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On The Edge: A Comparative Study Of The Global City Precariat In London And Hong Kong

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ABSTRACT:

Global cities are marked by precarity, yet little attention has been paid to the spatial overlap between work precarity among migrants and third sector organizations that sustain them. In this paper, we estimate the location of precarious work migrants in two global cities, London and Hong Kong, for both the 2001 and 2011 censuses, using a variety of spatial demographic and quantitative techniques, and then analyze the spatial overlap between this population and immigrant-serving third sector organizations. The results suggest both similarity, in particular between accommodation and work precarity, and difference, between the two global cities, with increasingly tenuous overlap in London by 2011.

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INTRODUCTION

The emergence of a growing 'reserve army' of work precarious migrants has drawn the attention of geographers, sociologists, urbanists and social policy scholars (e.g. May et al, 2007; Wills et al, 2009; Coe, 2013; Sim, 2009). And yet, with some exceptions (Findlay et al, 2007; DeVerteuil, 2011a), little attention has been paid to the spatial overlap between work precarity among migrants and third sector organizations within global cities. This paper aims to explore the spatial relationship between residence of recent 'work precarious' migrants living in global cities and third sector organizations that promote their well-being (e.g., recreational, religious, social and health). Work precarity encompasses broad conditions related to what Waquant (1999; 2008) refers to as the 'post-industrial precariat': those experiencing low-wage work, unemployment, underemployment, and importantly for this analysis, a workforce that is increasingly comprised of migrant workers in many global cities. Third sector organizations often play an important role in supporting work precarious migrants—those migrants who often fall outside of the formal government policy social protection safety nets due to irregular legal status, or legal statuses that prohibit their access to safety nets available for immigrants who meet duration of stay thresholds. The geographical relationship between the daily locations of work precarious migrants and third sector organizations, and therefore access to the urban social protection safety net is an important aspect of spatial justice in global cities (Deverteuil, 2000).

Beyond the empirical and conceptual contributions of the paper, there are methodological innovations as well: an extended geostatistical estimation technique of the spatial distribution of precarious populations combined with newly compiled third sector data and applied within a comparative research framework of London and Hong Kong in the census periods of 2001 and

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2011. These two global cities share a series of commonalities, both being "global command centers for international finance…they have experienced deindustrialization and have been recipients of significant flows of wealth" (Raco & Street, 2012: 1066). Further, they are both sharply polarized, a defining characteristic of global cities (Sassen, 2001), and increasingly due to bifurcated migrant streams ranging from the highly-skilled expatriate to work and legally precarious (including undocumented and irregular status) migrants. The two cities also have shared colonial history which further enhances the comparative dimension as this shared history contributes to overlap in basic law and policy approaches as well as immigrant flows from Commonwealth countries.

Our paper is organized as follows. In the first part we conceptualize the rather neglected geographies of the third sector as they overlap (or not) with precarious work migrants. In doing so we frame our analysis within the review of global cities and the precariat provided in greater detail in the introduction to this special section (Jordan and DeVerteuil). From this launch point we provide a brief background to Hong Kong and London to situate the analysis. In the second part of the paper we outline the data and methods that we use to estimate the location of precarious migrants across the two city sites, present the analytical results and compare the distributions. The paper closes with a discussion about the implications of the analysis for debates on social geography of contemporary global cities.

CONCEPTUAL REVIEW

The gap we would like to address in this paper is less on the role of the third sector as a boundary institution situated between the precarious migrant and state, which will be investigated further

in the subsequent DeVerteuil paper, but rather on how the *geography* of the third sector overlaps with work precarious migrants, in both a descriptive and analytical sense. We take on the definition of work precarity delineated in the introduction to this special section (Jordan and DeVerteuil, this issue) as a condition marked by vulnerability and marginalization, one in particular associated with the informalization and casualization of labor. On the one hand, work precarious migrants in global cities tend to live in the urban periphery that still maintains some accessibility to job opportunities. Across a host of global cities, this geography straddles what Marcuse (1997) distinguished as 'enclave' and 'ghetto' models of settlement. Enclaves imply self-segregation for cultural protection and auto-generation of economic opportunities. Ghettoes imply externally-imposed segregation, away from mainstream opportunities. For instance, the *London Poverty Profile* (2011) noted that traditional and longstanding areas of poverty, low wages, working poverty and high proportions of migrant populations tend to be located in or near Inner London, in boroughs that are quite mixed and highly accessible. However, this should be tempered by the realization that even central locations can be inaccessible socially and organizationally when wider structures are taken into account, particularly increasing unaffordability which we expect to observe given the study period of 2001 to 2011 which includes the global financial crisis.

On the other hand, geographers have long recognized that the spatial imprint of the third sector is highly uneven (Wolch & Geiger 1983; Wolch, 1990; Fyfe & Milligan, 2003; Cloke et al, 2010) in part because there are constraints and needs that affect the location of the third sector. Third sector organizations will seek to maximize access to services by minimizing distance to the most clients, which usually implies a strategically centralized location

(DeVerteuil, 2000; DeVerteuil, 2011b). This desire for accessibility and centrality, however, is partially determined by a variety of constraints, foremost being community opposition and NIMBY (Not In My Back Yard). These forces may compel third sector organizations that service the most stigmatized surplus populations (e.g. substance abusers, homeless, parolees, people with mental illness) to locate in areas of least resistance. Given the constraints, inertia may set in around the spatial distribution of third sector organizations. Various mappings of third sector geographies across metropolitan areas such as Glasgow, Manchester and Los Angeles (Wolch & Dear, 1993; Fyfe & Milligan, 2003, Findlay et al, 2007) revealed that most organizations remain adamantly inner-city, and positively correlated with areas of high deprivation. While different, both the migrant and third sector perspectives lead to the same outcome: a preference for highly-accessible inner-city locations.

Hypothetically then, both work precarious migrants and their third sector organizations may be expected to overlap, since each is seeking (or drifting to) accessible, centralized and yet affordable places in close proximity. The sparse, existing research on third sector and migrant geographies seems to confirm this pattern. In his comparative study of London Bangladeshis and Los Angeles Central Americans – both precarious migrant groups in their respective global cities – DeVerteuil (2011) noted that the highly segregated community spaces translated into tightly-knit third sector geographies. In Findlay et al (2007), legally precarious migrants in the form of asylum seekers in London, Manchester and Glasgow were mapped in relation to the geography of third sector organizations. Predictably, there was an overlap between the two in the central city districts, although less so in the more suburban areas where organizations were few and far between.

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However, neither of these studies systematically reviewed the geographical relationship of work precarity population and third sector organizations across the entire scale of the global city—both core and periphery—nor did they employ methods of spatial analysis across more than one global city over different time periods. The major challenge of quantifying the spatial relationship between migrants' residences and voluntary organizations consists in access to reliable data in both domains. At a city-wide scale, the former – determining migrants' residential locations – needs to be estimated probabilistically. Explicit and detailed information on precarious populations is not routinely collected nor offered voluntarily. In this study, we employ a technique that estimates the likely location of different types of precarious residents in Hong Kong and London with ancillary. The second challenge relates to determining the coverage of the third sector. In the absence of comprehensive databases, different sources need to be combined, and organizations need to be classified and geo-coded. Finally, the spatial overlap between likely residential patterns of precarious migrants and the locations of third sector organizations can be described, which we did for two points in time: 2001 and 2011 (see section 4). This line of inquiry for two points in time is particularly pertinent given that inertial and centralized geographies of the third sector may be increasingly out of kilter with a more peripheralized residential pattern for precarious migrants, as inner-city districts become gentrified and thus too expensive in which to settle. This sort of spatial mismatch was recognized by Cordero-Guzman (2005: 896) in New York City, whereby 45% of migrant-serving organizations were located in Manhattan but 82% of recent migrants were heading to the other four boroughs (Bronx, Brooklyn, Staten Island and Queens). Finally, we also propose a comparative study, one which builds upon prior work by DeVerteuil (2011a; 2011b) in London

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and Los Angeles, but also work among Chicago, Los Angeles and New York (Theodore et al, 2006).

CONTEXT: HONG KONG AND LONDON

Hong Kong and London offer an excellent substantive comparison of global cities for a number of reasons (Raco & Street, 2012). First, they are also clearly global cities, major receiving cities for diverse migrant groups, including migrants living in 'precarious' situations; for example, migrants from mainland China, Southeast Asia, central Asia and Africa (Hong Kong) and African, Eastern European and Latin American migrants (London). Greater London consists of 32 boroughs and the City of London (Figure 1), and has a population of 8.1 million people in 2011. London consistently attracts a greater number of migrants than the rest of the UK, and is more ethnically diverse, if not hyper-diverse – one-third of the population is now foreign-born, with people from 179 different countries speaking up to 300 different languages (MacInnes et al, 2011; Wills, 2012). In 2005, 45.3% of all foreign-born workers in the UK lived in Greater London, constituting close to a third of all residents and workforce participants, with 62% of these from low-income countries (Spence, 2005; McDowell et al, 2009: 5; Wills et al, 2009). With a total population of 7.1 million Hong Kong's global city status hinges on its financial and trade infrastructure, but also on its service demand especially in the domestic sector. The two largest ethnic groups after ethnic Chinese (including the migrant population from Mainland China, although not counted separately) are Indonesian and Filipino each comprising 1.9% of the total population, and together comprising more than 50% of the non-Chinese migrant population (Hong Kong Census 2001; 2011). Migrant domestic workers comprise the majority of migrant

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workers into Hong Kong. These migrant workers are concentrated almost exclusively within the domestic worker occupations (Hsia, 2009).

<FIGURE 1 ABOUT HERE>

Both London and Hong Kong suffer the typical inequalities and polarizations that are inherent to global cities, with economic migrants ballooning the bottom end (May et al, 2007; Wong, 2008). May et al (2007) have argued that London increasingly suffers from occupational polarization, and that the main cause was continued professionalization combined with the hollowing out of the middle and the growing numbers of foreign-born low-skilled migrants, many of whom take up low-wage work, as well as highly skilled migrants. Hong Kong has witnessed similar levels of polarization: Raco and Street (2012) estimated that it was nearing levels of inequality found in Brazil and Mexico. Two recent studies illustrate the polarization, and marginalization of immigrants in the Hong Kong context, referring not only to the ethnic minority populations that are concentrated in the domestic (and service sector) (Hsia, 2009) but also the 'new arrival' migrant population from mainland China (Ou & Pong 2012).

The Chinese immigrant group (new arrivals) comprises the largest share of the population of immigrants coming into Hong Kong. Mainland Chinese have been the backbone of immigration to Hong Kong since the late 1940s; as Nijman (2007: 97) stated, Hong Kong is "built on the presence of [its] trans-cultural entrepreneurial classes and these, in turn, give…[its] special character as world city: places that are on the edge, that connect regions, cultures and markets that are distinctly different". However, the ethnic minority immigrants and foreign domestic workers comprise two other key groups. As Ou and Pong (2012) point out, the lack of economic assimilation of the new arrival with the native Hong Kong Chinese population is

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particularly striking as they generally share the same racial, ethnic, and cultural heritage. Foreign domestic workers are not excluded from Hong Kong Labor laws, creating a circumstance whereby migrants are permitted to join unions and associations (Hsia, 2009), which has resulted in foreign domestic workers securing some elements of protection and stability within the Hong Kong context. While they are not allowed to obtain permanent residency, they are required by law to 24 hours of rest per week and are also able to renew two-year contracts indefinitely. The combination of protected time off, indefinite leave to work in Hong Kong and rights under labor laws creates conditions where this group of workers, while subsisting within elements of precarity to be certain, have been able to gain some elements of rights to protection. Other immigrant groups, such as those from South Asia, have secured access to other rights, such as education, but remain socially, and for many, economically, excluded. The Nepalese ethnic minority population, for example, has a relatively long history of immigration to Hong Kong from the colonial period, but remains excluded and faces discriminatory practices on a day-to-day basis (Tam, 2010). One conclusion that can be drawn is that each of these different groups - the new arrival Chinese, foreign domestic workers and ethnic minority immigrants - face different challenges that contribute to the precarity of their quotidian life, while also manage to secure access to limited rights that reduce some aspects of their precarity.

Finally, the historical relationship between the UK and Hong Kong has resulted in some elements of commonality in the development and reform of social welfare policy and the third sector. The UK set up a racialized and residual welfare state in Hong Kong (Sinn, 2003) in the 19th century while developing its own hierarchical system in the 20th century, but since then there has been divergence between the two global cities. Hong Kong's approach to welfare and the

third sector has been characterized as an Asian 'statist-corporatist' model, which combines "…the interventionist nature of the state, which enjoys a high degree of autonomy vis-à-vis society, tends to limit freedom of association, and shows low commitment to social welfare provision…[with a] high level of participation by designated non-profit organizations in selected areas of social provision under state funding" (Lee, 2005; Lee, 2006; Lee & Hacque, 2008: 98; Wong, 2008). As a result, 90% of Hong Kong's social services are provided by non-profit organizations, albeit heavily state-funded (Lee, 2012). While some areas of Hong Kong social policy lag far behind the UK – such as unemployment benefits and social security – Hong Kong socially houses almost half of its population, which represents the "most significant income redistribution programme through benefits-in-kind" (Lee, 2006: 460). As Smart and Tang (2014) point out in this issue, immigrants most likely to be classified as precarious in the Hong Kong context are explicitly excluded from most government housing schemes. All of this contrasts with London, where the rate of social housing is 15% and declining, yet state policy explicitly allows precarious immigrants in social housing (Hamnett, 2014). In effect, the UK welfare state has traditionally been highly centralized and rather resistant to wholesale devolution and retrenchment, but since 2010 there is evidence of a more US-style approach to welfare. London's decentralized welfare settlement is administered on the ground through 32 boroughs (and the City) that use national funds to provide local services such as health, education, and especially housing subsidies for local authority and private housing.

DATA AND METHODS

Estimation of precarious migrants' residences

One of the major challenges in locating precarious migrants with any precision relates to the very precarious nature of their status. Both Hong Kong and the United Kingdom have comprehensive and substantial decennial population censuses (last held in 2011), which can be used to estimate the size and spatial coverage of this population. Yet, two challenges arise. First, it is likely that highly precarious individuals including unregistered residents are not recorded in official censuses. Homeless individuals, for example, are difficult to enumerate within the Census structure, and while extensive efforts are made to collect information on hard-to-reach groups, it remains unknown how many are missed. Second, population-wide statistics of sufficient detail are only available at spatially aggregate levels, such as enumeration areas, neighbourhoods or wards. Although individual level data can be accessed for both countries, the coarse spatial resolution and restricted sample size make them unsuitable for the research questions we wish to explore within this paper.

It is therefore necessary to identify proxy variables from both the Hong Kong and UK Censuses that allow probabilistic estimation of work precarious residents aggregated at an area level of appropriate spatial resolution. Thus, we are not directly predicting the location of individuals who are precarious, nor are we attempting to infer that individuals experiencing some or all of these domains will themselves be precarious. Rather, this method generates a profile of areas where contextual variables suggest that accommodation and networks might be available to individuals living and working in precarious situations. It should be mentioned that the UK frequently and systematically estimates deprivation at a high spatial resolution in the so-called Index of Multiple Deprivation (IMD) (DCLG, 2011), which might have been useful as a spatial proxy index for precariousness. However, as no equivalent measure is available in Hong Kong,

we generated bespoke estimates based on variables pertaining to domains similar to those

defined in the IMD. Table 1 lists the variables used pertaining to five major domains. Since the

availability of variables differs between Hong Kong and London, and between census periods

2001 and 2011, we endeavored to identify the best equivalents across the two cities and time

periods.

<center><TABLE 1 ABOUT HERE></center>

In order to attain the highest and yet comparable spatial granularity for our analysis, we chose

Lower Super Output Areas (LSOAs) for London and Large Street Block Groups (LSBGs) for

Hong Kong. There are just over 4,000 LSOAs in London (with an average population of 1,500

residents) and 1,620 LSBGs in Hong Kong (with approximately 4,300 residents on an average).

The estimation procedure consists of two steps. First, the data reduction technique of factor

analysis was used to identify different dimensions of area-level precariousness based on sets of

highly correlated variables. Factor analysis is a well-established statistical technique that is used

to describe the variability between observed and correlated variables (Johnston, 1978).

Once the factors for London and Hong Kong were identified, the second step was to form

an aggregate index of the factor scores for each identified factor, reflecting the likelihood of an

area to host work precarious residents. Simple averaging of raw factor scores to form the index

would not account for spatial autocorrelation resulting in over-estimation in the absolute value of

factor scores. To overcome this problem, we used the local statistics measure *Gi** (Johnston et al

.2002, Ord & Getis 1995), a technique to identify spatial clusters of areas that are likely to host

precarious migrants. In a uni-variable application, the Gi* procedure considers the value of a

given variable in each area (i.e. LSOA or LSBG) along with the values of neighboring areas,

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and compares the local average value of those areas to the mean of all areas in the territory of interest, in our case the cities of Hong Kong and London. Neighboring areas can be either defined by contiguity, i.e. neighbors are those areas that share boundaries, or by distance band, i.e. a set of areas are defined as neighbors if they are located within the radius of a given distance. Because of the geographic complexity of Hong Kong (e.g. topographically highly structured by more than 200 islands, mountain ranges and uninhabited areas), a conceptualization of spatial relationships by contiguity was chosen with subsequent manual adjustments to remove those neighbors that were purely defined by boundary-sharing, but in reality separated by mountains, and added neighbor-links to isolated islands on the basis of road and ferry connections (as in Kandt et al 2016). This procedure formed a single, spatial component of connected zones in Hong Kong; London's more straightforward geography did not require manual adjustments.

The *Gi** statistic follows the distribution of the *Z* statistic: if the value of *Gi** exceeds 1.96 this indicates 95 per cent confidence that the observed clustering of considered variable values does not occur by chance; if the value is less than -1.96, there is almost certainly a non-random clustering of areas with values significantly below the city-wide average. We applied this principle to aggregate our factor scores to one single likelihood index for the occurrence of precarious residents in a given area. A value of 1 is assigned to those areas that score +1.96 on the *Gi** and 0 is assigned to all remaining areas. This procedure is repeated for each factor and all binary values are added to form the final likelihood index[1].

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[1]   The Gi* is readily available in the R package spdep (R Core Development Team 2012). For mapping results and other spatial statistics, the R packages 'maptools' and 'rgeos' have been used (Bivand & Lewin-Koh 2014, Bivand & Rundel 2013).

Third sector organizations

The data for the third sector immigrant-serving organizations is held in separate databases and had to be combined and geo-coded for the use in geo-statistical procedures. In London, the data originates from registered charity databases obtained from three different sources all of which essentially provide access to the same information but have different search criteria. The sources were the Charity Commission, Open Charities and Charity Choice websites. The focus was on active charities serving immigrants within London (see preface for definition). It should be noted that there may be a difference between the area of operation and the physical location or mailing address of the charity: many charities are located in London but do work elsewhere. A total of 1,888 organizational branches were identified and geo-coded from these data sources.

The third sector data for the Hong Kong study was compiled through a variety of methods. The initial method made use of a complete listing of social welfare organizations obtained through the Hong Kong Social Welfare Department (HKSWD) of organizations obtaining any subvented funding from the HK government. This list of over 350 organizations was reduced based on classification of client/service user type including terminology 'new arrival' 'immigrant' or 'ethnic minority', and addresses and programs were verified by web searching. A list from the Inland Revenue Department of the Government of the Hong Kong Special Administrative Region (http://www.ird.gov.hk/eng/tax/ach_index.htm) was then consulted and organizations checked via web searching in order to include any charity organizations listed that may not provide social services that are subvented by the government but that may still be relevant to the current research study. Many of the central offices are located

on Hong Kong island (especially those for older well-established organizations), but there are numerous service centers throughout Hong Kong Island, Kowloon and the New Territories. The list of 84 organizations was thus extended to include all service centers spread throughout HK and the NT resulting in a final list of 2100 service center sites, of which 1,929 could be geo-coded to date.

SPATIAL ANALYSIS OF PRECARIOUS WORK MIGRANTS AND THIRD SECTOR ORGANIZATIONS IN HONG KONG AND LONDON

The primary aim of the analysis is to describe the spatial relationship of precarious migrants and third sector organizations over two census years (2001 and 2011) and interpret the patterns with respect to spatial justice experienced by the global precariat in global cities. The results suggest a certain degree of similarity between the Hong Kong and London in terms of the identification and prevalence of work precarious migrants, as well as increasing mismatch between work precarious migrants and third sector organizations between 2001 and 2011. The patterns also reveal that each global city was moving in opposite directions in 2011 in terms of coverage – Hong Kong's geography of precarity expanded (Figure 2) when compared to a shrinking presence in London (Figure 5).

Hong Kong, 2001-2011

Factor analyses with the selected variables listed in Table 2 produced three factors for both census years 2001 and 2011 in Hong Kong with marginal change between the two years in terms of both factor composition and their associated geography.

<TABLE 2 ABOUT HERE>

In both census years, we find a first factor (Factor 1) that can be broadly described as work-related precariousness – showing correlations between job type, occupation and educational skills. It is also associated with crowding (measured as persons per rooms), but not related to variables of cultural background. Factor 2 is related to accommodation, which includes housing, tenancy, household size and composition. It is independent from ethnicity and cultural background, but associated with recent arrival, presumably capturing the migration flows from from mainland China. Cultural background and ethnicity constitute a third separate factor – here it is related with low income and to a lesser degree with recent arrival. The third factor stresses the important migration flows from Asian countries other than mainland China, such as India, Indonesia, Nepal, Pakistan, Philippines and Thailand.

The results indicate that if, in Hong Kong, we were to focus on only a high incidence of ethnic groups as proxy for possible precariousness, we would be very likely omit a dimension of work and housing precariousness. The maps (figure 5.2) below reveal the distinct geographies associated with each dimension of precariousness.

<FIGURE 2 ABOUT HERE>

In 2001, populations characterized by work precariousness were mainly concentrated in areas adjacent to central parts of Kowloon (such as areas between Tsuen Wan and Lai Chi Kok to the Northwest, and around Kwun Tong to the East) and Hong Kong Island (Chai Wan and around Admiralty) and in some denser parts of the New Territories, Tuen Mun, Yuen Long, Fanling and Tai Po. In contrast, accommodation precariousness prevails in Hong Kong Island's and Kowloon's central areas with a degree of overlap with the work-related factor in Sham Shui Po.

This pattern is noticeably changed in 2011, with areas of work precariousness expanding in and around Kwun Tong to the east of Kowloon and receding in the northwest (Tsuen Wan). Precariousness related to accommodation remains in central areas, while it has spread in the northern New Territories. High scores on the cultural and low income factor can be found throughout Hong Kong Island, Kowloon City as well as parts of the northern New Territories with little difference between the two census years.

The Gi* likelihood index identifies areas with high likelihood of work precarious populations throughout Hong Kong Island and Kowloon in both census years with significant spread in the New Territories in 2011, reflecting a substantial northern expansion of accommodation precariousness. This finding seems plausible in light of the on-going debate on housing shortage in Hong Kong over the last decade (Wong, 2015).

<FIGURE 3 ABOUT HERE>

Overlaying the likelihood index scores with the location of third sector organizations in 2011 (Figure 5.4) reveals interesting spatial overlap and mismatches. Just over one third (696) of 1,929 organizations directly fall within likely precarious areas and 95 per cent (1,837) are located within 1 kilometer of a precarious area. The pattern also reflects Hong Kong's dense urban form, while large parts of the New Territories appear to be unserved by third sector organizations (see Figure 4.).

<FIGURE 4 ABOUT HERE>

The degree of mismatch appears particularly high in the New Territories. In addition, the density of organizations in West Kowloon does not reflect likely precariousness, whereas precarious areas in and around Kowloon City towards the east appear underserved by organizations. In fact,

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the geography of organizations seem to reflect the historical pattern of precariousness in 2001 rather than 2011 (see Fig. 3), and indication of the 'inertia' and lagging of organizations detected in studies by other scholars (Vetovec, 2007). This geographical clustering likely reflects the increasing in-migration of New Arrival Chinese from mainland into this underserved area of the Northwest NT rather than a relocation of population with the SAR per se.

London 2001-2011

In London as well, three factors for both census years emerge: the first two factors for both years are related to work and cultural background and accommodation respectively (Table 5). In 2001, the third factor represents occupations known to offer little job security and, in 2011, the third factor is related to social status. Ethnicity and poor housing conditions correlate strongly in both years, whereas work-related aspects appear in conjunction with social status and education. Recent international migration coincides with low quality housing, notably crowding as measured by persons per room.

<center><TABLE 3 ABOUT HERE></center>

The three factors are associated wtih distinct geographies of work precarious migrants in London (Figure 5). The first factor highlights areas in East London and in the West London borough of Hillingdon. Central areas across the boroughs of Camden, Chelsea and Kensington and Westminster and the City of London indicate low concentrations of work precarious migrants. This polarized geography of the work precariat between East and West, Inner and Outer London appears more pronounced in 2011. The inner suburbs of London score high on the second factor, whereas the outer suburbs along the boundaries of the Greater London Authority show the lowest

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factor score. The third factor produces the reverse pattern in 2001: here, the outer suburbs reveal higher tendencies of work precarious migrants than inner suburbs. In 2011, the third factor identifies Inner London as well as scattered areas in Outer London as precarious.

<FIGURE 5 ABOUT HERE>

Combining these factors by the G* method to a likelihood score of work precarious migrants in London (Figure 5.7) highlights in 2001 areas in the outer suburbs in the West and the inner and outer suburbs in the east, as well as location near the City Fringe (Hackney and Tower Hamlets) and in South London (Southwark). The pattern is significantly more dispersed, which indicates a low degree of larger spatial clustering of work precarious migrants. It seems that the geography of the precariat in 2011 has shrunk significantly to smaller pockets in the inner suburbs – possibly precarious groups have been pushed beyond the jurisdiction of Greater London due to gentrification and increasing pressure on the housing market in London.

<FIGURE 6 ABOUT HERE>

<FIGURE 7 ABOUT HERE>

The changing geography of work precarious migrants in London has strong implications for third sector organizations. Although third sector organizations are spread all over London with strong concentrations in Westminster, the East End, Southwark and Camden, less than 10 per cent (156 out of 1,888 organizations) are *directly* located in precarious areas as defined by the 2011 likelihood index. Considering organizations within a radius of 1,000 meters (as shown in Figure 5.8), this figure rises to 76 per cent (1,429 organizations). While this means that three out of four organizations are located within accessibility of precarious areas, it is still substantially less than in Hong Kong.

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SPATIAL RESTRUCTURING OF THE WELFARE STATE AND SHRINKING GEOGRPAHY OF THE URBAN WORK PRECARIAT

This analysis of the geography of work precarious migrants and third sector organizations has demonstrated that:

1. There are different, albeit related, dimensions of precarity exhibiting distinct geographies in each city.

2. Between the two points of time, precarious residential areas have dispersed further outward from the central city core in both cities.

3. Broadly these dimensions of precarious residents can be distinguished by accommodation and work, with an additional dimension related to cultural background and recent arrival in Hong Kong.

4. The degree to which the geography of third sector organizations and precarious areas overlap differs between Hong Kong and London, with the former showing more overlap than the latter.

5. The noticeably shrinking geography of the precariat in London constituting a spatial expression of the transformation of the welfare state.

The findings suggest that locational practices and decisions by third sector organizations are driven by aspects incongruent with the location of precarious migrants and 'native' precarious residents, if the identified areas do indeed reflect precarious work migrants. A degree of inertia (or constraint?) can be ascertained as the organization's locations broadly seem to correspond more with the geography of precariat in 2001 rather than 2011 and also reflecting prior research

(Wolch & Dear, 1993; Fyfe & Milligan, 2003, Findlay et al, 2007; Vertovec, 2007). Thus the spatial association between the organizations and precarious work migrants can be expected to weaken further, if precarious migrants continue to disperse in the two cities, and in the case of London, beyond the city.

It seems that aspects of economic polarization are evident in both Hong Kong and London, upon consideration that residential locations in central city areas are increasingly (but not completely) occupied by more economically-advantaged residents (Wong, 2015; Hamnett, 2014). This is certainly true in Hong Kong where the property market was experiencing sustained and rapid valuation growth between 2001 to 2011 (Monkkonen, Wong, and Begley, 2012). However, while London's precarious population seems to have dispersed between 2001 and 2011, possibly beyond the boundaries of Greater London itself, Hong Kong's precarious population is consolidating during that period in the furthermost reaches of the northern New Territories, perhaps evidence of entrapment. The work precarious migrant in Hong Kong can only afford the smallest living spaces in the most precarious, and usually the densest parts of the city, and circulates between such periphery and areas. Conversely, the work precarious migrant in London must confront creeping gentrification that forces him or her to completely vacate more centrally-located mixed areas. Moreover, the mismatch between precarious populations and the location of third sector organizations is also similar, in that there is evidence of substantial inertia in the system: by 2011, precarious populations were less likely to be spatially concomitant with third sector organizations than in 2001 in both London and Hong Kong.

Another aspect of divergence between Hong Kong and London is related to the diversity of organizations serving migrant and ethnic minority populations. While the two cities have a

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roughly comparable number of organizations sites (1,929 and 1,888 respectively), in Hong Kong there are only 84 individual organizations, many with numerous branches throughout the region. At first glance this provides some support for the idea that the third sector is mediating between precarious residents and the welfare state within Hong Kong. This may be accurate, especially as different groups of the migrant and ethnic minority population are able to make claims, to some extent, on the Hong Kong government (Ou & Pong, 2012; Hsia, 2009). The presence of legal protections does not, however, necessarily translate into mechanisms for exercising legal rights which may effectively exclude marginalized populations due to language constraints, information asymmetries and lack of effective mechanisms to monitor some groups of migrants. For example, for those in domestic employment claims often result in the opposition of views between the employer and the employee unsubstantiated by third parties as they occur behind closed doors of private residences (Constable, 2014). Constable's recent study highlights how such disputes rarely are settled in the employee's favor. The relatively few distinct civil society organizations relative to the number of facilities dispersed throughout Hong Kong could be explained alternatively as representing a more active role of the state in service provision to resident migrant and ethnic minority populations. This supports Lee's (2012) observation that 90% of social services are provided by non-profit organizations, which are heavily state-subsidized reflecting the interventionist nature of the Hong Kong (and arguably Asian) welfare state. As for London, the state's role regarding work precarious migrants alternates between overbearingness and absence – the topic of further exploration in more detail in DeVerteuil's subsequent paper in this issue – which has led to a proliferation of protective immigrant-serving organizations.

CONCLUDING REMARKS

At the outset, this study identified as a significant research gap, the relationship between the social geography of precarious migrants and third sector organizations at the full scale of the global city positing the implications for spatial justice and equity. Our findings provide some support while highlighting potential contrasts for previous neighborhood level urban research by DeVerteuil (2011a) and Findlay et al (2007). In particular, DeVerteuil found dense clusters of residents sharing ethnic background overlapping with tightly knit third sector organizations serving the target population in London and Los Angeles. This geographic coupling of residence and organizations may be a feature of niche service catering to select ethnic groups in this instance. Alternatively Findlay et al's study (2007) identifies overlap of the geography of asylum seekers and third sector organizations within the city center, but decreasing overlap in the more peri-urban areas. Our research suggests a somewhat similar phenomenon, especially when considering the change over time from 2001 to 2011. In Hong Kong there is a relative scarcity of services in the 'newest' migrant residential locations of the northern New Territories and a similar phenomenon is evident in London with increasing residence of migrants in suburban areas in contrast to inner city concentration of NGOs (if the interpretation of dramatically shrinking geography of the precariat in central London equates with suburban—or further afield—relocation). Given that our target population includes to a certain extent individuals who are living in irregular and/or undocumented legal statuses, in part due to visa restrictions and housing arrangements, our estimation method offers a useful proxy approach to capture likelihood of residence in the absence of accurate count information. Although we cannot be

certain of the exact match between estimation and residence, the method nevertheless offers a productive approach to mapping hidden populations. Deeper examination of the dynamics of interaction between the work precariat and third sector organizations is needed to better understand the interplay between welfare policy, in particular related to social housing, and vulnerability of migrant and ethnic minority populations within the two cities. The current study does, however, provide support for increasing residential dispersal from the core to periphery areas in both cities in the first decade of the 2000s and an increasing mismatch between the third sector and population residences, suggesting a continued diminishment of access to social and public services that can potentially cater to the super-diversity of global cities. In an era of increasingly multiethnic cities and nations, Vertovec's vision to develop and provide services "better suited to the needs and conditions of immigrants, ethnic minorities and the wider population of which they are increasingly a part of" seems to be increasingly unattainable (2007: p. 1050) While the results in themselves are useful in highlighting the changing social geography of these global cities, they suggest the need for more in-depth analysis, which will be undertaken, in a first step, in subsequent papers of this special section.

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Table 1: Key Variables to Locate Precarious Migrants (London and Hong Kong)

Hong Kong (Large Street Block Groups 2001 and 2011)	London (Lower Super Output Areas 2001 and 2011)
1. Cultural	
− non Chinese Asian ethnicities − non-Chinese Asian language as main language	− non European ethnicities
2. Economic	
− income below HKD 6000 (USD 770) per month − manufacturing, construction or services − low skilled jobs: personal services, sales and customer services, machine operations, elementary occupations	− semi-routine and routine occupations (NSSEC) − manufacturing, construction or services − low skilled jobs: personal services, sales and customer services, machine operations, elementary occupations
3. Education	
− no qualification	− no qualification
4. Accommodation and tenure	
− rooms, cubicles or bed space − main, co or subtenant − large households (more than 5 members) − recent arrival (less than 5 years) − persons per room − non-familial households	− shared dwelling, temporary structures, in commercial building − social rented, living with employer, relative or friends, living rent-free − large households (more than 5 members) − recent arrival (2001: less than 1 year; 2011: less than 5 years) − persons per room − other, non-familial households (except pensioners and students)

Table 2 – Dimensions of work precarious migrants in Hong Kong 2001 and 2011

Precariousness in Hong Kong	2001			2011		
	Factor1 work	Factor2 accom- modation	Factor3 ethnicity & low income	Factor1 work	Factor2 accom- modation	Factor3 cultural bgr.& low income
1 low skilled jobs	.815	.167	.229	.839	.135	.131
2 persons per room	.805	-.041	-.056	.747	-.209	-.132
3 low education	.762	.069	.060	.788	.084	-.091
4 manufacturing, construction, services	.662	.240	-.123	.565	.094	-.351
5 main, co or subtenant	.244	.768	.151	.047	.760	.007
6 rooms, cubicles or bed space	.099	.821	.211	-.006	.870	.037
7 income below HKD 6000	.025	.080	.689	-.090	.029	.720
8 large household (≥ 5 people)	-.029	-.549	.588	-.045	-.105	.603
9 non-familial household	-.070	.713	-.123	-.017	.386	-.305
10 recent arrival (<5 years)	-.249	.318	.366	-.390	.352	.260
11 Non-Chinese Asian languages	-.339	.209	.206	-.392	.123	.399
12 non-Chinese Asian ethnicity	-.691	.098	.406	-.558	.138	.558

34

SS loadings	3.06	2.33	1.32	2.83	1.73	1.68
Proportion Var	0.25	0.19	0.11	0.24	0.14	0.14
Cumulative Var	0.26	0.45	0.56	0.24	0.38	0.52

Table 3 – Dimensions of work precarious migrants in London 2001 and 2011

Precariousness in London	2001			2011		
	Factor1 work	Factor2 cultural bgr. & accom-modation	Factor3 occupation & househ. size	Factor1 work & househ. size	Factor2 cultural bgr. & accom-modation	Factor3 accom-modation & social bgr.
1 low skilled jobs	.932	-.004	.287	.905	.168	.334
2 low socio-economic position (NSSEC)	.926	.213	.064	.862	.037	.454
3 low education	.905	-.131	.195	.814	-.163	.410
4 co or subtenant	.583	.429	-.525	.062	.319	.856
5 manufacturing, construction, services	.577	-.375	.573	.886	-.114	-.144
6 persons per room	.377	.813	-.070	.319	.711	.515
7 large households (≥ 5 people)	.214	.061	.801	.708	.296	-.156
8 non-Western ethnicities	.100	.916	.073	.150	.908	.145
9 non-familial households	-.045	.894	-.097	.009	.828	.072
10 shared or temporary accommodations	-.223	.574	-.499	-.463	.414	.099
11 recent arrival*	-.420	.640	-.262	-.191	.912	.123
SS loadings	3.64	3.43	1.71	3.89	3.28	1.58
Proportion Var	.331	.312	.155	.354	.298	.144
Cumulative Var	.331	.643	.798	.354	.652	.795

* 2001 (< 1 year), 2011 (<5 years)

Figure 1. – Hong Kong's and London's administrative geographies

Hong Kong districts	London boroughs

Fig. 2 – The geography of three dimensions of work precarious migrants in Hong Kong
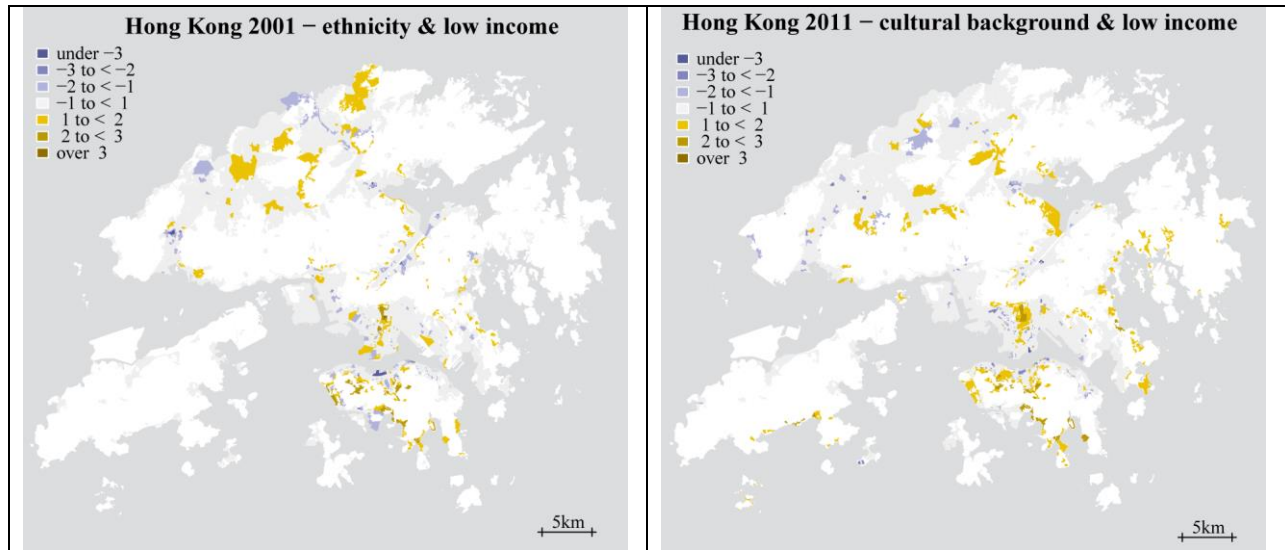(derived from Hong Kong Census & Statistics Department and Hong Kong Planning Department
data © 2013)

Hong Kong 2001	Hong Kong 2011

Fig. 3 – Likelihood index of work precarious migrants in Hong Kong

Fig. 4 – Spatial overlap and mismatch of third sector organizations and precarious areas in Hong Kong (2011)
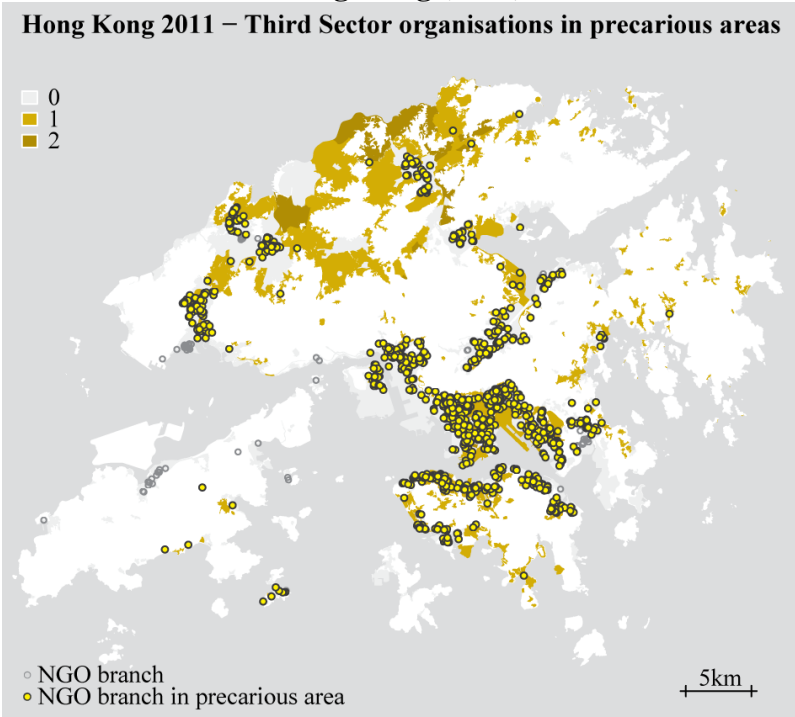

Hong Kong 2011 − Third Sector organisations in precarious areas

0
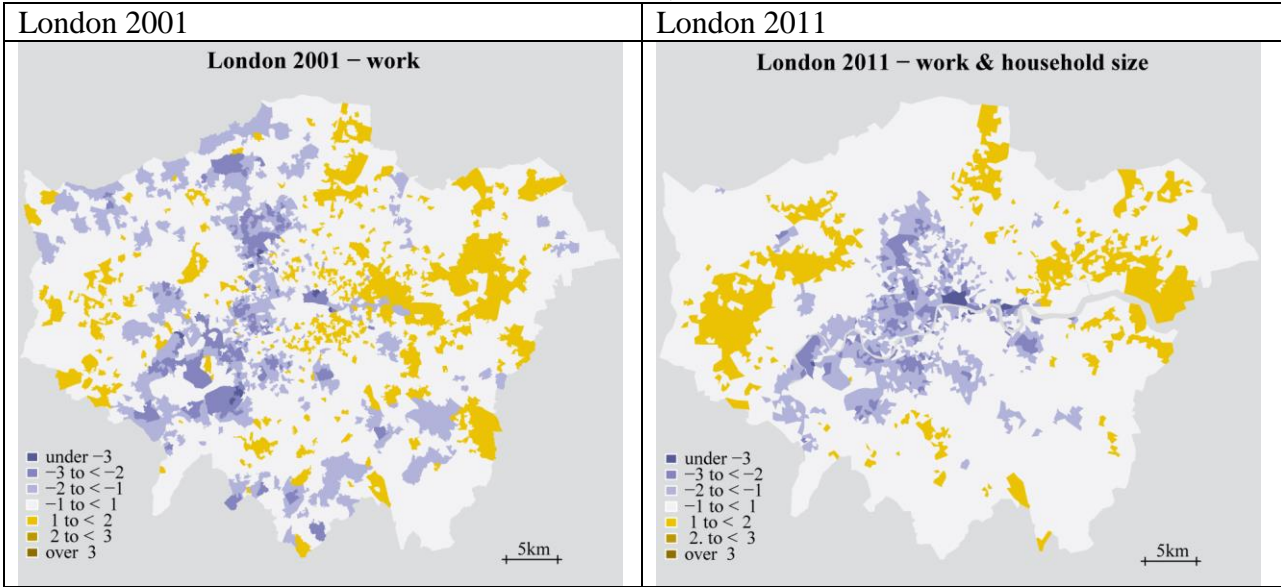1
2

○ NGO branch
○ NGO branch in precarious area

5km

Fig. 5 – The geography of three dimensions of the precariat in London (derived from National Statistics and Ordinance Survey data © Crown copyright and database right 2013)

London 2001	London 2011

London 2001 − work

under −3
−3 to < −2
−2 to < −1
−1 to < 1
1 to < 2
2 to < 3
over 3

5km

London 2011 − work & household size

under −3
−3 to < −2
−2 to < −1
−1 to < 1
1 to < 2
2. to < 3
over 3

5km

London 2001 − cultural background & accommodation

London 2011 − cultural background & accommodation

London 2001 − industry & household size

London 2011 − accommodation & social background

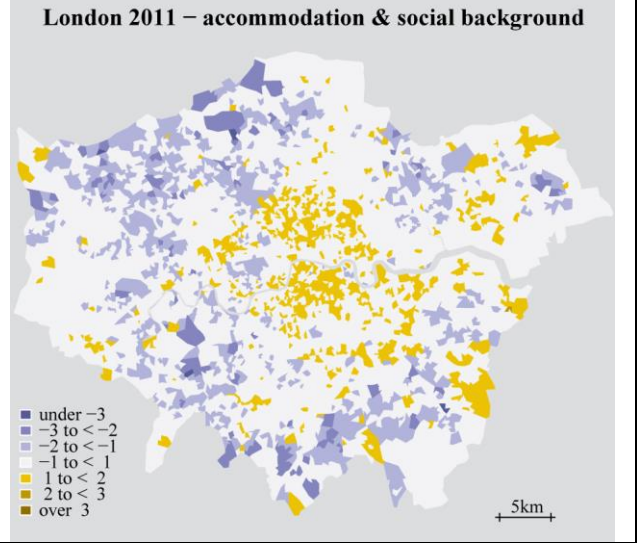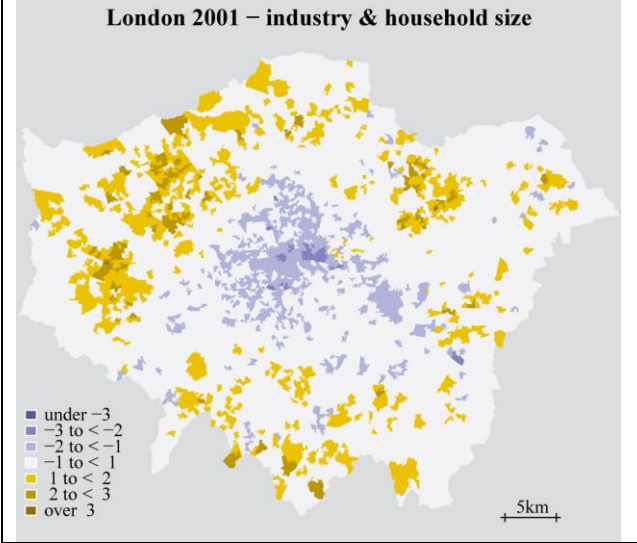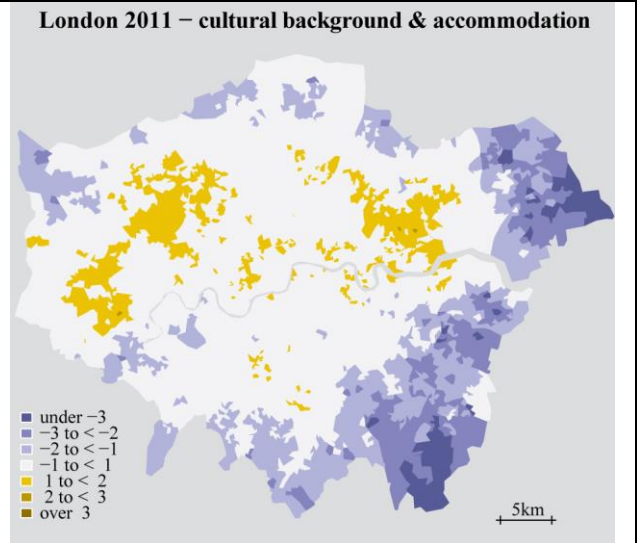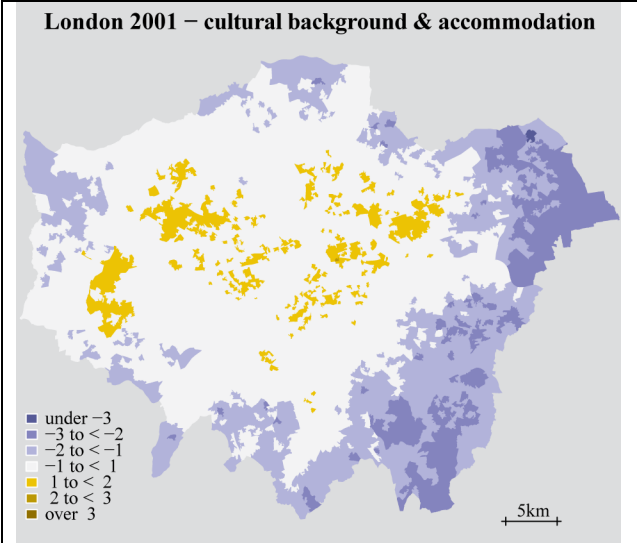under −3
−3 to < −2
−2 to < −1
−1 to < 1
1 to < 2
2 to < 3
over 3
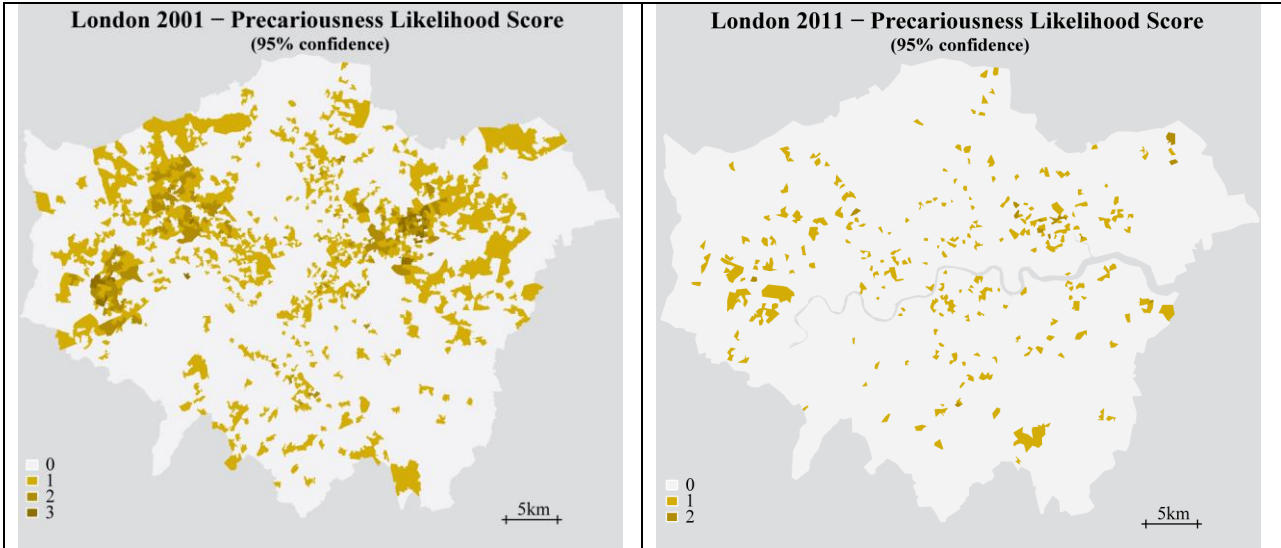
5km

Fig. 6 – Likelihood index of precariousness in London

Fig. 7 – Location of third sector organizations in London

London 2011 -- Third Sector organisations in precarious areas

0
1
2

NGO branch
NGO branch in precarious area

5km