engaged—or become re-engaged—with

nature, conduct traditional subsistence activities, make a visible impact on a community, and so forth.

- *Bifurcation of 'bohemia'*. Two distinct types of cultural creative capital co-exist in northern communities, the Indigenous and urban-western. These two groups have dissimilar characteristics and require different conceptual and analytical approaches.
- *Irrelevance of traditional diversity indicators of 'quality of place' for CC accumulation in the North has been shown in earlier studies* (Petrov 2007, 2008). Instead the Women Leadership Index once again appears to be a more apt indicator of openness and low barriers of entry in a northern society.
- *Key role in economic development*. In respect to the role of CC in economic development in northern communities, we share the sentiment expressed by others (Aarsæther, 2004) that innovation in the periphery may require more creative effort, originality and ingenuity to overcome barriers and capacity shortages than in central areas. We can also argue—although evidence is still more anecdotal than systematic—that innovation—and even individual acts of innovation—in the periphery can have stronger impact on community's-region's economic path, and can be more pivotal for a 'new path creation' for a given remote locale.

In addition, there is some evidence that innovation in the periphery does not necessitate spillovers from the core (Petrov, 2011). Knowledge production in entrepreneurial and public spheres largely dwells on local assets, which, under certain circumstances, may allow changing the development trajectory. Entrepreneurial, applied science and artistic CC, not formal educational attainment, appear to be the best predictors of the knowledge economy specialization. This reinforces the view that innovation in the periphery must be approached broadly, because it is embedded in various domains of local societies, arguably, to an extent far exceeding innovation in the core areas.

This, however, does not cast doubt on the 'learning region' perspective (Morgan, 1997) and knowledge transfer as an important instrument of regional development. Peripheries can and do 'learn' and benefit from knowledge spillovers, as demonstrated in numerous studies. Similarly, remote regions need to build strategic connections to global markets and centers of innovation; they have to import technologies in order to compete. However, peripheral areas also have a degree of innovation autonomy, particularly when concerned with entrepreneurial, public, and civic innovations. The bottom line is that transformative events for regional 'reinvention' can come from within the remote region itself.

4.0 Creative Capital, 'Community Capitals' and Sustainable Development in the Northern Periphery

A development paradigm based on engaging creative and knowledge economy is a possible ingredient of a larger *sustainable development strategy* for northern regions, especially urban settlements. Its contribution is most explicit in respect to economic sustainability, but may also support social and environmental elements of sustainable development. Bringing and sustaining creative capital provides a new opportunity for northern urban communities to achieve diversification of their

economic base, break away from the boom-bust cycles, reduce dependency on external economic and political actors and ultimately improve quality of life of local residents. Some northern cities have considerable concentrations of highly educated workers and creative professionals. These are predominantly administrative and economic centers, such as Yellowknife, Juneau, Salekhard and Anadyr'. While unavoidable, the leakage of creative professionals from the North is a problem that can be partially alleviated if cities, regions and national actors introduce meaningful efforts to attract and retain CC in the North.

Based on collective evidence, we argue that CC could—and should—be viewed as one of the 'community capitals' (Emery & Flora, 2006; Flora & Flora, 2008; Parlee, 2015) that define resilience and adaptive capacity of northern communities facing rapid social, economic and environmental changes. Adding CC to the community capitals framework is an important step in recognizing its pivotal role in sustainable community development. As mentioned, in the non-metropolitan regions, CC has complex relationships with other forms of societal capital, such as social, civic or human capitals (Petrov, 2011). While in the metropolitan context social capital generally inhibits creativity (Florida, 2014; Hoyman, McCall, Paarlberg, & Brennan, 2016) there are indications that in peripheral areas they work together to build new economic opportunities. Creative and human capital are typically complementary, although their specific roles may vary (e.g., Mellander & Florida, 2014).

Sustainable development strategies in the periphery should come hand-in-hand with policies targeting CC, which are based on the better understanding of its needs and behavior. This pertains both to creative professionals, entrepreneurs and to local artisans and crafters. Investing in CC will likely stimulate economic diversification and local business growth, and, ultimately, create conditions for a long-term competitive advantage. It may also serve to support protecting the environment—for example, through newly created technologies or a CC's demand for high environmental standards, and so forth—and, if implemented correctly, promote social justice and equity. Albeit only a few northern communities could strongly benefit from building a knowledge economy, it is certainly a key ingredient necessary for achieving sustainable development.

5.0 Conclusions and Some Future Directions

This paper provides an overview of the emerging theories and evidence about the role, nature and dynamics of creative capital in remote regions. The evidence collected in the last decade gives us confidence to conclude that creative capital and the economy it generates have relevance in the peripheries. We can also recognize that while many important approaches and findings elucidated in the metropolitan-focused literature hold true in the periphery, there are distinct features and processes associated with the creative capital in remote places. They range from an elevated role of individual inventors to a persistent entrepreneurial disconnect to a peculiar role of social capital, among others.

In the periphery one finds evidence that is sometimes at odds with the convention or extends and re-invigorates existing theories. For example, an increased physical remoteness from urban hubs may not always be an impediment for creative economy as other place-specific factors could supplant the distance decay. Spillovers may or may not be necessary for innovation because of inventor's orientation on local assets and community capitals. Social capital may play a positive or even driving role in creative economy, although the synergy of community capitals is required for this

to happen. Finally, the findings from the northern periphery re-emphasize the importance of various kinds of creativity and innovations—not just technological. They also elevate the role of individuals, when circumstances often demand more creativity from an individual to be a successful inventor.

Although the recent decade delivered a breakthrough with respect to our understanding of the knowledge economy and creative capital in the peripheries, this research is still in its infancy. We have just begun unpacking this complex subject from theoretical, methodological and policy perspectives. A lot more case studies will be needed to solidify the creative peripheries knowledge base. There is more to learn regarding the structure and functions of CC, the role of distance and proximity, and the importance of pull and push-factors—such as harsh environment, housing problems and isolation—for creative capital accumulation. Future research should also consider possible negative externalities of creative economies, such as economic inequality, housing affordability, environmental impacts, over-consumption, and political infighting. Further critical analysis of CC strategies applied in smaller cities using traditional 'Floridian' approaches is also needed.

Another theme is the potential link with Community Capitals Framework (CCF) and sustainable development. We need to better understand the role of CC in community 'path creation', resilience and adaptive abilities to meet the challenges presented by changing social and natural environments. In other words, we should strive to better incorporate rural-peripheral-northern CC scholarship into the planning and development analytical frameworks used in these regions.

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