

Tolerance, Amenities & Economic Systems:
Regional Development of the Knowledge Economy

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Knowledge Economy

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Preface

This report is the result of a project carried out as part of the Masters Programme in Urban and Regional Planning at the Department of Human Geography, Stockholm University. The programme includes an optional 10 week course entitled 'Project on assignment in Urban and Regional Planning'. The course consists of an independent project where the student is based in an organisation external to the Department of Human Geography.

Mitchell Reardon, a first year student in the Masters Programme, conducted his research requirements for the course at Nordregio. He was connected with the 6th Framework project 'EURODITE – Regional Trajectories to the Knowledge Economy'. In relation to this project Mitchell carried out a literature review with a special focus on the creative class as a regional stimulus policy. This report discusses, compares and contrasts the concept of the creative class and its use in relation to regional development policies.

Although Mitchell was attached to the EURODITE project, he carried out the literature review and wrote the report independently. I have read and discussed earlier versions of the paper, and Mitchell's supervisor at the university, Associate Professor Brita Hermelin, has also commented on the final draft. However, it is important to stress that the current report is Mitchell's own work.

Since I believe that the report is relevant for a wider audience interested in the issues of the creative class and regional policy, Nordregio has decided to publish the report in this electronic working paper series.

Stockholm June 2009

Margareta Dahlström
Deputy Director

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I. Introduction

Economic growth is an integral factor in the successful development of regions the world over. The rise of mass production and consumption during the latter half of the 20th century was accompanied by strategies that saw regions focused almost entirely on the attraction of firms through a variety of measures that enhanced the economic attractiveness of an area through fiscal incentives and infrastructural improvements. However, in recent years, an economic transformation has challenged traditional regional stimulus policies and has led some theorists to reconsider the most effective methods to promote economic development in Western nations. Rather than focusing primarily on the importance of attracting firms, some academics have suggested that in the knowledge economy, the attraction of individuals is the primary source of economic growth.

This paper reviews the most pertinent theories regarding this topic, including the fashionable creative class notion, the related skilled cities theory and the contrasting local production systems argument. Given its meteoric rise in recent years, the human capital based, creative class theory will be examined in greatest detail. The second segment of the paper will offer a review of what amenities are deemed to be important for whom, a

foray into the theory's applicability in Europe, an analysis of its most controversial statistical measures and a survey of what makes it distinct from traditional human capital measures in respective subsections. In the third chapter a review of the skilled cities theory, which is also based on the centrality of the individual, will be undertaken to illustrate the similarities and differences among the human capital theories that are currently in vogue. The fourth section of the paper examines the local production systems argument that espouses the idea that while human capital is important, it has not eclipsed economic systems as the central component of regional growth. This section parallels the creative class segment and offers a review of local production systems policy prescriptions and their applicability in Europe. Although there is significant variation amongst the theories being reviewed, there are strong ideas that are quite closely related on all sides. Most importantly, each argument highlights the complex nature of economic development and argues against the simplification of economic policy into a chicken versus egg argument. Along this line of thinking, there is agreement amongst contemporary theorists from each theory that individual factors are less important than the sum of all parts; however the best combination of methods to stimulate economic development remains contentious.

II. The Creative Class

This section offers a survey of the creative class theory, a concept that has gained prominence amongst academics and policymakers alike since the 2002 release of Richard Florida's *The Rise of the Creative Class*. A brief description of who is considered to be a member of the creative class will be followed by a review of the theory. Subsequently, the role of amenities as attractants will be reviewed at length, including their applicability in a European context, followed by policy prescriptions advanced in creative class theory. The section concludes with several criticisms of the concept, including challenges to the gay and bohemian indices, followed by a critique of creative class policy ideas.

II. a. Defining the Creative Class

The creative class, as defined by Richard Florida (2002a), is made up of the workers that regions are most in need of to promote growth in the knowledge economy. Here, a core creative group whose economic function is to "create new ideas, new technology and/or creative content" is comprised of people in science and engineering, architecture and design, education, arts, music and entertainment industries (Florida, 2002a, 8). Beyond the creative core, there is a more broadly defined group of "creative professionals" that regularly engage in complex problem solving that requires independent thinking and who have high levels of education or human capital (Florida, 2002a, 8). The creative class is defined by occupational, rather than educational, measures and thereby includes a small but important group of contributors, including entrepreneurs who did not complete university and artists who have no formal training (Mellander & Florida, 2006). The creative class makes up approximately one third of employment in developed nations and though smaller than the service class, is seen to be considerably more wealthy, earning nearly twice as much (on average) than workers in the service and manufacturing classes (Florida, 2002a, 72). To avoid confusion with Savage et al.'s (1982) definition, Florida's (2002a) service class is made up of individuals employed in jobs like food prep, grounds cleaning, building maintenance, personal care, administrative offices, and community, social, and protective services, while Savage's definition focused primarily on the emerging knowledge workers who likely fall into Florida's creative class. Florida (2002a, 69) also argues that the creative class is the "norm-setting class of our time", and a social group that places utmost importance on the notions of "individuality, self-expression and openness to difference" in cities. Finally, it is argued that the creative class is attracted to stimulating, creative locales that offer opportunities, amenities and diversity and are increasingly willing to relocate in search

of such attractants (Florida, 2002a, 11).

II. b. Creative Class Theory

There has been a growing body of academic work suggesting that the attraction of a skilled labour force is now of greater importance than the attraction of large firms in the promotion of regional economic development (Clark, 2002; Florida, 2002, 2005, 2008 & 2009; Mellander & Florida, 2006; Glaeser & Saiz, 2003; Glaeser & Gottlieb, 2008; Markusen & King, 2003; Markusen et al., 2004). It is argued that the rise of the knowledge economy has altered the dynamics of employment and that in this new system firms must do more to attract skilled workers and remain competitive.

The increased mobility of people, goods and information coupled with the declining prevalence of mass-production has transformed the economies of Western nations. Individuals are no longer bound to an area to the same extent, and skilled workers are increasingly sought after by firms in new industries with more flexible work forms (Florida, 2002a). This transformation is well illustrated by former Hewlett-Packard CEO Carley Fiorina, who informed a gathering of American governors "Keep your tax incentives and highway interchanges; we will go where the highly skilled people are." (Florida, 2002a, 6).

The argument continues that the increased mobility of people, goods and information has also transformed the manner in which regions compete for talent and firms. Where regions once competed locally, often on the basis of proximity to natural resources to attract business; technological advancements that have facilitated the movement of knowledge, people and goods have fostered an increasingly fluid global market for firms to locate within (Florida, 2008). This has led to greater international competition amongst regions for the same firms, something illustrated by the shift of the manufacturing sector from Europe and North America to Asia and beyond. In this increasingly competitive global climate, regions must do more to attract individuals and firms (Markusen et al., 2004).

Further, a combination of basic services, amenities, institutions and societal attitudes may entice and foster a talented labour force and encourage creative development, providing regions with greater opportunities for economic success (Florida, 2002a, 2002b, 2005a, 2005b, 2008; Markusen & King, 2002; Clark, 2002). The argument continues that amenities such as culturally vibrant urban centres with numerous cafés, nightclubs and performing areas, ideological openness and diversity combined with

traditional attractants are central to enticing a skilled labour force who seeks openness and individual fulfillment (Florida, 2002, 2005a, 2005b, 2008; Markusen & King, 2002; Markusen et al., 2004).

II. c. Human Capital Amenities

The amenities central to the creative class argument can be primarily divided into two groups known as natural and concrete amenities (Clark, 2002). Natural amenities are primarily made up of “pure amenities”, which are “... nonproduced (sic) public good(s) such as weather quality, that have no explicit price.” (Clark, 2002, 3). For the sake of clarity, it should be noted that some government services such as education and public safety may also fall into this category (Clark, 2002, 3), though given the widely differing quality of such services that can exist across a single region it is questionable whether they should be categorized in the same manner as climate. Natural amenities are generally defined as preexisting environmental features that can be enhanced, but very rarely created (Palm Island in Dubai being a notable exception) (Clark, 2002, 11). They are based primarily on geography and climate, including measures such as winter temperatures, amount of winter sunlight, summer temperatures, seasonal humidity, topographic variation and water area (Clark, 2002, 11).

Among natural amenities, climate has ranked consistently high as an important factor that influences locational preferences (Glaeser & Saiz, 2003, 39) (Florida, 2008). In the United States, a nation with a wide range of geographic and climatic conditions, warm and dry weather has been one of the most important predictors of population growth during the later part of the 20th century (Glaeser & Saiz, 2003, 9). This corresponds with findings that indicate the growth of warm, dry cities has outpaced growth in cold, wet metropolitan regions during the latter half of the 20th century (Glaeser & Saiz, 2003, 10; Florida, 2008). Additionally, factors such as the ocean, other bodies of water, mountains and natural landscapes are seen to be attractive and are often indicative of future population growth (Florida, 2008).

Before considering which segments of the population are argued to be most drawn to these natural amenities, it is important to note that the appeal of the warm, dry climate has increased significantly with the advent, and subsequent proliferation of the air conditioner (Glaeser & Saiz, 2003, 39). Therefore, the findings on climatic attractants are more pertinent to areas that have experienced widespread use of air conditioning, though other forms of indoor climate control may act as a substitute in limited cases. Finally, growth in regions with attractive climates in the U.S. has been facilitated by low construction costs and more recently sub-prime mortgages in recent years, factors that have been fundamentally changed as a result of the continuing housing and financial meltdown (Florida, 2009).

As the name implies, concrete amenities are artificially produced. They can include a range of items and services, from cultural facilities (large and small), cultural events, public services (education, healthcare, transportation, etc.), available commerce (stores or restaurants), sports facilities (for participation and spectators) and the attractiveness of the built environment, amongst other things (Clark, 2002). Concrete amenities can be constructed, promoted or enhanced through public policy and may also be the result of private initiatives, often in response to market demands. This offers regions that do not have a profusion of natural amenities the opportunity to entice a skilled labour force through other measures (Florida, 2008).

Though certain factors such as neighbourhood safety are nearly universal, what individuals perceive to be attractive when considering residence varies significantly (Clark, 2002, 15). This is most evident through a demographic comparison, though variation exists within respective demographics as well. In regards to natural amenities, evidence suggests that the elderly or ‘empty nesters’ are most likely to be attracted by environmental characteristics (Clark, 2002, 36). Further, it seems that individuals who have registered patents with the U.S. patent office between 1975 and 1999 are likely to be attracted by locations with a wealth of natural and constructed amenities (Clark, 2002, 21). Finally, it appears that recent university graduates in the U.S. are less inclined towards natural amenities, but more interested in concrete amenities (Clark, 2002, 16) and are often willing to spend a disproportionate amount of income on basic necessities to be located in concrete-amenity-rich regions (Markusen et al., 2004, 2). These findings suggest that the indicators of desirability used to measure one’s surroundings vary throughout one’s lifecycle and that regions are capable of tailoring policies to attract certain types of households. Further, it suggests that regions seeking to attract a young, talented workforce are capable of doing so, even if there is a scarcity of natural amenities. Similarly, it is worth noting that natural amenity variables have a stronger correlation to population growth as a whole, than to growth in human capital, indicating that natural amenities cannot necessarily drive knowledge economy growth on their own (Glaeser & Saiz, 2003, 7).

II. d. Climate as an Amenity in Europe

Climate has played an irrefutable role in population growth over the latter half of the Twentieth Century in the United States, yet it is questionable whether these findings are applicable elsewhere. In Europe, there is little evidence that this trend exists, suggesting that climate is an American-centric growth factor. In Sweden, Nedomysl (2008) found that climate was of minimal importance to individuals when considering areas for relocation. Nedomysl (2008) also found that people in Southern Sweden generally prefer its southern climate, while people in the north prefer their northern climate. While this may suggest that people have migrated to their preferred climatic zone already, the

author notes that they are more likely to have simply come to enjoy the climate where they live (Niedomysl, 2008, 1124). This assertion is supported by another recent study that found Sweden to have a relatively low migration rate in recent years, in contrast with higher rates of migration across Sweden in the past, implying that people are more likely to become accustomed to their existing climate, rather than moving in search of a “better” climate (Hansen & Niedomysl, 2009). However, some aspects of geography appear to be important when Swedes consider relocation. This was illustrated by Niedomysl’s (2008) findings that people ranked the importance of a “scenic landscape” second only to healthcare at the ‘area’ determinants level, which was situated between regional and neighbourhood determinants in a Swedish survey of residential locational determinants. Similarly, Marlet and van Woerkens (2007) found little evidence to correlate creative class movement or population growth in the Netherlands with climate, though this should not be surprising given Holland’s small size and minimal climatic variation.

II. e. Amenities as an Attractant in Europe

As has been the case with some findings in the U.S., the role of amenities as a factor in determining long-term residence at a regional level has been questioned in Europe as well. Niedomysl (2008, 1113) found that social (primarily referring to the “location of family and friends” or “returning to earlier place of residence”) and occupational factors were most influential, when considering long distance moves. Amenities were more important with some groups however. In terms of specific demographics, as was the case in the U.S., young people were more attracted to places with high occurrences of concrete amenities and places that were deemed to have vibrant cultural scenes (Niedomysl, 2008, 1118). Additionally, in parallel with findings from the U.S., older people were more attracted to natural amenities and one group (46-64 year olds) was more attracted to a southern climate (Niedomysl, 2008, 1123). Highly educated individuals were also more likely to emphasize the importance of career opportunities than their counterparts, something that is likely explained by the greater educational investment such individuals have made (Niedomysl, 2008, 1123; Storper & Scott, 2009). Niedomysl (2008, 1124) also found that highly educated individuals put more emphasis on cultural facilities than other groups. Finally, the study found that people with high incomes were less concerned with high taxes, something that runs contrary popular economic conventions and has been a mainstay of Fordist economic stimulus policy (Niedomysl, 2008, 1124). This is an important finding in regards to economic stimulus given that in many cases, regions strive to attract talented individuals by reducing the tax rate, something that does not seem to be of benefit in Sweden. A Dutch study found similar results regarding the varying degrees of attraction towards certain types of amenities amongst demographics where deviation was primarily a result of age (Bontje & Musterd, 2005). Additionally,

Bontje and Musterd (2005) found that different types of knowledge economy workers were attracted to different types of housing. What can be defined as part of Florida’s “super creative core”, including artists and architects was strongly over-represented in areas close to the city centre, while ICT workers demonstrated a strong preference to suburban style living (Bontje and Musterd, 2005, 2). The findings from the aforementioned studies suggest that European countries display some similarities with the U.S., particularly in regards to age related preferences, but other factors, such as climate, do not appear play the same role as locational determinants. Thus, when applying creative class policies in European regions, policy makers must be aware of the differences that exist and tailor policies to their respective regions, or risk implementing impotent economic stimulus strategies.

II. f. Creative Class Policy Prescriptions

Proponents of the creative class theory argue that people (at least the ones who can afford it) expect to have quality basic services, and thus the bare minimum will not suffice in the competition to attract a skilled labour force (Florida, 2008, 163). To be clear, the existence of high quality basic factors is still very important in attracting high human capital individuals and their families, but other features have gained prominence as well. Fostering a locale that is seen to be a good place to raise kids and that is good for meeting people and making friends is considered essential (Florida, 2008, 182). Furthermore, it is argued that people are attracted to locations that are safe, have quality housing and have high quality schools in close proximity (Florida, 2008, 182). Finally, a neighbourhood’s physical beauty along with high quality parks and open spaces are factors that have been found to be appealing for individuals seeking a new neighbourhood (Florida, 2008, 182). Though the desire for such services is not ubiquitous, the aforementioned factors provide a solid basis on which cities and regions should build in their pursuit of talented individuals (Florida, 2002a, 2008; Glaeser, 2003, 2004; Glaeser & Gottlieb 2008).

According to creative class theorists, beyond basic services and physical beauty, people are increasingly seeking out luxury needs, including cultural attractants, parks and places that facilitate interaction (Florida, 2008, 163). These factors have risen significantly in importance and it is now argued that they are “at least as” important as land cost and wages in the determination of residence among individuals with high human capital (Florida, 2008, 136). Further, it has been suggested that though upper-level managers in highly dynamic companies may only be weakly influenced by concrete amenities, their recognition of the importance of such amenities to staff, both present and future, plays an important role in deciding on the location of future offices, as illustrated by Microsoft, Intel and Hewlett-Packard’s respective moves to Seattle and Portland (Clark, 2002, 36). The lure of amenities was also

recently illustrated in a study (Sommers and Carlson, 2000) that found about 50% of Seattle's high tech firms and employment were located in a 'high amenity' district of the city (Florida, 2002b, 58). The importance of amenities is illustrated by artists, who gravitate to high amenity areas (Markusen & King, 2003, 14), and who are also seen as indicators of creative growth (Florida, 2002b).

Areas with numerous cultural amenities are seen by supporters of the creative class theory to provide more opportunities for people with similar interests to interact and potentially exchange ideas, thereby further enhancing the creative capacity of a region (Florida, 2008, 120). Additionally, it has been proposed that the vibrancy of the city is a significant source of creative energy in itself, a factor that can foster the creative, and thus economic, development of a city or region (Jacobs, 1961). Further, given that like minded people tend to cluster; cultural venues can act as a powerful magnet in drawing talented people to a region (Florida, 2008, 204). Such arguments have been supported by high concentrations of human capital in culturally vibrant cities such as San Francisco, Los Angeles, Portland (Florida, 2002b, 65), London and Paris.

The creative class theory further suggests that a proper combination of cultural amenities and high quality basic services provides cities and regions with a distinct opportunity to cultivate a positive image that can encourage tourism and long-term movement. The exploitation of a region's image, or the 'symbolic knowledge' associated with an area can provide a region with a localized competitive advantage and is thus a central reason for the promotion of cultural activities, beyond the concrete benefits experienced by area residents. Urban and regional branding have been highlighted as an important policy measure by proponents of the creative class and given the current influence of such ideas, will likely continue to play an important policy role in the competition to attract a talented labour force. Cultural amenities are argued to be a central facet of such branding and are a measure on which many regions attempt to capitalize.

An active cultural scene may be an indicator of a city or region's propensity to openness as well. It is suggested that numerous cultural events and venues serve to demonstrate the presence of multiple subcultures, thereby providing an indication of an area's tolerance and openness to diversity (Florida, 2005, 2008). Openness, primarily measured through levels of diversity and tolerance has been demonstrated to be a key indicator of a region's creative and economic output (Florida, 2002a, 2005a, 2008; Markusen & King, 2003). Diversity and tolerance are suggested to be indicators of a region's openness to individuals with a variety of backgrounds whereby everyone can find a group within which they feel comfortable. Further, tolerance to different ethnicities and sexual orientations (as measured by immigration rates and the 'gay' index) have been strongly linked to high tech industry concentrations, as

has been the case with high levels of bohemianism (as measured by the bohemian index) (Florida, 2002a, 2002b). High levels of these factors are indicative of regions that have low entry barriers, a key aspect of regional economic development according to proponents of the creative class (Florida, 2002b, 65). Florida (2002b, 66) argues that this is evidenced by the fact that six of the top ten bohemian regions are also among the top ten high-tech regions in the United States.

To be clear, the 'gay index' is a measure that is based on census information regarding the sexual orientation of the respondents. When the index was developed, such information was not directly available in the U.S. (the index's country of origin) and thus the survey was based on 1990 census results whereby individuals who had responded that they were 'unmarried partners' rather than 'roommates' or 'unrelated adults' and of the same sex, were deemed to be gay. (Florida, 2002a, 255)

Further, the 'bohemian index' is a measure based on occupational data. It is essentially a location quotient that measures the "percentage of bohemians in a region compared to the national population of bohemians divided by the percent of the population in a region compared to the total national population." It is seen as an improvement over previous measures of cultural and lifestyle amenities, in that it provides a direct measure of the producers of 'cultural and creative assets', and does not differentiate between high and low culture. (Florida, 2002b, 59)

While cultural amenities are seen to serve an important role in helping to attract a skilled labour force, they can also be valuable in helping revitalize existing communities (Jacobs, 1961). There has been a general trend towards large-scale projects at the urban and regional levels, something that has been criticized by Florida and associates (Florida, 2002a, 2005, 2008; Clark, 2002; Markusen et al., 2004). Rather, they demonstrate how community based groups are capable of making significant impacts on their surrounding neighbourhoods with only minimal economic resources (Stern, 2002). Such groups are often only made up of a small number of people, have very small budgets and have little to do with tourism, jobs or revenue, but have been demonstrated to contribute substantially to community development, particularly in low income neighbourhoods (Stern, 2002).

The benefits of a vibrant community culture are well illustrated in the case of Philadelphia during the 1980s and 1990s, where neighbourhoods with a vibrant arts scene were almost three times as likely to see a simultaneous decline in their poverty rates and increase in gross population (Stern, 2002). The value of local cultural activities was also evident among "block groups" (an area of approximately six city blocks) with higher than average cultural participation rates. In these block groups, the population grew by an average of nearly 20 residents per

block group, as compared with an average decline of 90 residents per block group amongst neighbourhoods in the lowest quarter of the census for cultural participation (Stern, 2002). Further, results were not limited to specific income demographics, with growth twice as likely in culturally active low income neighbourhoods in contrast with less culturally vibrant low income areas (Stern, 2002). What's more, an active cultural scene was more likely to attract "smaller, slower redevelopment efforts", or 'gradual money' which promotes organic growth, rather than 'cataclysmic money' (Stern, 2002), which floods a neighbourhood and forces many long-term residents out (Jacobs, 1961). Thus, it appears that, at least in Philadelphia's case, cultural activities and venues can serve as places for people to meet, strengthening community ties, thereby reducing the risk of population turnover, while also helping to encourage population growth. Finally, Stern (2002) noted that neighbourhoods with higher levels of economic and ethnic diversity were most likely to have higher levels of cultural engagement. This suggests that although cultural activities may not necessarily make significant direct contributions to the economy, they serve to foster the community in ways that encourage social and economic success. According to creative class theorists, the true economic significance of culture cannot be measured solely in traditional economic terms (Markusen & King, 2003). Cultural amenities attract newcomers but also help to improve existing areas and societal structures; thereby enhancing the livability and attractiveness of an urban area as a whole, which can improve a region's economic climate one neighbourhood at a time (Markusen & King, 2003).

II. g. Challenges to the Bohemian Index

The reliability of the bohemian index as an indicator of economic growth associated with the creative class has been questioned on several fronts. Edward Glaeser (2004, 2) has disputed the idea that creative people are attracted en masse to regions with a high percentage of "bohemian types who like funky, socially free areas with cool downtowns and lots of density." Rather, he argues that many creative class individuals are attracted by the same things as most well-off people; including large suburban lots with easy commutes, safe streets, good schools and low taxes (Glaeser, 2004, 2). Glaeser (2004) also finds that Florida's own results are flawed, in that the correlation between the bohemian index and growth in the U.S. is driven entirely by two cities; Las Vegas, Nevada and Sarasota, Florida, neither of which is traditionally considered a bastion of bohemianism (2004, 4). When these two cities are excluded from the national results, education becomes quite significant and bohemianism is negligible (Glaeser, 2004, 4).

Similar results were demonstrated in the Netherlands, where Marlet and van Woerkens (2004, 2616) found that the significance of the bohemian index relied entirely on one city, Amsterdam, out of fifty. They also found that

high levels of skilled and creative people in a region were conducive to a highly productive labour force and offered a good climate for new businesses, but they expressed doubts as to the relationship between these factors and openness as measured by the bohemian and gay indexes (Marlet & van Woerkens, 2004, 2620).

Scott and Storper (2009, 155) question the confidence one can have in the bohemian index hypothesis, noting that although tolerance for cultural diversity and minority lifestyles has grown significantly in many American regions, segregation within metropolitan areas continues to prevail. They continue that while diversity exists at a regional scale, spatial segregation on the basis of class, colour and lifestyle continues and may in fact be deepened by the polarized economies that are developing in regions with a strong knowledge economy presence (Storper & Scott, 2009, 155). As with Glaeser, they also question how many 'creative' people choose dense and diverse locales over upscale and relatively homogenous neighbourhoods (Storper & Scott, 2009, 156).

II. h. Challenges to the Gay Index

The gay index, another indicator of diversity employed in the development of the creative class theory has also been challenged. In opposition with Gates and Florida (2001), Glaeser (2004, 4) found that the gay index had a slightly negative impact on population growth. Additionally, when correlated with education levels, the affects of a strong concentration of gays has been shown to be negligible (Glaeser, 2004, 4). Based on these findings, he argued that these results should not be interpreted as a suggestion that gays are bad for growth, but that attracting a large gay community was not the most efficient manner in which to stimulate regional economic growth (Glaeser, 2004, 4). Further, Scott (2006, 15) has argued that the attraction of a large gay community is a superficial measure that, lacking a strong economic system that attracts a specific group of skilled workers, will do little to encourage growth (Scott, 2006, 11).

In response to these and other critiques, Florida has distanced himself from the importance of diversity as an economic growth mechanism in recent works pertaining to the creative class (Knudsen et al., 2008, 472; Storper & Scott, 2008, 156). Rather, Florida and his associates suggest that the effects of creative density may mitigate the impact the gay index has on fostering creativity (Knudsen et al., 2008, 472). Thus, Florida et al. are putting a greater emphasis on the high presence of skilled people, something more closely aligned with Glaeser and associates work. This, coupled with an admission of the limitations of the bohemian and gay indices in the face of other variables, casts further doubt onto the viability of the creative class as a measurement for economic growth (Knudsen et al., 2008, 472). Finally, Florida (2004) has also argued that the bohemian and gay indices findings are more pertinent to

larger metropolitan regions and thus may not be useful to less populous regions.

II. i. Negative Regional Effects of Implementing the Creative Class Doctrine

Since its advent, the creative class theory has attracted a great deal of interest from policymakers, planners and developers in the U.S. and beyond. Many have subscribed to the idea that traditional methods of economic stimulus no longer carry the importance they once did and that the presence of a highly skilled and creative labour pool can provide the necessary advantages to succeed in an increasingly competitive market. By embracing this paradigm shift, many planners have come to believe that by creating an environment that is attractive to young, educated professionals, they can encourage economic development (Donegan et al., 2008, 180). Creating an environment that is attractive to young, educated professionals is not a pitfall in itself, as it is worth noting that this is the demographic that is the most mobile and, therefore, most easily lured to a new area (Florida, 2002, 2008, 2009; Hansen & Niedomysl, 2009). However, focusing on this method to the exclusion of more traditional processes of economic stimulus can be harmful, particularly if the creative class prescriptions are applied in the wrong context.

One particularly relevant question that has not been explored extensively regards the mobility of the creative class in comparison with other groups. This issue is of significant importance in the Nordic countries, where the openness to moving may not equal American levels, as is suggested in Hansen and Niedomysl's (2009) study. This has been attributed to several factors, including social welfare systems that seem to allow people to remain in a specific place despite periods of unemployment and the fact that there are fewer relocation options, because of the low number of cities in Nordic countries (Hansen & Niedomysl, 2009, 194).

Members of the creative class were found to be only slightly more likely to move than others and the majority of those willing to relocate did so shortly after completing their education (Hansen & Niedomysl, 2009, 193). Furthermore, Hansen and Niedomysl (2009) found that in Sweden, highly educated people (a proxy for the creative class) were less likely to move to "people friendly climates" with the one exception of those up to 25 years of age. These findings conflict heavily with the creative class theory and particularly its relevance in Sweden, a country that Florida (2005) cited as being in an excellent position to compete for international talent. Therefore, the only qualification that should be made relates to the under 25 demographic, which tends to be attracted to people friendly climates that facilitate their pursuit of higher education. Consequently, the creative class theory is supported on the basis of the desire for cities to retain these citizens subsequent to the completion of their studies (through amenities,

employment, etc.), which enhances a region's talent pool.

By overlooking (or at least paying little attention to) traditional factors that explain differences in regional growth, such as education levels, population size, industrial mix and measures of entrepreneurship, officials may in fact be causing their regions more harm than good (Storper & Scott, 2009). The danger in completely endorsing the creative class method lies in the fact that its suggestions have not been clearly demonstrated to promote regional growth more effectively than traditional factors (Donegan et al., 2008, 181). Thus, in situations where urban development policies are based on a narrow interpretation of the concept, the outcome may not be as successful as expected.

Critics warn that by focusing almost entirely on socio-cultural factors as the drivers of economic growth, funds that could be used more effectively may be squandered. Along this line of thinking, Scott (2006, 11) expresses concern about the minimal focus on economic systems, demonstrated by his query of how creative, skilled and qualified individuals will gather in particular places for extended periods of time. Rather, Storper and Scott (2009, 158) suggest that skilled workers do not agglomerate arbitrarily, but rather as an outcome of economic specialization. He continues that any region that does not have the necessary economic infrastructure will be unable to retain a talented labour force, regardless of the degree of openness or the existence of amenities (Scott, 2006, 11). Parallel to this, he argues that without mechanisms to harness creativity, the presence of creative people will go unutilized (Scott, 2006, 11). Furthermore, they argue that the theory fails to identify the basic foundations of urban dynamism and that the creative class concept does not recognize the "differentiated path dependent trajectories" of regional systems and thereby underestimates the limitations and opportunities that must be taken into account when seeking to plan future developments (Storper and Scott, 2009, 164). Storper and Scott (2009) highlight the cases of Silicon Valley, Hollywood and the City of London, noting that economic systems preceded vast talent pools in each case. This is qualified by recognizing that knowledge firms and the related talent pool develop in concert, thus mitigating the importance of a specific development component. Rather, it is a multitude of interacting factors over a period of time that contribute to the successful development of a knowledge economy at the regional level.

Scott (2005, 300) also questions how the effects of creative class prescriptions will affect regions as a whole, suggesting that some urban centres may achieve a creative, high quality environment but that developments of this type will likely be isolated communities within an urban landscape where societal ills continue to reign (Scott, 2005, 300).

Additionally, in a study of Dutch cities, Marlet and van Woerkens (2007) find that the "tolerance – creative class

nexus empirically fails to materialize...”, however they do find that job opportunities and urban amenities are the most important factors in choosing a place of residence. Similar findings were made in a Swedish study that established members of the creative class were most likely to move for jobs and that once established in a location, were no more likely to move than others (Hansen & Niedomysl, 2009). Finally, Glaeser has found that a significant proportion of the creative class in fact enjoy suburbs and car-based cities (Glaeser & Saiz, 2003). This suggests that growth is more likely to be driven by “skills, sun and sprawl” rather than “technology, talent and tolerance” (Glaeser & Saiz, 2003).

The majority of the assertions on attracting the creative class are focused on highly populated metropolitan regions and do not necessarily translate easily to less populous regions (Donegan et al., 2008, 188). Despite this, planners and officials in some smaller regions have also subscribed to these planning prescriptions, with what could be dire results (Donegan et al., 2008, 188). Smaller regions generally do not have access to the same level of resources as their larger counterparts, particularly if they are in a state of decline, and thus embracing creative class measures may have a doubly negative effect whereby valuable and much needed resources are misspent on projects that were not designed for them in the first place.

Florida and other theorists who promote the creative class theory have responded to these arguments in several ways. They argue that the creative class theory is not a chicken and egg argument and that the “jobs-versus-people question is a false dichotomy.” (Florida, 2004, 4). They see employment and skilled individuals coming together in “real” locations, where labour markets function to match people with jobs (Florida, 2004, 4). They continue that such locations also provide people with locales to meet potential life partners and amenities to pursue the choice of lifestyle (Florida, 2004, 4). In sum, the argument identifies successful places as “complex, multifaceted ecosystems” that “defy simple linear thinking” (Florida, 2004, 4). Arguments have also been made about how people are more attracted to places rather than jobs, but these arguments seem to frequently rely on a 2002 survey of recent college graduates, a study that is based on opinions rather than outcomes, and is again, only one study (Florida, 2002). Finally, they have conceded that some of the policy prescriptions that have been espoused are tailored for larger cities, but defend the focus by arguing that this focus has been clear since the emergence of the creative class theory (Florida, 2004, 5). Further, Markusen and King (2003) have demonstrated how smaller regional centres can benefit from investments in the arts and policies to attract artists; something normally reserved for more populous regions.

III. The Creative Class versus Traditional Human Capital

Since the unveiling of Florida's creative class measure in 2002, a number of questions have arisen in regards to how innovative it is. Conflicting results have emerged from subsequent tests of the creative class theory. Childs' (2004) study of population growth rates in the United States from 1990 to 2000 found that the creative class had a negative affect, likely as a result of the high collinearity with traditional human capital measures. Rausch and Negrey (2006) found a positive relationship between the proportions of people employed in creative occupations and the level of gross metropolitan product (GMP) in the U.S., but that the high presence of creative occupations had a negative impact on GMP growth over time. The study also found that the creative class percentage was insignificant in all models that also included an educational attainment measure, illustrating the overlap between creative class and conventional human capital measures (Rausch & Negrey, 2006). Similarly, Storper and Scott (2009, 145) have found that in a series of studies since its introduction, the creative class index performed only slightly differently, sometimes better and sometimes worse, than standard measures.

Conversely, Marlet and Van Woerkens' 2004 study of the fifty largest Dutch cities found that the creative class measurements were a better indicator of employment growth than educational measures. Further, a study at the county level in the United States found a positive relationship between the presence of the creative class and employment growth (McGranahan & Wojan, 2007). The relationship remained evident with the introduction of a control variable used to determine the proportion of young adults with college degrees and was further strengthened by a redefinition of the creative class by the authors, who removed some of the less creatively intensive jobs (McGranahan & Wojan, 2007).

It has also been argued that an occupational approach is more focused on skills at the centre of economic development (Markusen & King, 2003, 7). This approach offers more of a focus on the individual as a creator, skilled worker and/or entrepreneur, thus promoting the role of the individual in concert with the firm (Markusen & King, 2003, 7). However it should be noted that in regards to highlighting the role of the individual in measuring economic development, the creative class theory offers little that has not already been put forward in traditional human capital measures (Donegan et al., 2008, 188). For his part, Florida acknowledges that standard measures of human capital and the creative class measures are highly correlated, but argues that his measurements provide a more nuanced perspective on the presence of skills (2004, 3). He proposes that the creative class measures provide a better indication of what people actually do, rather than merely illustrating what their official training permits them to do (Florida, 2004, 3).

Although the results remain inconclusive as to whether the creative class provides a better determinant of human capital than traditional measures, a further critique resides in the obscuring of important regional skills distinctions (Donegan et al., 2008, 192). The critique continues that by failing to distinguish between creative occupations in data analysis, policy makers have difficulty determining which factors are most important in promoting economic growth (Donegan et al., 2008, 192). Subsequently, without having properly evaluated the connection between creative talent and a location's economy, the prescriptions associated with the creative class may promote weak regional economic strategies that can squander valuable resources (Donegan et al., 2008, 192), particularly in the wake of the current economic downturn.

IV. Skilled Cities Theory

The skilled cities section provides a review of another prominent, human capital based, development theory. This brief section presents an overview of the key arguments of the theory, and its differences from creative class theory, and concludes with a series of policy recommendations promoted by skilled city theorists such as Edward Glaeser.

IV. a. The Skilled Cities Argument

The role of human capital as a driver of economic growth is also advanced in the work of Edward Glaeser. While in agreement on the fundamental importance of individuals in stimulating economic growth and the importance of the knowledge economy for future economic success, Glaeser's arguments contrast the creative class theory in regards to how growth is stimulated. The skilled cities theory measures human capital using traditional tests that focus primarily on education levels and focuses on how skills are developed and used by high human capital individuals (Glaeser, 2003).

In contrast with the need for 'technology, talent and tolerance', Glaeser (2003) argues that growth is driven by an accumulation of high human capital people in high value-added industries. He notes that for more than a century, cities with more educated citizens have grown faster than similar cities with lower education levels in the U.S. and Great Britain (Glaeser & Saiz, 2003, 2). As is the case with creative class arguments, the skilled cities theory highlights the importance of interaction between individuals as a key stimulant of the transfusion and innovation of ideas; a concept with a long academic tradition dating back to Alfred Marshall in the 1920's and Jane Jacobs in the 1960's (Glaeser & Saiz, 2003, 49). However, in contrast with Florida, another Jacobs' proponent, Glaeser (2003) has concluded that diversity and bohemianism do not impact urban economics to the same degree as skills and questions their economic value entirely (Glaeser, 2004).

Proponents of the skilled cities argument suggest that other variables have little influence on the impact of skills for regional growth and that human capital is almost entirely statistically independent of most local amenities (Glaeser & Saiz, 2003, 3). As was the case with Florida et al., Glaeser, Kolko and Saiz (2001) have also found that higher numbers of restaurants and theatres per capita exist in areas with higher urban growth rates. However, in contrast with creative class theory, Glaeser (2003)

indicates that skills predict productivity growth, but not an increase in amenity levels. This suggests the addition of an intermediate causal step with which amenities are not a contributory factor. In this argument, concrete amenities result from the rise in income that accompanies economic growth in skilled sectors. It is worth noting however, that research has shown that while skills don't seem to increase amenities at the regional level, a positive relationship between skills and amenities exists at the urban level (Glaeser & Saiz, 2003, 43).

Glaeser and company recognize that a warm, dry climate has been a strong indicator of population growth over the past half century in the United States, but they suggest that this growth isn't demonstrative of similar increases in human capital in the same regions (Glaeser & Saiz, 10, 2003). In parallel, they find that the impact of human capital is amplified in regions with less desirable climates, suggesting that skills may be more important to the continued population and economic growth in regions without an abundance of natural amenities (Glaeser & Saiz, 2003, 42). Furthermore, they find that cities with more skilled workers have higher incomes and greater income growth and that skilled people tend to collocate, creating positive externalities (Glaeser & Gottlieb, 2008, 49). Conversely, low education levels at the city level have been demonstrated to act as signifiers of areas in decline, illustrating the importance of not only high skill levels, but the threat of low skill levels as well, and further demonstrating the need for a strong education system (Glaeser & Saiz, 2003, 6). Further, growth determinants vary in the European context. Climate is not seen to be a significant determinant of growth or migration, particularly in the Nordic states, where climatic variation is considerably reduced in comparison with the U.S. (Niedomysl, 2008).

Finally, proponents of skills-driven growth find that skills are of greatest importance in cities that are faced with the threat of decline and suggest that this may result from the need for such cities to reinvent themselves in the face of economic upheaval (Glaeser & Saiz, 2003, 5). Glaeser and Saiz (2003) posit that certain cities have fared better in the face of industrial decline because of the initial presence of a skilled labour force that was able to adapt to changing market conditions. Further, once a process of decline has started, individuals are more likely to relocate within the same large region, rather than trans-nationally, giving the largest cities in their respective areas an even greater advantage in the attraction of a large talent pool and thus a greater opportunity for economic prosperity

(Glaeser & Saiz, 2003).

This has been illustrated to some extent by the ability of larger regions to mitigate the effects of economic decline. For example, the agglomeration of the mid-western financial sector in Chicago has given that region a great advantage, coming at the expense of regional economic decline elsewhere in the Midwest. Continued economic growth through a process of reinvention has also been illustrated in Minneapolis, where a former industrial city has built on its existing firms and talent pool to transform itself into a secondary high tech centre (Markusen & King, 2003). Finally, this is evidenced in Sweden by Norrköping's recent effort to redefine itself as a centre of excellence in the Swedish knowledge economy (Syssner, 2008). By making concerted efforts to raise the profile of the region's visualization industry, one could argue Norrköping is being concertedly framed as a smaller, Swedish, Berlin.

IV. b. Skilled Cities Policy Prescriptions

In terms of policy recommendations, Glaeser et al. argue that cities should strive to attract and foster skilled people through improvements to services, particularly education (Glaeser & Gottlieb, 2008, 50). Amenities can also be useful in attracting a large talent pool; however, this strategy is only seen to be successful in conjunction with the upgrading of basic services and should not be relied on as the singular pillar of attraction (Glaeser & Gottlieb, 2008, 50). The presence of skilled labour and the firms that they work for can lead to a growing concentration of talent, and can increase the likelihood of new firms developing or relocating there (Malmberg & Power, 2005). Locating

proximately to other firms in the same field creates a number of positive externalities and also enables greater inter-firm mobility, a significant factor in diffusing ideas and something that can help increase a region's competitiveness within respective industries, providing continued economic stimulation (Malmberg & Power, 2005). Further, Glaeser and Gottlieb (2008) have argued that by improving the quality of the public education system, skilled people with young families will be more likely to locate there. This in turn provides a region with a demographic that is less likely to relocate, a factor that helps promote stability in a skilled labour market. Concurrently, it is argued that at the low end of the growth spectrum, higher crime rates and poorer schools are linked to low levels of growth (Glaeser, Kolko & Saiz, 2001). This is most clearly illustrated at the urban level; where low education levels (measured as having less than high school) have a greater (negative) impact on skills than high education levels (a bachelor's degree or more). Finally, Glaeser and Saiz (2003) have argued that cities facing the specter of decline have the most to gain through investments in basic services which, they argue, will help to attract a skilled labour force and help fuel a declining region's economic reinvention.

This poses several challenges however. Areas dealing with population and economic shrinkage are unlikely to have the resources necessary to boost spending in any department and once a regional 'brain drain' as been initiated it is very difficult to reverse quickly. Glaeser and Saiz (2003, 42) concede that the growth associated with skill composition is "both a boon to the skilled cities... and a curse to the cities with less skilled workers that have suffered an almost unstoppable urban decline."

V. Local Production Systems Theory

This section presents the local production systems theory, which argues that despite the increased prominence of the individual, economic systems are still the independent variable on which development relies. The chapter opens with an overview of the theory, including the course of its development and contemporary notions associated with it. The following section examines the trend towards agglomeration in Europe, with a number of examples of successful clustering initiatives. Subsequently, the role of the individual in local production systems theory is surveyed, with acknowledgement of their importance, illustrating the complex, multidirectional nature of regional economic development. The section concludes with a series of policy prescriptions advanced by local production systems theorists and then conversely, the problems that subscribing to such policies may present.

V. a. Local Production Systems Argument

In contrast with human capital driven growth theories, local production systems theory promotes the idea that urban and regional growth is driven by economic factors rather than the individual. The notion that growth results from industrialization and parallel processes at the local development level is well grounded in academia, dating back at least to Weber's 1899 work *The Growth of Cities in the Nineteenth Century* (Storper & Scott, 2009, 147). In the face of the creative class and skilled cities arguments, Scott, amongst others, has questioned the degree to which the drivers of urban growth have truly changed (Scott, 2005, 2006; Donegan et al., 2008; Storper & Scott, 2009). In turn, Scott and his contemporaries assert that localized production complexes and the related labour markets are the central urban component on which other facets (including the social, cultural and political) take shape in various concrete structures (Scott, 2005, 289). A nuance to this is the acknowledgment that as systems, economic, political, cultural or otherwise, develop; an interactive process takes place in which the numerous dimensions of urban life constantly shape and reshape one another (Scott, 2005, 289). It is also recognized that human capital is crucial to growth; however, it is not seen to be a basic independent variable that can precede economic development (Scott & Storper, 2009, 158). Further, it is argued that the complexities of the modern city are amplified by the multitude of human interactions that lead to continual forms of creative and socioeconomic change that occur within specific historical and geographical contexts (Scott, 2006, 2). Finally, they argue that without the basic functional role of production and work, cities would

differ immensely in size, development and importance, potentially remaining as small service centres or "small communities of likeminded souls." (Scott, 2005, 289).

As with the human capital theories, local productions systems theory proponents support the assertion that the economy is in a process of transformation (Scott, 2005; Storper & Scott, 2009). They note that each phase of economic history has been characterized by specific technologies, leading economic sectors, employment relations, forms of competition and has been associated with particular forms of urban development (Scott, 2005, 290). Along this line of thinking, economic organization in the knowledge economy has been typified by firms' propensity to collocate, most prominently illustrated by Silicon Valley (Scott, 2005, 290). The concept of agglomeration is nothing new, however in recent years there has been an increase in the promotion of 'clusters' as exemplified by the World Bank's financing of 266 cluster projects worldwide in 2000 (Lundequist & Power, 2002, 686). Scott (2005) argues that agglomerations form as a result of locational pressures that emerge as networks of firms and workers are formed. As positive externalities become prevalent; they work within networks to promote agglomeration and to generate "proto-urban forms on the landscape." (Scott, 2005, 297). Such agglomerations illustrate a prominent economic rationale, whereby dense networks of specialized and complementary firms provide the flexibility that allow distinct production units to maintain competitiveness through vertical disintegration and cooperative projects that minimize the risks which firms in the knowledge economy face (Scott, 2006, 5).

V. b. Agglomeration in Europe

The value of having related firms agglomerate has also been recognized in Europe. In Sweden it has been identified as a valuable driver of regional economic growth in (the above mentioned) Norrköping, the 'Medicon Valley' and 'TelecomCity', amongst others (Lundequist & Power, 2002). Medicon Valley is part of a joint initiative between the Danish and Swedish governments to create a cohesive regional market along the Öresund Strait (Lundequist & Power, 2002, 691). In this case, a top-down initiative building on an existing economic structure aims to create a leading European hub for life sciences research and development, a project that has helped create Scandinavia's largest centre for pharmaceuticals and biotechnology (Lundequist & Power, 2002, 691). TelecomCity provides another example of agglomeration being used to stimulate economic growth in Sweden. In this case, local authorities and associated public sector stakeholders worked together

to create a new sector in the regional economy (Lundequist & Power, 2002, 695). Through a cooperative effort with the local academic institutions and pioneering telecom firms in the region, an agglomeration was almost entirely “manufactured” through regional policy. Finally, Cooke (2006) notes the regional economic success that has been achieved in Holland’s “DSP Valley” as a result of an initiative that developed university spinoff businesses, as well as research institutes that took advantage of an open innovation strategy to gain a competitive advantage in the international market.

V. c. Role of the Individual in Local Production Systems Theory

In regards to individuals, the argument continues that when a number of interrelated firms cluster or agglomerate in geographic space, local labour markets consistently develop around them (Scott, 2006, 6). Scott (2006) asserts that this is particularly true of the knowledge economy where many sectors are involved in relatively labour intensive forms of productive activity. This is further encouraged by the multifaceted nature of the firms that make up these agglomerations and whose labour requirements often vary over a wide set of skills (Scott, 2006, 6). The need for a diverse array of skills means that different types of individuals share specific geographic spaces, which in turn implies that a great deal of social variation can be found in the communities surrounding such agglomerations (Scott, 2006, 6). These findings can be used to explain Florida’s assertion regarding the importance of diversity, though in this case, the benefits of diversity are qualified by noting that the two main labour segments have vastly differing qualities of life (Scott, 2006, 6). In regions seen to have a strong knowledge economy, one will often find the professional, managerial and technical workers on one side and low wage, unskilled workers who are often new immigrants, working low end service or manufacturing positions on the other, with little interaction between the groups (Donegan & Lowe, 2008, 47).

Contemporary proponents of the employment as an attractant concept also acknowledge the idea that interaction among skilled individuals leads to positive growth effects, noting that this assertion corresponds with wider literature on knowledge spillovers in local labour markets (Storper & Scott, 2009; Power & Lundmark, 2004; Lundequist & Power, 2002). Scott and Storper (2009) question Florida’s explanation of how a concentration of talent leads to creative interaction while arguing that the creative class theory does not take additional processes that guide and stimulate such interaction into account. Rather, Scott (2005) suggests that the urban social environment provides a setting that often facilitates the training and socialization of workers and helps ease their movement through local employment structures. Furthermore, the abovementioned flexible and cooperative nature of the knowledge economy supports a system whereby firms and the workers that comprise them are in regular

communication with one another in manners that stimulate a variety of creative forms (Scott, 2005, 295). The importance of employment related knowledge transfers and stimulation is also espoused by Power and Lundmark (2004), who argue that the workplace is the prime site for the diffusion of ideas. This argument builds on the notion that rather than spending significant portions of their time in public settings, high human capital individuals are most likely to be found in their homes or offices (Power & Lundmark, 2004).

Such formal and informal transfers of information promote a diffusion of knowledge, often tacit and done so unknowingly, about different aspects of the production process and the general business environment (Power & Lundmark, 1029). The innovations that occur as a result of such information flows are unlikely to be documented in formal texts or patents, but if they occur on a continual basis, can provide an agglomeration of connected producers with a competitive advantage (Scott, 2005, 295), an argument with some parallels to Glaeser’s (2003) work. Further, the knowledge that individuals attain while participating in these dynamic flows of information enhances their skills, thereby increasing their attractiveness to other firms, which in turn may create an urban wage premium (Storper & Scott, 2009, 151). As a sector grows in a specific locale, it can offer greater career opportunities and facilitates the ability for both partners in a household to find appropriate employment, an attractive feature particularly for young, skilled workers (Power & Lundmark, 2004, 1029). Finally, agglomerations enable individuals to transfer between firms in the same labour market with relative ease, because there is no need for residential relocation and the challenges that accompany it, nor does one’s partner need to find new employment (Power & Lundmark, 2004, 1029).

Advocates of the local production systems theory argue that these factors serve as powerful attractants for high human capital individuals and help explain why so many skilled workers continue to be located in less pleasant climates (Storper & Scott, 2009; Glaeser, 2003). This also appears to hold true in Sweden, as illustrated by Hansen and Niedomysl’s (2009) study of migration and the creative class. They note that no matter how greatly individuals prioritize amenities, they cannot make them a permanent part of their lives if the regions where such amenities are present do not provide opportunities to earn a living (Storper & Scott, 2009, 154). This is argued to be particularly applicable to high human capital individuals who have invested significant resources and time acquiring qualifications, skills and knowledge (Storper & Scott, 2009, 162). It is thus argued that such individuals choose to locate on the basis of the relevancy and demand for their skills in the regions that they choose to settle in (Storper & Scott, 2009, 162). However, it should be noted that improved communications technology has enabled individuals, particularly established consultants, to work from many locations. This increases the likelihood of

job opportunities in proximity to nearly all amenities for skilled workers, but the choice to relocate near them could be accompanied by a reduction in earnings or fewer employment opportunities.

As labour markets form around sectoral agglomerations, they are apt to develop, as Scott (2005, 295) puts it, “A patina of local colour in that they become a locus of peculiar traditions, sensibilities and norms...” that influence local standards, economic and otherwise. These influences over a community are of great importance as sources of unique competitive advantages, both in terms of the items being produced and the social norms that exist in a localized region (Scott, 2005, 295).

The effort to differentiate both products and localities is often expressed through place making and place marketing activities, as well as urban renovation projects that strive to enhance the symbolic knowledge of a region (Scott, 2005, 298). Such tactics have been met with varying degrees of success and can function well as attractants when used in conjunction with public investments that improve the circulation of information and vocational exercises for workers (Scott, 2005, 294). The exploitation of symbolic knowledge clearly favours cities with strong historical and cultural associations, but even in cases where past experience would appear to hinder the development of a new creative economic and cultural image, policy makers are capable of producing significant transformations (Scott, 2005, 298). Scott (2006) tempers this however by noting that such initiatives often have overly-optimistic expectations and that strategies to promote a locale based on symbolic knowledge should only be one of a series of economic stimulus policies.

V. d. Local Production Systems Policy Prescriptions

As illustrated above, networks of specialized and complementary producers, along with their related labour markets, often generate numerous positive externalities (Power & Lundmark, 2004). When utilized to their greatest extent, such externalities tend to enhance the development of agglomeration economies, as firms seek to harness the power of positive externalities by locating in a specific region (Scott, 2005, 296). Local production systems theorists subsequently argue that rather than focusing on amenities and the attraction of certain types of individuals, regional officials must create policies that encourage these positive externalities, while also continuing to reduce and control negative ones (Scott, 2005, 296). In contrast with the socio-cultural focus that human capital theorists emphasize, local production systems strategies focus primarily on the economics of a region, arguing that ensuing developments take place in conjunction with one another, but only as a result of initial economic occurrences. Finally, while local production systems theory has a long academic tradition, its contemporary proponents draw on post-modernist inspirations to ground their arguments. Scott (2006, 12)

cautions that the schemes undertaken in any specific case are highly contextually dependent and that solutions designed to meet the needs of a wide range of areas are unlikely to meet with any great degree of success.

Scott and Storper (2009) are also critical of the idea that the creative class’ inherent entrepreneurial and cultural vitality is automatically set in motion by the presence of many high human capital individuals, which in turn leads to the construction of a dynamic local economy, in a causal sequence. It is asserted that such arguments gloss over the “complex synchronic and diachronic interrelationships that must be present before a dynamic creative environment is likely to emerge.” (Scott, 2005, 299). In contrast, local production systems theorists advocate that policies to foster creative growth must deal concurrently with the development of a local production system, the attraction or training of a related workforce and the successful improvement or creation of urban space (Scott, 2005, 299). Therefore, the successful development of a region in economic, social and cultural terms presupposes the importance of mutual interaction between variables in a series of cooperative motions that enhance urban development and growth (Scott, 2005, 300). Scott suggests that the aforementioned policies provide a more comprehensive set of policy prescriptions in comparison with those of Florida; likening the overly simplified policy proposals of the creative class to the ideas put forth by many consultants in the 1980’s about “growing the next Silicon Valley” (Scott, 2005, 300).

V. e. Negative Regional Effects of Implementing the Local Production Systems Doctrine

The idea that local production systems attract skilled people has existed at least since Weber’s seminal work at the turn of 20th century and has thus been well vetted by academics and practitioners alike, leaving it with few potential flaws. The few negative effects of implementing policies that are focused on firm level growth stem from an overreliance on economic systems, to the exclusion of other socio-cultural factors (Florida, 2004). Relying solely on local production systems for economic growth, which in many cases also means relying on unrestricted markets, can be dangerous in that assumptions on how to secure growth are generally accompanied by the confidence that free markets can solve nearly every urban problem (Florida, 2004). These solutions overlook the complexities of the regional system, and often exacerbate societal divisions on the basis of income (Florida, 2004). Additionally, regional governance focused primarily on facilitating economic growth may do so at a cost to the citizens it serves, although this is more of an issue in the U.S. than in Europe, where strong social welfare systems mitigate the negative impact of free market initiatives. Given the development of two classes of knowledge economy workers, policymakers risk marginalizing society’s most vulnerable if they focus solely on attracting new firms in regional development schemes.

VI. Discussion

In an era of economic transformation, new strategies are being sought to stimulate regional economic growth. Given the rapid development of the knowledge economy over the past 25 years, the enticement of firms working within the sector is often cited as a source of regional economic growth. Therefore many policies have focused on the attraction of firms in this sector. The structural transformation of Western economies has led to the development and increased popularity of regional economic stimulus theories that focus on the importance of the individual, including Florida's creative class theory and Glaeser and associates' skilled cities concept, in contrast with the traditional emphasis on the firm. In opposition to these ideas, the local production systems argument, a theory rooted in traditional economic theory and dating back over a century, continues to espouse the importance of developing economic systems to promote growth.

Though creative class theory has come to play a significant role in the economic policies of many regions, a number of questions remain as to its validity. From a theoretical perspective, creative class measures differ only slightly from traditional human capital measures. Despite Florida's assertion that the creative class indicators provide a more nuanced perspective of employment, a number of studies have failed to provide conclusive evidence of this. Additionally, it appears that the presence of gays and bohemians is not of great consequence when correlated with density of skills measures, seriously challenging an important tenet of initial creative class work. Finally, in many cases creative class assertions are more pertinent to populous regions, and thus caution must also be exercised in regions with lower populations.

Having been primarily developed and tested in the U.S., creative class theory has been tailored to a North American lifestyle. A series of studies in Sweden and the Netherlands have demonstrated that segments of the creative class theory are not universally applicable. Although Florida has looked at creative measures in Sweden (Mellander & Florida, 2006), a greater understanding of factors that are distinct to Sweden and Europe in general are necessary to make the theory more applicable beyond the U.S. This is exemplified by the high level of mobility in North America, something that is not as prevalent in many parts of Europe. While the Schengen Agreement enhances mobility between European Union (EU) states, barriers including language, education standards, and socio-cultural differences continue to hinder the movement of skilled and talented people. Further, as previously mentioned,

strong welfare systems (in Western Europe) reduce the necessity for movement in response to economic factors. Therefore, policymakers in Europe must be aware of the risks associated with implementing creative class prescriptions. Conversely, local production systems theory has been developed and employed in Europe as well as the U.S. over its long history has been demonstrated to be effective in numerous regions. Currently, it is very well exemplified in the developing world; where regions seek to attract mass production facilities, with the knowledge that there is an abundance of available labour.

The creative class theory has a number of valuable points as well however. Florida advances an economic development plan that centres on building the civic infrastructure that is necessary to attract and retain high human capital individuals, and thus focuses on the core functions of government. Basic livability issues are of significant importance and can have an important affect on where individuals choose to locate, something that Florida (2008) argues is a basis for further development. Likewise, amenities play a role in the improvement of existing communities and the attraction of new residents (Stern, 2002). Creative class policy emphasis on the development of community based culture, in the face of large scale developments, promotes organic community development and is a refreshing departure from multi-million dollar boondoggles that dot the landscape in many regions the world over. Finally, in acknowledging the complexity of regional systems, Florida (2004) recognizes the importance of economic attractants. The theory would be strengthened by greater acknowledgement of regional path dependency and trajectories, however in response to criticisms of *The Rise of the Creative Class*, it appears that Florida and his colleagues are continuing to develop a more nuanced perspective. Thus, the creative class theory offers a number of valuable ideas in the stimulation of regional economies, although other economic factors must also be given serious consideration.

The relative newness of creative class theory means that it has yet to be evaluated based on feedback in the real world. Therefore, the theory is easily questioned, but not necessarily wrong. It may well be worth the fiscal and economic risk to incorporate some creative class policy into a diverse comprehensive development plan, particularly during the current period of economic transformation and upheaval. Fresh thinking provided by the inclusion of human capital driven growth policies may help transform regional economies. In regions that are experiencing economic decline, economic stimulus policies alone cannot

reverse long-term trends. Local production systems theory offers a series of conservative proposals on stimulating economic growth. This can be useful in many cases; however, regions in need of major transformations may need to look beyond traditional methods in their quest to achieve economic vitality.

The skilled cities theory promotes the importance of the individual, while also acknowledging that skilled people do not locate in proximity with one another without reason. It also focuses to an even greater extent on the role of government in providing basic services in the attraction of a skilled workforce. The argument follows that by focusing on factors such as high quality education and low crime rates amongst others, regions will be able to foster, attract and retain a skilled workforce (Glaeser, 2003). Glaeser et al. have found that the presence of high human capital individuals is the most important factor in continued economic growth. Regions that have a high rate of skilled individuals also experience higher income levels, a factor that contributes to the greater presence of concrete amenities. These findings have influenced creative class theory, as exemplified by the Knudsen et al.'s (2008) paper that promoted the importance of having a high percentage of skilled workers. Given its dual focus on the importance of human capital and the components necessary to develop a flourishing economy, one can consider the theory to be part of a bridge that connects human capital theories with standard economic stimulus ideas.

Local production systems theorists acknowledge the importance of the individual; however, they do not believe that employment dynamics have changed so greatly that individuals have become an independent variable of economic growth. Rather, firms are seen to be the mainstay of economic development, often in the form of agglomerations that produce positive externalities. Proponents of this theory argue that high human capital individuals locate proximately to access the employment market. This notion is used to explain why high human capital individuals are very often sorted on the basis of skills, as is the case in Silicon Valley and Medicon Valley, rather than at random, an explanation that has yet to be fully

developed in Florida's work. Given such assertions, local production systems theorists argue that attractants aimed at fostering and developing firms and agglomerations offer the greatest opportunity for stimulating regional economic growth.

Firm-based attractants are indispensable to regions seeking to promote economic growth, however as was the case with creative class theory, an overreliance on a specific method may in fact hinder a region's economic potential. Additionally, though individuals do not make decisions based solely on amenities, such factors may play a role when large firms choose relocate or open new offices, as previously noted in the cases of Microsoft, Intel and Hewlett-Packard.

Further research into the growth of the knowledge economy in the regional context is necessary in a number of areas. Most importantly, the current economic recession may significantly alter the structural dynamics of the global economy, having a considerable impact on regional economies as well. It is difficult at this stage to see what the outcome of these changes will be, however it is not unlikely that there will be an even greater focus on the knowledge economy in Western nations in the years to come. The socio-cultural affects of the knowledge economy also warrant further study. It has been argued (Donegan et al., 2008; Storper & Scott, 2009) that the structure of the knowledge economy exacerbates socioeconomic divisions, further harming those at the low end of the spectrum. The relevancy of the creative class theory in Europe has received some academic attention, however for policymakers to fully grasp the benefits and drawbacks of implementing such strategies further and more detailed study of all facets of theory are necessary. Finally, though human capital based theories of economic growth are not new, recent nuances, illustrated by the creative class theory, coupled with their rapid ascent to prominence have placed them under great scrutiny. As is the case with any new idea, challenges to the concept will help in its development process. This will allow for a more nuanced perspective, as the effects of policies based on the creative class and skilled cities theories are evaluated in the real world, similar to what occurred with local production systems theory.

VII. Conclusion

Despite vastly differing points of departure, human capital and production systems theories contribute a number of corresponding ideas. Neither human capital nor local production systems theorists suggest that economic development is a linear process. Both acknowledge the complexities of the issues at hand and note the multidirectional nature of the factors that interact in the development of regional knowledge economies. Additionally, there is agreement on the importance of tailoring policies to effectively fit the context in which they are to be applied. Both sides offer a number of effective methods in stimulating economic growth in the knowledge sector; however, a combination of human capital and production systems theory appears to offer the most comprehensive plan and will likely provide the greatest success. Further, it is important to remain mindful

that it is only through the interaction of key economic, social and locality factors (amongst others) that the successful development of the knowledge economy at the regional level can be achieved. Components are less important than their interactions in specific contexts. It is impossible to discount the importance of the economic system, however, a great deal has changed since the height of the Fordist era and regions can no longer afford to focus solely on the needs of employers. Understanding the political and socioeconomic context within which a region operates is central to selecting both human capital and production systems policies that are appropriate to specific places. An increasingly competitive international market requires a combination of factors that entice both firms and individuals in the knowledge economy through a variety of means.

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