Situations Vacant: A Conceptual Framework for Commercial Office Vacancy across the Building Life Cycle

Institution

Northumbria University
Sutherland Building
Newcastle-upon-Tyne
NE1 8ST

Authors

Dr Kevin Muldoon-Smith (corresponding)
Dr Paul Greenhalgh

Abstract

Commercial office vacancy is a key indicator of property market efficiency, economic performance and urban resilience in towns, cities and regions in the developed and less developed world. Vacant office buildings offer a glimpse into the performance of local economies and the changing use of building space within these heterogeneous locations. There has been little conceptual reflection into the abstract notion of office vacancy beyond binary distinctions of natural and structural vacancy. Although useful simplifying meta-concepts during times of economic stability neither accounts for the internal complexity and imperfection that permeates real commercial office markets in contemporary times of relative transience and permanence. Consequently, the objective of this article is to outline a conceptual framework that describes office vacancy across the commercial real estate building lifecycle – from initial construction to final demolition and redevelopment. Originality rests in the utility as the first known holistic examination of commercial real estate vacancy beyond that of an abstract economic factor. Its significance is explicit in the typology which can be used by researchers interested in market imperfections and consequent interventions. The article concludes by outlining some new research opportunities that have been enabled by the augmented vacancy typology and considers some research limitations.

Key words: Natural Vacancy, Structural Vacancy, Commercial Real Estate**,** prime, secondary, offices

Introduction and justification for research

The objective of this article is to outline a conceptual framework that describes office vacancy across the commercial office building lifecycle – from initial construction to final demolition and redevelopment.

Albert Einstein allegedly quipped that,

> 'If a cluttered desk is a sign of a cluttered mind, of what, then, is an empty desk a sign of?'

In the international context, what do underperforming and empty commercial office buildings tell us about the cities in which they reside, the landlords who own them, the occupiers who use them, the investors that trade them, and the institutions of the commercial real estate markets which govern them? One way of considering this situation, from the perspective of the commercial office market, is that empty offices provide, a window into the soul of our shifting economy and changing use of building space.

Research into office building vacancy is not new. The changing consumer demand of occupiers has regularly rendered property assets redundant, obsolete and vacant – exhibiting the creative destruction outlined by Joseph Schumpeter in 1950. Moreover, some commercial office vacancy is a 'necessary' attribute of property markets. The efficient operation of commercial property markets, reflected in churn and filtering of businesses up and down the property ladder cannot happen without a certain degree of vacancy. This type of vacancy can be understood as that part of stock that efficiently clears in response to the needs of occupier demand. This process of vacancy is generally referred to as initial, frictional or cyclical in nature (Kerris and Kopells, 2006). However, what is new is the increased incidence of office vacancy and the media attention given to ghost towns, zombie high streets and moribund buildings. This is due in large part to the international real estate sector experiencing a set of structural growing pains in response to dynamic changes in business practices. For example, the appetite for smaller commercial floorplates in the office sector and the disruptive influence of new property technology on working conditions have all increased uncertainty in the global real estate market. The result is that vacancy in buildings and locations is now more frequent (Henneberry, 2017) and is more difficult to anticipate in contrast to the relatively regular occurrence of vacancy following long lease expiry or business cycle activity seen in recent decades. In response to this more volatile nature of vacancy, there is a pre-emptive need for a conceptual framework that captures the nature of vacancy across the building lifecycle.

This analytical aperture directs the primary aim for this article. In order for researchers and practitioners to reflect on commercial real estate vacancy, they need to have a conceptual framework that can be used to reflect on the material reality of vacant office properties - one that moves beyond the binary distinction of natural (Lausberg, 2008) and structural vacancy (Remoy, 2010) and the broad notions of positive and negative vacancy. The conceptual output of this article, the vacancy typology, is informed by a 3-year research project into office market obsolescence, depreciation and vacancy in the UK. While conducting this research, based on an on-going interview process with more than 100 industry professionals, it quickly became apparent that the traditional language used in academia and practice to describe office vacancy was not adequate to express or explain the various manifestations of vacancy present in the commercial office market, nor its variability and change.

In this article, *natural vacancy* is broadly taken to mean those properties that efficiently clear respective property markets while *structural vacancy* is taken to mean those vacant properties that no longer have a relationship with occupier demand in their present use. Consequently, the primary objective of this article is to develop a framework that can be used to examine vacancy throughout the building lifecycle – starting with the initial construction phase and ending with demolition and redevelopment. The article is based on research into the commercial office market, however, the resultant conceptual typology has the potential to be applied broadly to all of the major commercial

property types (for example retail and leisure and industrial markets) as long as the unique nature of each type of property is also considered.

The main sections of the article set out a new conceptual agenda that situates traditional conceptualisations of vacancy within contemporary debates of transience and permanence. Theoretically, the aim is to demonstrate how the afore mentioned conceptual agendas, predominantly found in econometric real estate research and social science and often studied in isolation and/or in discreet locations, can be combined to shed new light on office vacancy. The intention is to foster more cross-transfer of learning and multi-disciplinary research in building vacancy research. The article then concludes by outlining some opportunities for new research and considers some limitations to the article.

The motivation for this research is to provide a sound basis for governments and property managers to evaluate ideas for vacant building management and adaptation in the commercial office sector. For those property professionals involved in the day-to-day management of commercial office assets in the developed world, the article provides an approach to understanding the wider significance of vacant buildings, which we hope, will contribute to more knowledgeable and effective practice in relation to vacant building strategies. Expanding knowledge in this area will help city leaders and asset managers in mature urban areas deal with the challenges of adapting an ageing and poorly performing property stock.

However, it is also hoped that this approach will help city leaders and property professionals dealing with the demands of accelerating urbanisation in the less developed world, which requires an understanding of urban development processes and the potential impact of vacancy in the future. Encouragingly, less developed countries may have the potential opportunity to leapfrog certain elements of office vacancy. This is because their built environments are often formative in their development and they have the opportunity to learn from experiences in more mature locations. However, in line with the arguments of Perkins (2003), the article cautions against overly optimistic interpretations of leapfrogging that ignore the context of such locations in relation to project goals, technology and institutional capacity when outlining a research opportunities for office vacancy in global office research. The authors also note that the traditional binary distinction between developed and less developing countries is problematic, certainly over simplifying the rich diversity of characteristics found within and between each relative classification. Indeed, the World Bank dropped the categories ‘developed’ and ‘developing’ from its economic vocabulary in 2016. Instead, the authors use the broad distinction of ‘developed’ and ‘less developed’ to compare the relative maturity of built environments in such locations, rather than making any assumptions about the respective locations economic or social capacity.

The following section first considers historical research into vacancy before introducing more recent research in relation to transience and permanence in the built environment. This theoretical framework forms the backdrop and justification for the new conceptual framework introduced in the latter part of this article.

Theoretical context

In recent decades researchers have studied vacancy through a variety of perspectives; those interested in obsolescence and depreciation (Baum, 1991, 1993; Baum & McElhinney, 1997; Dunseand Jones, 2005; Andrew & Pitt, 2006; Crosby & Devaney 2006; Crosby et al 2011); those interested in the adaptation of vacant properties (Barlow & Gann, 1996; Beauregard, 2006; Kincaid, 2002; Heath 2001; Geraedts & van der Voordt, 2003; Agre, 2005; Langston et al, 2008; Remoy, 2010; Remoy and Wilkinson, 2012; Wilkinson and Read, 2011) those who want to map the characteristics of vacancy (Myers & Wyatt, 2004; Katyoka & Wyatt, 2008; Remoy H & Koppels, 2009); those who model the cyclical behaviour of the economy and property (Ball 2003; Barras, 2009; Wheaton 1999); and those who reflect on the medium to long-term rental adjustment process (Blank & Winnick, 1953; Wincott,

1997; Voith & Crone, 1988; Crone, 1989; Grenadier, 1995; Pissarides, 2000, 2005; Sanderson, et al., 2006; Miceli & Sirmans, 2013). Concurrently, professional practices regularly use relative vacancy levels (alongside absorption and take-up, rent and yield) to monitor the performance of local markets (see quarterly updates from international commercial real estate companies, CBRE, Savills, Colliers, Avison Young, Cushman and Wakefield, BNP Paribas, Jones Lang LaSalle). However, broadly speaking, in this perspective functional real estate assets grow old, become less productive, and must then be improved or replaced. Through this process, loss of value occurs gradually in a typically linear fashion related to the original function of the building rather than under external conditions of sudden market disruption [Christensen, 1997].

In contrast, the recent turn towards issues of transience and permanence (Henneberry, 2017) can be associated with increased levels of vacant land and premises in the post-industrial city (Buckholder, 2012), an engagement with DIY, guerrilla and tactical urbanism (Deslandes, 2013), an emphasis on temporary and informal uses (Columb, 2012; Bishop and Williams; 2013; Oswalt et al, 2013) and the pragmatic steps involved in transferring a temporary activity into a mainstream process (Andres, 2013; Crosby and Henneberry, 2015). Rather, than gradual depreciation leading to vacancy over a period of time, sudden change and transience is the order of the day in this literature.

Transience is a natural characteristic of the real estate development process. Buildings are produced in response to socio-economic circumstances to meet extant demand. As that demand evolves through economic re-structuring, technical innovation, social change and so on, existing buildings and uses become obsolete and new buildings and uses are required to replace them – a 'natural' building development cycle (Barras, 2009; Henneberry 2017). Transience within this conceptual framework might be considered to occur at two levels relating to the temporality of 'permanent' buildings / uses and, when their redevelopment is stalled, of the passing uses that are made of derelict / vacant land and buildings in the interim.

If we examine this broad framework in more detail in the commercial property market, we can see that transience can relate to the relative permanence of physical buildings before they are altered or redeveloped in response to physical obsolescence or external stimuli such as new occupier requirements and technological change (Drane, 2013; Muldoon-Smith and Greenhalgh, 2016). Transience can also be illustrated by the parallel use and movement of business between physical premises as they make new location decisions. For instance, 'filtering' describes the movement of businesses between properties as they filter up the property ladder into better quality premises or down the property ladder into lower quality premises.

'Take up' or 'absorption' describes the rate at which businesses occupy property within a specific time period. In addition, displacement is often related in the classic gentrification literature to the push factors of new, wealthier businesses which increase local property prices and consequently price-out the original business community (see Smith, 1979; Marcuse, 1986; Lees et al 2010). In commercial property markets displacement can also be related to the mis-match between the buildings that firms occupy and their actual needs (see Fothergill et al, 1987; Harris, 2002; Greenhalgh and King, 2013). In this instance, the pull factors of new premises and attractive socio-economic conditions elsewhere can provide an incentive to move from existing locations. Viewed in this way, commercial office property is not a rigid construction set in stone, rather, it is a "transient manifestation of human activity" (Barras, 2009, 2).

In certain locations urban development also responds faster to occupier need, due to buoyant socio-economic conditions which assist commercial viability. In others, that response may be slower, due to adverse economic conditions. This is because commercial real estate markets and their locations are not uniform. Instead, they have their own distinctive traits, rhythms and cycles of change (Bryson 1997; Barras 2009). Finally, transience can also relate to the temporary use of commercial stock, as meanwhile and interim uses move into vacant premises in order to exploit advantageous rental

conditions or to minimise the holding costs associated with vacancy and dereliction on behalf of the landlord. This occurs because of the frequent interval between one building use and the next (Henneberry 2016 et al). It is in these circumstances that temporary and meanwhile use strategies - such as pop-up business centres, pepper corn rents and easy-in/easy-out conveyance procedures (Graham, 2012; Ziehl et al, 2012) - tend to be deployed to deal with periods of economic inactivity (Oswalt and Rieniets, 2006; Bishop and Williams, 2012). All of these terms, whether they relate to physical buildings, occupier behaviour, location or temporary and meanwhile use, are suggestive of building transience and are reliant on vacancy. Yet, the traditional conceptual tool kit related to natural and structural vacancy does not capture this situation very well.

Current Vacancies

Historically, it is the former research into rental adjustment and professional practice that has given most attention to vacancy, although recognition is given to the more recent emphasis on understanding vacancy in order to assist adaptive re-use. Much of this traditional research has specifically focused on the natural rate of vacancy rate and the prime markets. Typically, this language has borrowed from neo-classical economics, particularly its cyclical nature, and surveys of the labour market. This is most clearly seen in the parallel utilisation of the natural rate of unemployment and property vacancy and the utilisation of initial, cyclical and frictional categories of unemployment and property vacancy (outlined by Kerris and Kopells, 2006).

In the study of employment, initial vacancy is taken to mean those potential employees who are recently qualified but yet to find employment. The parallel example in commercial real estate are those commercial properties that have just been constructed but have not been filled yet. Cyclical unemployment occurs in parallel with the economic cycle; for example, when the economy is in decline unemployment will rise and vice versa. A similar process takes place, although lagged, in commercial real estate as the property cycle oscillates over time. Furthermore, frictional unemployment is a result of the movement of employees between firms and the consequent time taken to hire and refill vacant positions. This same process takes place in commercial real estate as businesses expand and retract. While structural unemployment is the consequence of a permanent change in the composition of the economy which leads to mis-matches between the requirements of business and the available employee skills and training base to fill these positions (for a rare discussion of structural property vacancy see Remoy, 2010). However, although the employment market analogy is useful, there are key differences between employment and commercial property markets. For example, new entrants into the employment market typically enter at the bottom rung of the employment ladder and work their way up. In contrast, new property stock typically enters at the top rung of the property ladder and then descends as it depreciates over time.

The central argument in this article is that while commercial real estate is most certainly linked into the economic cycle, it deserves its own conceptual framework that recognises the unique nature, imperfections and frictions associated with office markets. It is worth noting that initial, cyclical and frictional concepts of vacancy implicitly assume that the market process will correct itself over time as the market clears. It is only structural vacancy that considers the other side of this situation, those properties that do not clear the market, and fall off the business cycle. On a certain level, the existing set of terminology covers both sides of the commercial market, those properties that are temporarily vacant and those that are permanently vacant. However, under closer scrutiny this argument starts to fall apart when we consider that the natural rate of vacancy, which by most estimates only accounts for 4-10% of stock, has received the majority of academic attention. The rest of the vacant commercial stock, that considered structurally vacant, is relatively unexplored (Lausberg, 2008). This article responds to this situation by setting out a conceptual framework that delves under this condition, particularly, the transition from natural to structural vacancy and reveals the operation of perceived sub-optimal variants of vacancy which have received less attention in academia and practice. It achieves this aim by introducing two other commercial property ingredients into the discussion, the

commercial property descriptions 'prime' and 'secondary.' In this article, prime property is taken to mean the most recent additions to, and most desirable segments of, commercial stock. In contrast, secondary property is taken to mean older stock in relation to the traditionally more desirable prime stock. The secondary focus is vindicated in the vacancy typology, when it becomes increasingly apparent that a simple bifurcation between natural and structural vacancy does not exist. Secondary vacancy transcends both positions, indicating the ambiguous and dynamic nature of commercial vacancy. It is important to note at this juncture that important research has taken place into office market segmentation. For example the work of Jones (2012), Dunse and Jones (1999; 2002), Dunse et al (2001) and Dunse et al (2002). However, this research has largely investigated sub-markets through a spatial land markets perspective. The conceptual framework outlined in this paper does interact with office sub-markets, for example prime and secondary segments, however it does so in order to consider vacancy across the building life cycle, rather than across space.

It is also worth noting that it is not the aim of this article to criticise existing research into vacancy, indeed, it is the basis for many of the econometric pillars of commercial real estate thought. Rather, the article argues that the current nature of office markets necessitates a more detailed engagement with vacancy, which in turn will help those engaged with a more resilient built environment. This extended debate also has the potential to inform new econometric analysis into less efficient parts of commercial office property. The typology builds upon the traditional concepts of initial, frictional, cyclical and structural vacancy. The intention is to put forward a conceptual framework that can be used to consider all of vacancy in real market contexts. It is hoped that the framework will present an opportunity for renewed investigation into vacancy and validation in different market contexts.

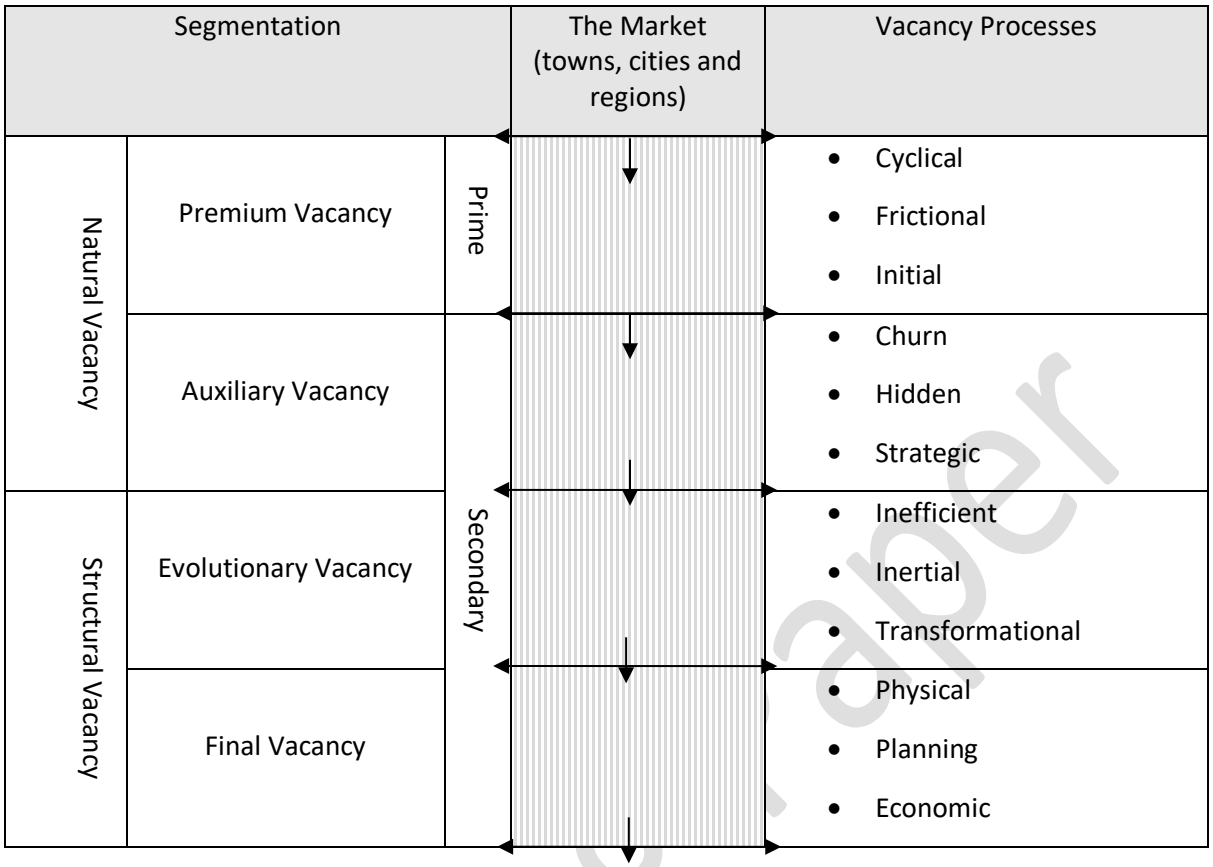
A Typology of commercial vacancy

Orthodox thought suggests that commercial vacancy can be separated into two broadly distinct tiers, that of natural vacancy and that of structural vacancy. This then interacts with the realities of commercial property practice, which in itself, is separated into the prime market and the secondary market. However, these parallel bifurcations do not run contiguously. Each vacancy tier, natural and structural, has its own characteristics, and although both part of the same commercial market, operate and manifest themselves quite differently.

Figure 1, the Typological Model of Office Vacancy, and the proceeding narrative explain this situation. Figure 1 should be read from left to right and top to bottom. The horizontal dimension describes the operational variation inherent in commercial office vacancy, running from the macro to the micro level. This is denoted by the horizontal arrows which pass through Column 3. The vertical dimension represents the property ladder, the filtering process of tenants as they move between office buildings, and the building life cycle. The best properties are added to the top in a funnel like system and the worst ones eventually drop out of the bottom depending on their contingent circumstance (following the vertical arrows in Column 3).

(Insert Figure 1 here)

Figure 1: Typological Model of Vacancy



The first column describes the respective tiers of vacancy, natural vacancy and structural vacancy. Natural vacancy describes those properties that efficiently clear through the classic supply and demand mechanism, while structural vacancy describes those properties that no longer clear through the supply and demand mechanism (Column 1 describes the macro level description of the vacancy process). This bifurcation can then be sub-divided in order to reflect real market segmentation. The natural rate can be sub-divided into premium and auxiliary vacancy. Premium vacancy, as the name suggests represents the very best buildings that are on the market and is associated with the familiar initial, frictional and cyclical vacancy (Kerris and Koppells, 2006; Lausberg, 2008). Auxiliary vacancy describes those vacant secondary properties that still have a role to play in the commercial real estate market. Auxiliary vacancy describes non-prime secondary properties that are held in reserve in order to 'fill in' prime supply shortages. The concept of 'filling in' is, by its very nature temporary. This is because it presumes that once new prime buildings are constructed, tenants will move to higher specification accommodation. Filling in is most likely to take place in buoyant areas with tight supply conditions and during and following times of recession when speculative construction has abated resulting in lagged development.

Auxiliary vacancy is more permanent in those areas with adverse economic conditions, where it is difficult to justify the cost of development. In these locations it is important to safeguard viable secondary space in order to fulfil the requirements of occupier demand and economic development (in such areas auxiliary vacancy is closer to premium vacancy).

In turn, structural vacancy can then be sub divided into evolutionary vacancy and final vacancy. Evolutionary vacancy describes those properties that could still have a future in alternative use if adapted. Final vacancy, as the name suggests describes those properties that no longer have a future either in their present or alternative use and should therefore be removed from property supply altogether. The first two columns can then be related to the overall commercial office market (column

3), which, for simplicity, is divided into prime property and secondary property. It is important to note that the prime market only intersects with premium vacancy, while, secondary vacancy accounts for auxiliary, evolutionary and final vacancy.

It is this part of the model that lays out the disparity and non-alignment between natural and structural vacancy, and the prime and secondary market (they are not one and the same). Demonstrating the influence of the secondary market, this model indicates that it is, in part, included in both tiers of vacancy, natural and structural, as it also forms part of the auxiliary layer of vacancy. It is this non alignment that exposes the myth that all secondary vacancy is bad and that the natural rate of vacancy only contains prime property. The third column, representing the property market (and its contingent location), forms the spinal structure of the model. The left hand side (of which) considers the segmentation of vacancy in market locations, while the final column to the right, considers the processes of vacancy that take place in these locations. It is these processes that reflect and make sense of the dynamic change and movement that takes place within and between the respective segments of commercial office vacancy.

This is because the final column describes the micro level vacancy interaction. 'Cyclical', 'frictional' and 'initial' vacancy are relatively well known in the international literature (Kerris and Koppells, 2006; Lausberg, 2008; Remoy, 2010). These concepts are typically associated with the 'natural' rate of vacancy, market clearing and concepts of equilibrium and premium vacancy. By themselves they are an efficient means of describing premium vacancy as its level oscillates around equilibrium (cyclical), as it facilitates the movement of firms (frictional) and as new property enters the market (initial). All three types of vacancy are helpful as they facilitate the efficient operation of the property market and are therefore presumed to be temporary in nature.

Moving down Column 4, churn, hidden and strategic vacancy describe those types of commercial vacancy that take place within auxiliary vacancy. Churn vacancy is a variation of frictional vacancy, describing this concept after it has begun to filter down the property ladder. Churn vacancy takes place when the push and pull factors of new development at higher specification are constructed and cause existing tenants to filter up the property ladder through a 'flight to quality.' It is different to frictional vacancy because it leads to a downward revision in rent, capital value and yield (without significant property improvement) and takes place more regularly. In itself, it is not a negative attribute of vacancy, (this type of filtering and absorption is directly related to new start-ups and small businesses), however, it is a signal that such property is no longer a prime investment. Hidden vacancy describes that portion of vacancy that is difficult to detect, often consciously so. It includes those properties that are taking shelter from empty property taxation (but are vacant to all intents and purposes) and those properties considered grey space (those properties that are leased but are surplus to tenant requirements).

Strategic vacancy is a potentially negative attribute of the commercial market. It describes those instances when landlords forcibly evict or coerce tenants to leave their buildings in pursuit of higher values associated with alternative building use even though they are still relatively viable in their present use (hence why it sits in the auxiliary segment). Strategic vacancy is particularly prevalent in England, following planning changes which have incentivised landlords in certain locations to target more profitable use (the advent of relaxed planning regulation, through permitted development rights, has been seen to favour office to residential conversion due to the higher economic value of the latter). All three of these concepts are still part of natural vacancy but are also associated with degrading performance and an increase in void space.

Inefficient vacancy, transformational vacancy and inertial vacancy take place in the evolutionary vacancy layer. These types of vacancy can be considered on a progressive redevelopment spectrum and chart the transition of commercial office property into potential new use. Inefficient vacancy describes those properties that are inefficient in terms of operational cost, holding cost and embodied

carbon. These properties are functionally and economically obsolete and are ready to transition into alterative use (or potentially within use following major improvement). Inertial vacancy describes the regular impasse between operational use (in original form) and transformation (into new use). It does not happen in all cases but can be a consequence of restrictive tenancy covenants, planning negotiations and financial due diligence. As the names suggests, transformational vacancy describes those properties going through new development, and details the final transition between inefficient use, and such properties leaving supply altogether (and entering another property market with additional attributes).

Physical, planning and economic (often interrelated rather than separate categories) vacancy processes make up final vacancy. Planning vacancy includes those properties that cannot be adapted into alternative use (but are no longer viable in their present use) because they are constrained by planning regulation that places restriction on alternative use. Physical vacancy describes those properties that have either depreciated beyond repair or have restrictive designs which do not lend themselves to re-use. Economic vacancy describes those properties that are not supported by viable local rental levels. In other words, the underlying rental levels that underpin such buildings do not cover existing running cost or the cost of development. The only way these buildings can be re-used is through the introduction of subsidy.

The segmentation is not a static model. There is a great deal of transference between the fuzzy boundaries of the four segments, especially between auxiliary and evolutionary vacancy (and increasingly between market segments as the boundaries between use dissolve). It is also important to note that the model will also vary between locations depending on the prevailing market conditions in those locations.

Conclusion

This article has explicated a conceptual framework for commercial vacancy that moves beyond the positive facets of vacancy, such as initial, frictional and cyclical vacancy types (Kerris and Koppels, 2006) and the general approximation of structural vacancy. This thread of enquiry builds upon the initial work of Kerris and Koppels (2006) and sets out a conceptual framework that considers natural and structural types of vacancy, highlighting an additional set of vacancy concepts. The theoretical argument suggest that commercial vacancy can be separated into two distinct tiers, that of natural vacancy and that of structural vacancy.

This distinction then interacts with the commercial market, which in itself is separated into the prime market and the secondary market. However, these bifurcations do not run contiguously. Not all secondary vacancy is structural; for example, auxiliary vacancy captures those secondary properties that still clear the market and are held in reserve to support and fill-in for the prime market in certain locations. Each vacancy tier has its own characteristics, and although part of the same commercial market, operate and manifest quite differently. To demonstrate this situation, the horizontal dimension of the vacancy typology describes the scale based variation inherent in vacancy, running from the macro to the micro level. The vertical dimension represents the property ladder and the temporal building life cycle. The best properties are added to the top in a funnel-like system and the worst ones eventually drop out of the bottom dependent on their contingent circumstance. The originality of the research rests in its utility as the first known holistic examination of commercial real estate vacancy beyond that of an abstract economic factor or spatial segmentation, while its value is explicit in the conceptual typology, which can be used by researchers interested in market imperfections and consequent interventions.

In order to take the typology forward, the first challenge for global office market stakeholders, their professional bodies and academics is in connection to the recognition of vacancy beyond traditional definitions of natural and structural vacancy. The conceptual framework introduced in this article

hopefully goes some way towards this aim. However, new research needs to take place in order to create the informational baselines that reflect the existence and nature of the different types of vacancy outlined in this article. The conceptual framework is exactly that, merely a framework. We intend for it to be staging post for new research into vacancy and validation in different market contexts. Although, we maintain that the typology is a useful way of understanding vacancy, we expect each market context to be different. The dynamic process of transience and permanence is now a key feature of the real estate market dynamic. Furthermore, we concede that considerations of the respective types of vacancy are inherently colloquial – defined by the unique market tendencies in each location but also the subjective appraisal by market actors. For example, many of those properties considered secondary in London, Frankfort and New York are likely to be considered prime in regional cities. In the developed world this may be possible using market transaction data and estimations of vacancy and building quality**.** However, in less developed locations this may not be straightforward due to issues of information transparency. Therefore, other situational specific methodologies could potentially be more useful such as small location specific studies.

In addition, the authors argue that further blending of multi-disciplinary conceptual domains will be necessary to understand and interpret the variable contexts of office vacancy. For example, in growing cities, in both developed (through agglomeration) and less developed countries (through urbanisation), there is a need to accommodate rapidly increasing levels of population through more efficient building use. Understanding the evolution of vacancy across the building life cycle in developed countries could provide a potential opportunity to minimise vacancy in less developed countries. This is possible because large amounts of the built environment in less developing locations has not been constructed yet. However, this research needs to be approached critically, recognising that leap frogging is not a given and is contingent upon the technology available for investment; relative skills and institutional capacity; and, most importantly, political stability and will (Perkins, 2003). Indeed, Perkins (2003:) argues, “national governments will need to challenge entrenched domestic and foreign interests whose preferences lie, to a greater or lesser extent, along a business as usual path”. However, it would be inaccurate to claim that all towns, cities and regions are growing. There are countless examples of shrinking cities in the international context (for example the rust belt cities in North America, the Ruhrgebiet in Germany) and increasingly ghost cities (for example Ordos in China) that have never been inhabited to their full potential. Understanding, vacancy in these contexts can help counter and potentially take advantage of urban blight.

To support this approach, the authors suggest additional engagement with conceptual domains that interrogate emerging governance profiles in such locations; that seek to understand relative and emerging skill and institutional capacities. This would be complemented by research that moves beyond simple binaries of developed and less developed locations in order to utilise more precise alternatives measures such as the United Nations Human Development Index and that acknowledge the socially produced uniqueness of distinct real estate markets (Guy and Henneberry, 2000). This multidisciplinary approach to researching vacancy will help investigate the following key questions.

The global real estate sector is hugely disparate – how might vacancy be more or less important for different types of societies, geographies and heterogeneous property assets. This article has broadly discussed the global office market. In reality, each location is very different and will have its own characteristics and rhythms. This approach also has the potential to help uncover the relationship between the normal refurbishment cycle of property and vacancy. Although the building replacement cycle is notoriously sluggish, the occupation of buildings is increasingly dynamic and short-lived. Could the new era of short leases and increased opportunity for landlord/tenant negotiation at lease renewal help counter the impacts of vacancy? The approach will also help examine what the evolution

of urban locations tell us about the manifestation of vacancy. For example, do certain types of property, markets, and locations have systemic risk because of their underlying characteristics.

However, in order to begin to understand the nature of vacancy, it is necessary to qualify the research findings in this paper. First, the UK focus of the research reveals the need for some cautionary words in relation to the context and content of the findings and conclusions in this paper. We must be careful of over generalisation and simplification. Each location in the world contains a variety of comparable but highly specific real estate markets which are contingent and socially produced in each context. It is therefore likely that the operation of vacancy will be different in alternative market contexts. Therefore, it is hoped that the conceptual framework set out in this paper is used as a framework for discussion rather than rigid structure.

Similarly, in taking such a wide view of commercial office vacancy, some of the finer details of the different types of property and vacancy been dealt with in cursory fashion. This paper has only provided general descriptions and drawn broad conclusions, a great deal more research will be needed to fully understand the specific nature of commercial office vacancy. Finally, by focusing its research on the UK, the paper is Anglocentric in its conceptualisation and understanding of commercial real estate, which will most certainly add a degree of bias to the judgements contained within. Despite these caveats, we consider that the material within provides a conceptual framework through which a more comprehensive picture of commercial office vacancy begins to emerge across the building life cycle.

References

Andres, L. (2013) Differential Spaces, Power Hierarchy and Collaborative Planning: A Critique of the Role of Temporary Uses in Shaping and Making Places. *Urban Studies*, 50(4), 759-775.

Andrew, A. and Pitt, M. (2006) Property depreciation in government. *Journal of Property Investment & Finance*, 24(3):259-63.

Arge, K. (2005) Adaptable office buildings: theory and practice. *Facilities*, 23(3/4):119-27.

Barras, R. (2009) *Building Cycles: Growth and Instability*. Chichester: Wiley-Blackwell.

Barlow, J. and Gann, D. (1993) *Offices into flats*. York: Joseph Rowntree Foundation.

Barlow, J. and Gann, D. (1995) Flexible planning and flexible buildings: reusing redundant office space. *Journal of Urban Affairs*, 17(3):263-276.

Barras, R, (2009) *Building Cycles: Growth and Instability*. Chichester: Wiley-Blackwell.

Baum, A. (1991) *Property Investment Depreciation and Obsolescence.* London: Routledge.

Baum, A, (1993) Quality, depreciation, and property performance. *The Journal of Real Estate Research*, 8(4):541-565.

Baum, A. and McElhinney, A. (1997) The causes and effects of depreciation in office buildings: a ten-year update. London: RICS - Royal Institution of Chartered Surveyors.

Beauregard, R.A. (2005) The textures of property markets: downtown housing and office conversions in New York City. *Urban Studies*, 42(13): 2431-2445.

Bishop, P. and Williams, L. (2012) *The Temporary City*. London: Routledge.

Blank, D.M. and Winnick, L. (1953) The structure of the housing market. *Quarterly Journal of Economics,* 67(2):181–203.

Bryson, J.R. (1997) Obsolescence and the process of creative reconstruction. *Urban Studies*, 34(9),1439-1458.

Burkholder, S. (2012) The New Ecology of Vacancy: Rethinking Land use in Shrinking Cities. *Sustainability*, 4(6), 1154-1172.

Christensen, C. (1997) *The Innovators Dilemma*. Cambridge, MA: Harvard Business Review Press.

Columb, C. (2012) Pushing the urban frontier: Temporary uses of space, city marketing, and the creative city discourse in 2000s Berlin. *Journal of Urban Affairs*, 34(2), 131-152.

Crone, T. (1989) Office vacancy rates: how should we interpret them? Business Review, Federal Reserve Bank of Philadelphia.

Crosby, N. and Devaney, S. (2006) Depreciation and its impact on the total return of UK commercial real estate 1994-2003. University of Reading working papers in Real Estate and Planning.

Crosby, N., Devaney, S. and Law, V. (2011) Benchmarking and valuation issues in measuring depreciation for European office markets. *Journal of European Real Estate Research*, 4(1):7-28.

Crosby, N. and Henneberry, J. (2015) Financialisation, the valuation of investment property and the urban built environment in the UK. *Urban Studies*, 53(7), 1424-1441.

Deslandes, A. (2013) Exemplary Amateurism: Thoughts on DIY Urbanism, *Cultural Studies Review*, 19(1), 216-27.

Drane, J. (2013) The state of contemporary property development theory. 19TH Annual Pacific-Rim real estate society Conference Melbourne Australia, 13-16 January 2013.

Dunse, N. and Jones, C. A. (2005) Rental depreciation, obsolescence and location: the case of industrial properties. *Journal of Property Research*, 22(2/3), 205 -223).

Dunse, N. and Jones, C. A. (2002) The existence of office sub-markets in cities. *Journal of Property Research*, 19(2), 159-182.

Dunse, N., Leishman, C. and Watkins, C. (2001) Classifying submarkets. Journal of Property Investment and Finance, 19(3), 236-250.

Dunse, N., Leishman, C. and Watkins, C. (2002) Testing for the existence of office sub-markets: comparison of evidence from two cities. *Urban Studies,* 39(3), 483-506.

Fothergill, S., Monk, S. and Perry, M. (1987) *Property and Industrial Development*. London: Hutchinson.

Geraedts R. and Van der Voordt, T. (2003) Offices for living in: An instrument for measuring the potential for transforming offices into homes. *Open House International*, 28(3):80-90.

Graham. S. (2012) *Temporary Uses as Tools for Urban Development*.MA dissertation, Department of city Planning, University of Manitoba, Winnipeg.

Grenadier, S.R. (1995) Local and national determinants of office vacancies. *Journal of Urban Economics*, 37(1), 57–71.

Greenhalgh, P. and King, H. (2013) Developing an indicator of property market resilience - investigating the potential of GIS to analyse business occupier displacement and property market filtering: a case study of Tyne and Wear. *Urban Studies*, 50(2), 372-390.

Hagen, D.A. and Hansen, J.L. (2010) Rental housing and the natural vacancy rate. *Journal of Real Estate Research*, 32(4)413-434.

Harrris, R. (2002) Evolution in the supply of commercial real estate; the emergence of a new relationship between suppliers and occupiers of real estate in Guy, S. and Henneberry, J (Eds.) *Development and Developers: Perspectives on Property*. Oxford:Blackwell.

Heath, T. (2001) Adaptive re-use of offices for residential use: the experiences of London and Toronto. *Cities*, 18(3):173-184.

Henneberry, J. (2017) *Urban Transience*: Wiley.

Jones, C. (2010) *Office Markets and Public Policy.* Wiley - Blackwell

Katyoka M. and Wyatt, P. (2008) An investigation of the nature of vacant commercial and industrial property. *Planning Practice and Research*, 23(1):125-145.

Keeris, W. and Koppels, P.W. (2006) Uncertainty about the vacancy rate in the Dutch office market due to the different vacancy types and stratified structure. ERES. Annual European Real Estate Society Conference, Weimar, Germany, Bauhaus-Universität Weimar.

Kincaid, D. (2002) *Adapting buildings for changing uses: Guidelines for Change of Use Refurbishment*. London: Spon Press.

Langston, C., Wong, F.K.W., Hui, E.C.M. and Shen, L.Y. (2008) Strategic assessment of building adaptive reuse opportunities in Hong Kong. *Building and Environment*, 43(10):1709–1718.

Lausberg, C. (2008) The rising natural vacancy rate in the German office market and its effects on real estate finance. 15th Annual European Real Estate Society Conference in Kraków, Poland.

Lees, L., Slater, T., and Wyly, E. (Eds.). (2010) *The Gentrification Reader* (1st ed.).London: Routledge.

Lizieri, C. (2009) *Towers of Capital and International Financial Services*. London: Wiley - Blackwell.

Marcuse, P. (1986) Abandonment, Gentrification and Displacement: The linkages in New York City, *In Gentrification of the City* (Eds, Smith, N. and Williams, P.), Unwin Hyman, London, pp. 153 – 177.

Miceli, T. and Sirmans, C. (2013) Efficiency rents: A new theory of the natural vacancy rate for rental housing. *Journal of Housing Economics*, 22 (1):20–24.

Muldoon-Smith, K. and Greenhalgh, P. (2016) Greasing the wheels or a spanner in the works: Permitting the adaptive re-use of redundant office buildings in residential use in England. *Planning Theory and Practice*, 17(2), 175-191.

Myers, D. and Wyatt, P. (2004) Rethinking urban capacity: identifying and appraising vacant buildings. *Building Research & Information*, 32(4):285-292.

Oswalt, P., Overmeyer, K. and Misselwitz, P. (2013) *Urban Catalyst: the Power of Temporary Use*, DOM Publishers, Berlin.

Perkins, R. (2003) Environmental Leapfrogging in developing countries: a critical assessment and reconstruction. *National Resources Forum*, 27(3), 177-188.

Pissarides, C. (1985) Short-run equilibrium dynamics of unemployment, vacancies, and real wages. *American Economic Review*, 75(4):676—690.

Pissarides, C. (2000) *Equilibrium unemployment theory* (2nd ed.). Cambridge: MIT Press.

583 Remoy, H. and Koppels, P. (2009) Structural vacancy of office buildings; the influence of building and
584 location. ERES 2009, Stockholm.

585 Remoy, H.T., and Wilkinson, S.J. (2012). Office building conversion and sustainable adaptation: a
586 comparative study. *Property Management*, 30(3), 218-231.

587 Remoy, H. (2010) *Out of Office*. Amsterdam: University of Delft Publishing.

588 Sanderson, B., Farrelly, K. and Thoday, C. (2006) Natural vacancy rates in global office markets. Journal
589 of *Property Investment and Finance*, 24(6):490 – 520.

590 Schumpeter, J. (1950) *Capitalism, Socialism and Democracy*, 3rd ed. New York: Harper.

591 Smith, N. (1979) Toward a Theory of Gentrification A Back to the City Movement by Capital, not
592 People. *Journal of the American Planning Association*, 45(4), 538–548.
593
594 Tse, R.Y.C. and Webb, J.R. (2003) Models of office market dynamics. *Urban Studies*, 40(1):71–89.

595 Voith, R. and Crone, T. (1988) National Vacancy Rates and the Persistence of Shocks in U.S. Office
596 Markets. *Real Estate Economics*, 16(4):437–458.

597 Wheaton, W. (1999) Real estate "cycles": some fundamentals. *Real Estate Economics*, 27(2): 209-230.

598 Wilkinson, S. and Reed, R. (2011) Examining and quantifying the drivers behind alterations and
599 extensions to commercial buildings in a central business district. *Construction Management &*
600 *Economics,* 29(7):725-35.

601 Wincott, D.R. (1997) Vacancy rates and reasonableness. *The Appraisal Journal,* 65(4):361-370.

602 Ziehl, M., Osswald, S., Hasemann, O. and Schnier, D. (2012) *Second Hand Spaces: Recycling Sites*
603 *Undergoing Urban Transformation*, JOVIS Verlag, Berlin.
604
605