



This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 266800



FESSUD

FINANCIALISATION, ECONOMY, SOCIETY AND SUSTAINABLE DEVELOPMENT

Working Paper Series

No 183

The Relationship between Financialisation of the Built Environment, Urban Regeneration and Development, and Urban Sustainability

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ISSN 2052-8035

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Abstract: Economic, political, social, and material developments are interlinked, and urban change must be understood as a result of diverse processes. The process of financialisation is central to urban sustainability efforts as currently and widely conceived. As a result, such efforts do little to improve sustainability but instead frequently cause environmental, social, and economic damage. This paper explores the relationships between financialisation, urban regeneration and development, and urban sustainability in Europe. It begins by setting a theoretical framework rooted in the concepts of financialisation, urban regeneration and development, urban sustainability, network infrastructures and the political economy of space, and monetisation of the environment. It then explores the role of financialised investment in urban improvement, with focus on the eco-city and smart-city in the service of privatisation and enclavisation as well as urban regeneration as a financial conquest of space. The paper concludes by considering what these discussions and analyses can tell us about the role of financialisation in Europe's urban development and sustainability more generally.

Key words: built environment, financialisation, political economy of space, urban development, urban regeneration, urban sustainability

Date of publication as FESSUD Working Paper: November, 2016

Journal of Economic Literature classification: D63, O19, O33, R11, R51

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Acknowledgments:

The research leading to these results has received funding from the European Union Seventh Framework Programme (FP7/2007-2013) under grant agreement n° 266800.

Website: www.fessud.eu

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The Relationship between Financialisation of the Built Environment, Urban Regeneration and Development, and Urban Sustainability

1. Introduction

Economic, political, social, and material developments are interlinked, and urban change must be understood as a result of diverse processes. These processes occur not only alongside one another but also in interaction. The present paper explores how processes of financialisation are connected with attempts at urban regeneration, the guiding of urban development, and the pursuit of urban sustainability. It is argued that powerful economic forces deploy discourses of regeneration and sustainable development as ideological cover for financialisation of the built environment. The prevalence of such discourses suggests a widespread public and political desire for more sustainable, more equal, more environmentally friendly urban environments, yet this desire is being betrayed by some of the very actors that purport to champion it.

We argue that the process of financialisation is central to – rather than incidental to – urban sustainability efforts as currently and widely conceived, with the result that such efforts do little to improve sustainability but instead frequently cause environmental, social, and economic damage.

This paper explores the relationships between financialisation, urban regeneration and development, and urban sustainability in Europe. We begin by setting a theoretical framework for the paper, rooted in the concepts of financialisation, urban regeneration and development, urban sustainability, network infrastructures and the political economy of space, and monetisation of the environment. We then move on to explorations of financialised investment in urban improvement, with focus on the eco-city and smart-city in the service of privatisation and enclavisation as well as urban regeneration as a financial conquest of space. Finally, we conclude by considering what the foregoing discussions and analyses can tell us about the role of financialisation in Europe's urban development and sustainability more generally.

2. Theoretical framework

This paper draws together concepts from a number of fields of study in order to engage in a nuanced discussion of financialisation of the built environment. In this section, we will consider issues related to financialisation, urban regeneration and development, urban sustainability, networked infrastructures and the political economy of space, and monetisation of the environment.

2.1 Financialisation

'Financialisation' describes a subset of economic processes. For Epstein (2005: 3), 'financialisation' is "the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies." Krippner (2011: 27) understands 'financialisation' as "the growing importance of financial activities as a source of profits in the economy." Meanwhile, French *et al.* (2011: 814) define it as "the growing power of money and finance in contemporary processes of economic, political and social change." Such definitions of 'financialisation' are quite vague, and generally speaking, these definitions have tended to become vaguer over time (Clark & Hermele, 2013: 8-9), in line with increasing awareness of the extent to which finance has integrated into – and in some cases, swallowed up – various aspects of social and economic life. That is, the more we understand of financialisation's role in economic systems, the more difficult it is to distinguish between financial and non-financial processes in the contemporary world. Through our investigations here, we suggest the possibility of arriving at a deeper understanding of financialisation of the built environment by paying equal attention to the diverse material (infrastructural, constructed, human, *etc.*) and immaterial (economic, social, reputational, *etc.*) aspects of contemporary urbanism.

As Clark and Hermele (2013: 7) note, the fundamental process behind financialisation is not new, and discussions concerning what we would now identify as financialisation were going on, for instance, in the first half of the 20th Century, when economists such as Keynes argued that it was necessary to "protect the real, productive economy from the speculative

casino economy.” Hudson (qtd. in Schaefer, 2003) goes further still, suggesting that the increasing financialisation of the economy could represent “a lapse back into the pre-industrial usury and rent economy of European feudalism.” Although there is no technological determinism involved in the ebbs and flows of the financialisation process, periods of technological change may be associated with the production of gaps into which finance can flow and gain mastery (Clark & Hermele, 2015: 18). Furthermore, as Thompson (2012) suggests, our ongoing period of technological change has directly facilitated the workings of finance (as it has other sectors – including productive sectors – of the economy) by contributing to “improved logistics, reduced inventory sizes, and better coordination of international finance needed to organize the new system of transnational production.” Care must be taken, however, for as Vercelli *et al.* (2016: 13) comment, “The nexus between financialisation and its concrete consequences in time and space are not a case of direct causality. Both may be seen, at least in part, as joint effects of the existing development and technological trajectories as shaped and orientated by the existing policy strategy.”

2.2 Urban regeneration and development

‘Urban regeneration’ and ‘urban development’ are supportive concepts for certain subsets of societal processes. However, as is the case with financialisation, these terms are not universally used to describe the same processes: Different adherents to urban regeneration and development will hold different conceptions of which processes fall under these labels. Part of the difficulty is that whereas ‘financialisation’ describes a long-term process, ‘urban regeneration’ and ‘urban development’ both purport to long-term describe processes but are in actuality conditional upon the ultimate results of these processes: Particular results can, of course, be pursued, but given the long duration and complexity of these processes, such results can be neither guaranteed nor even necessarily retrospectively linked back to the initial stages of the processes that were designed to bring them about.

This is significant because urban regeneration and development, inasmuch as they can be said to exist, are processes that possess considerable public and political appeal. Indeed, opposition to these processes comes primarily from those who would claim that purported

regeneration and development processes in fact bear results that betray their noble nomenclature (if not their suspect intentions). Thus, for example, it could be argued that an attempt to 'regenerate' a community might lead to potentially negative gentrification, which may not be everyone's idea of an improvement, even if 'regeneration' were uncontroversial when taken at face value.

So poisoned has the urban regeneration discourse in particular become due to this lack of balance between stated intentions and results that some scholars seek to define it out of existence. Barnett (2013: 10), for example, argues that:

The distinction between urban renewal and urban regeneration is of the greatest importance to the future of planning and urban design. Urban renewal is based on a medical analogy, parts of cities become diseased and need to be cauterized and removed. [...] Modernist city design has been turned into government policies administered by bureaucracies, and the resulting urban renewal has seldom created better places than it has destroyed. [...] A nuanced version of Urban Renewal is Urban Regeneration, where economic and social forces reshape places gradually over time.

In this account, 'urban renewal' is a bad process whereas as 'urban regeneration' is a good process, yet the distinction between the two seems largely to arise from the desire of today's scholars and planners to avoid being tarred with old brushes. It is interesting that Barnett notes the medical analogy inherent in the concept of 'renewal' given that 'regeneration' is perhaps even more strikingly medical in tone. The fundamental issue with this kind of argument is not that it depends on the entirety of the planning establishment agreeing on their terminology but that it gives planners (who may be sensitive or insensitive to local communities) an opportunity to shift into a new terminological safe haven to ward off attack.

At the heart of the problem is that different developmental outcomes may be desired by different actors and stakeholders. Replacing an economically depressed residential neighbourhood in the city centre with high-rent offices may be a positive or a negative development, depending on who one asks. Nor is it simply a case of 'evil developers and multinational corporations versus the rest of us': After all, locally insensitive

renewal/regeneration, which leads to gentrification or simple displacement, may prove popular among a wide range of middle-class city-dwellers or even working-class city-dwellers from different social, religious, or ethnic backgrounds. As such, projects aiming at 'regeneration' and 'development' need to be approached with their particular stakeholders and target groups in mind. Inasmuch as it is impossible to ever objectively and universally conclude – either in advance or in retrospect – whether any particular project has led to beneficial or detrimental renewal, regeneration, or development, the present paper's attention to these concepts will focus on how these and related terms are used as cover for financialisation.

Roberts (2000: 17) defines 'urban regeneration' as "Comprehensive and integrated vision and action which leads to the resolution of urban problems and which seeks to bring about a lasting improvement in the economic, physical, social and environmental condition of an area that has been subject to change." Like Barnett above, Roberts (2000: 18) distinguishes between 'urban regeneration' and other superficially similar concepts:

Urban regeneration moves beyond the aims, aspirations and achievements of urban renewal, which is seen by Couch as 'a process of essentially physical change' ..., urban development (or redevelopment) with its general mission and less well-defined purpose, and urban revitalisation (or rehabilitation) which, whilst suggesting the need for action, fails to specify a precise method of approach. In addition, urban regeneration implies that any approach to tackling the problems encountered in towns and cities should be constructed with a longer-term, more strategic, purpose in mind.

Roberts' approach is an evolutionary one: It is not merely that 'regeneration' is different from 'renewal', 'development', 'rehabilitation', and so on; it is better in all senses inasmuch as it is a comprehensive vision of urban improvement. Such a definition would not, of course, be welcomed by those who utilise alternative terminology.

We might note an intriguing semantic aspect of this terminology as a whole, namely that, with the exception of 'urban development', all of these terms implicitly suggest a return to or fresh start from conditions of an urban golden age, an ideal urban order. The

conceptualisation of 'regeneration', 'renewal', 'rehabilitation', 'revitalisation', *etc.* requires us to first have an understanding of the original urban state – prior to things going downhill, before the fall. Although such an understanding of the aim for urban regeneration and related terms is not explicitly present in the urban literature, which indeed places commendable focus on local contextualisation, we can perhaps discern a lurking bias towards ideal states in the popularity of the eco-city concept, which we shall discuss below.

In order to avoid further distraction from illusory terminological distinctions, this paper shall henceforth use the terms 'urban regeneration' and 'urban development' in a straightforward manner to cover all attempts at urban improvement, without assuming any characteristics of wisdom or folly, benign aims or pernicious intent, efficacy or impotence.

2.3 Urban sustainability

'Sustainable development' is among the great pursuits of our age. The oft-quoted definition arrived at by the World Commission on Environment and Development (hereafter, WCED) has been significant both for the presentation of what sustainability means and for the enshrouding of the concept within an abstract framework of goals and uncertain timeframe: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (qtd. in High Level Panel on Global Sustainability, 2010: 6). Although definitions of sustainable development have undergone continual development since the WCED's report, there has been a tendency to emphasise a number of "common principles, especially: "equity and fairness," "the precautionary principle," and the idea that "sustainable development embodies integration, and understanding and acting on the complex interconnections that exist between the environment, economy, and society" (High Level Panel on Global Sustainability, 2010: 6).

Nevertheless, many researchers have cast doubt on the usefulness of sustainable development as an actionable concept. A key problem is that sustainable development of WCED's sort is a global characteristic, something that occurs on a global scale, yet attempts at global governance toward sustainability (such as climate conferences and United Nations summits) have not been remarkably successful thus far. Mechanisms for initiating

sustainable development processes primarily remain national, regional, and local. It is not simply that national, regional, and local actors lack the capacity to achieve global change (this is only partly true); it is also that such actors work in accordance with nationally, regionally, and locally oriented demands for and definitions of sustainable development, which may differ from those on a global scale.

Because the WCED's conceptualisation combines social, economic, and environmental sustainability, further questions may be raised regarding mismatches of scale and responsibility. On its most basic level, we can say that some degree of global environmental sustainability is a prerequisite for social and economic sustainability in the sense that, if environmental conditions are too poor, then future generations will be unable to meet their own needs. Generally speaking, however, reasonable arguments could be made in favour of privileging localised social and economic sustainability over localised environmental sustainability, particularly inasmuch as social and economic sustainability are far more locally determined than is environmental sustainability, which both depends on non-local actors undertaking particular actions and is open to freeriding: If social and economic sustainability can only be achieved locally but environmental sustainability can be achieved by others, then it is tempting for local actors to focus on the former.

The results of this mismatch of scale and responsibility are widely evident. What, for instance, does sustainable development mean for policymakers in the Isles of Scilly, a tiny archipelago off the southwest coast of Cornwall, UK. On the one hand, local sustainable development dovetails with global concerns regarding climate change since parts of the Isles of Scilly, including its urban centre of Hugh Town, are at risk of vanishing beneath rising seas (Petzold, 2015). On the other hand, local action toward sustainable development focuses strongly on immediate economic sustainability since a focus on reducing the drivers of climate change for the benefit of a wider long-term sustainability would mean giving up on the islands' dominant industry, tourism, which is highly dependent on passenger air transport. That is, even if climate change is a problem for everyone, it does not factor into everyone's desired solutions, even in a place like the Isles of Scilly where climate change is recognised as a problem of existential significance. Indeed, balancing economic dependence

on the tourism industry with global environmental concerns has proved problematic for many small island governments (for example, see Baldacchino & Kelman 2014; Bernard *et al.*, 2009).

This mismatch between the global scale of problems and the sub-global scale of actors seeking solutions is nowhere more evident than in the case of urban sustainable development initiatives. What does sustainability mean on the city scale? The Isles of Scilly may only succeed in appearing sustainable if a circle is drawn around the archipelago, and carbon emissions from air transport are excluded, but the opposite seems true for cities (as we normally understand them), which are almost inherently incapable of being self-sustaining. This is not to say that cities cannot play a role in a sustainable future: Indeed, there has been increasing recognition “that high-density cities with good public transport systems and shared infrastructure make fewer per capita energy demands on the environment” (Shelton *et al.*, 2011: 7). Tonkiss (2014: 39) categorises high density as an ‘environmental good’ due to its ability “to reduce resource use, energy consumption and emissions; [...] create environmental economies of scale in respect of combined and alternative power sources; and support collective provision of open and green space, transport and other infrastructure, energy and recycling.” Although city life represents less of an environmental burden than does rural or suburban life (assuming comparable standards of living), non-urban production continues to be necessary for sustaining both urban and non-urban lifestyles. The issue is that sustainability cannot be simultaneously localised and quantified – or at least cannot be localised, quantified, *and* helpful for wider efforts at promoting sustainable development.

An additional complication is that divergent understandings of the nature of money and finance influence our understandings of finance’s link with economic sustainability (Vercelli, 2014). Furthermore, financialisation has led to the prioritisation of particular kinds of environmental values (Gabbi & Ticci, 2014), with the result that it becomes difficult to untangle the potential for environmental improvement from the potential for profit. Indeed, a number of scholars from a range of disciplines and perspectives have argued that, for example, the Clean Development Mechanism (Lokey, 2009), carbon offsetting (Richards &

Andersson, 2001), payment for ecosystem services (Reid, 2013), and encapsulation of natural values within urban processes (Grydehøj & Kelman, 2016) might have done more harm than good for sustainability.

As we shall see below, urban sustainable development efforts are underway in a great many cities around the world, but in many cases, such efforts are problematically intertwined with financialisation processes. We thus end up with cities that are either proclaimed as sustainable without any genuine effort to validate this sustainability or that are claimed as sustainable in a manner that is measurable yet so limited in scope as to be unambitious in terms of their contributions to rendering the world as a whole more sustainable.

2.4 Networked infrastructures and the political economy of space

Beyond the directly social and economic aspects of urban processes, we can observe processes embodied in the built environment itself. Apartment blocks, office towers, public parks, docklands, and other elements of the city do not exist in isolation but are instead connected and interrelated through networked infrastructures. There is no shared definition of 'infrastructure' (Picto et al., 2015: 5). Indeed, as Neuman (2006: 3) suggests, to 'define' – and thereby circumscribe – infrastructure "misconstrues the essence of infrastructure. As infrastructures permeate, through physical insertion and penetration, other structures, they are not simply substrates as they are often identified to be."

'Infrastructure networks', then, consist not simply of the often-invisible individual items of infrastructure but also of the structures connected by them. The city is in this sense a technical complex system, and the taken-for-grantedness and gradual accumulation of its systemic properties render it a 'black box' (Winner, 1993). In the words of Latour (1999: 304) 'black boxed' technology makes itself invisible: "When a machine runs efficiently, [...] one need focus only on its inputs and outputs and not on its internal complexity. Thus, paradoxically, the more science and technology succeed, the more opaque and obscure they become." It is thus that our use of networked infrastructures usually takes place without our explicit awareness. This black box quality of urban infrastructural networks may be something of a natural state, a quirk of sociotechnical psychology, but it also proves useful

for actors with an interest in exploiting the intricacy of infrastructural networks to further goals that may not necessarily be in the interest of the wider public. Graham (2000) considers such black boxing explicitly in terms of infrastructural investment, arguing that it is the very universal roll-out of certain public infrastructures in the West that placed them in a black box – and thereby places them at risk in the event of public disinvestment. The withdrawal of the state from the provision of black boxed infrastructure is particularly dangerous given that private investment in infrastructure is linked to broader financial developments (Wagenvoort, 2010), potentially creating a 'perfect storm' in which financial crisis prompts private reluctance to invest in the very infrastructure that can support the wider economy.

The architect Keller Easterling (2014: 11) has recently expanded upon this argument by positing the existence of fundamentally immaterial 'infrastructure spaces' in which social and economic processes are instituted and replicated. Although infrastructure is usually regarded as something concrete yet hidden, "the binding medium or current between objects of positive consequence, shape, and law," it today includes invisible and abstract connectivities as well. Even in the case of physical constructions:

Buildings are often no longer singularly crafted enclosures, uniquely imagined by an architect, but reproducible products set within similar urban arrangements. As repeatable phenomena engineered around logistics and the bottom line they constitute an infrastructural technology with elaborate routines and schedules for organizing consumption. [...] Now not only buildings and business parks but also entire world cities are constructed according to a formula – an infrastructural technology (Easterling, 2014: 11-12).

More generally, it has long been recognised that space is political. In Europe's capitalist cities, as access to food, water, and other necessities of life have improved over the centuries, capital has turned to spatial scarcity in its endless efforts to create new economies, as argued by Lefebvre (Elden, 2007: 106). Urban spatial scarcity is in a sense a natural condition inasmuch as urbanisation – whether gradual or sudden – produces certain patterns in the built environment, which favour nodal development. The emergence of urban nodes may be planned or unplanned, but such nodes are by definition dense and sites of spatial scarcity.

However, spatial scarcity can also be consciously produced, for instance through the creation of jurisdictional boundaries such as municipal borders; special economic zones; import or processing zones; industrial parks; municipal zoning decisions in general; and the setting aside of bounded spaces for particular development projects.

Such activity is of foundational importance for what Easterling (2014) terms 'extrastatecraft', the setting aside of infrastructure space in which financial processes can act unfettered. All space might be political, but the heightened prominence of such specially constructed special urban zones – which host a continually increasing proportion of global financial activity and productive activity – further tilts the political economic playing field in finance's favour since infrastructure spaces of extrastatecraft are designed precisely to free capital from the bonds of (socially oriented) regulation. Urry (2014) has highlighted how special economic zones and similar constructions drain economic and social capital from the state, but even more disturbingly, these zones are in the process of cannibalistically enveloping their hosts: States of exception are becoming the rule as "major cities and even national capitals are now engineering their own zone doppelgängers – their own non-national territories in which to create newer, cleaner alter-egos, free of any incumbent bureaucracy" (Easterling, 2014: 48).

2.5 Monetisation of the environment

Financialisation's drive to fill rent gaps means that it privileges exchange value over use value, leading to a partial dematerialisation of assets in the built environment. However, financialisation targets more than just constructions of brick and mortar; it also seeks to create exchange value from objects that had previously not been assigned use value. This is the case with the emergence of the concept of 'ecosystem services', tradable environmental goods that range from clean atmospheres to habitat protection to sustainable family sizes and so on. As Robertson (2012: 387) notes:

The social process of measuring and abstracting from nature to facilitate exchange has succeeded. We are often focused so intently on the bizarre diversity of forms in this new economy that we forget that they are united in this process of abstraction:

at least in capitalism, what is circulating is not wetlands, not trees, not salmon, but value. These transactions are made possible by our belief in, and consent to, the adequacy of these abstractions, and they create a world in which value is found, defined and circulated.

This valuation of ecosystem services occurs through processes of classification, categorisation, unbundling, and stacking: “Ecosystem services, like all resources, can be defined as fungible commodities only through a process of assessment, measurement and negotiation between capitalists, scientists and regulators concerning value” (Robertson, 2012: 396). In other words, finance has succeeded in black boxing the creation of ecosystem services so that we lose sight of the process of value creation and are liable to take for granted the concrete value of projected abstractions.

Ecosystem services are in this manner imported into the realm of exchange, being traded alongside and in interaction with nominally material commodities such as housing, roads, and factories. Thus, for instance, Copenhagen’s plan to become a carbon-neutral city by 2025 is dependent not only on new clean energy production but also on the measurement of energy expenditures against which clean energy production must be balanced. Furthermore, as with many such ‘green’ initiatives, the balancing of accounts requires monetising predicted future ecosystem services: Much of Copenhagen’s new energy production, used to offset fossil fuel consumption, will come from burning wood biomass, which is only a CO₂-neutral energy source when coupled with long-term (and inherently speculative) carbon recapture from forest-planting projects.

We will now proceed to consider the intersections of financialisation, urban regeneration and development, urban sustainability, networked infrastructures and the political economy of space, and monetisation of the environment in the context of European urban policies and processes.

3. Financialised investment in urban improvement

Determinations of the need for urban regeneration, urban development, and urban sustainability can be drawn at various levels. They can be encouraged by national policies,

promoted by regional or municipal authorities, demanded by local residents, or forwarded by external businesses or non-governmental organisations (NGOs). However, the mere possibility that various stakeholder groups agree that *something* must be done about a city or particular neighbourhood is no guarantee that they agree on *what thing* must be done. For example, some residents' desires for more public space for social interaction may not dovetail completely with other residents' desires for higher quality living environments or the desires of an entrepreneurial urban government for opening a neighbourhood up for business or changing the character of a neighbourhood's residents (Mitchell, 1995). This latter possibility points again to the difficulties involved in scaling sustainability, for at the jurisdictional scale, social sustainability benefits may indeed be achieved by directly or indirectly exporting 'problematic' or 'expensive' residents across city lines and into the care of other jurisdictions. It could also be achieved by importing 'attractive' residents, for instance from the much-pursued 'creative class' (Florida, 2005). Yet neither exporting undesirable residents nor importing desirable residents can be said to represent any kind of improvement in social sustainability on a wider spatial scale.

Furthermore, not all societal actors are equally capable of arguing for and ultimately undertaking urban regeneration processes. Since, in practice, economic capacity is necessary for undertaking substantial changes to the built environment, large-scale urban projects tend to be carried out by economically and socially privileged actors. We should thus not be surprised if these processes work to support reigning power structures. This is not to say that developers, planners, politicians, or investors necessarily act with ill intent, only that the logic of financialisation implies socially and environmentally detrimental impacts regardless: A new housing development achieved through a public-private partnership may directly produce new affordable housing, but the very dynamics of financialised housing provision inevitably contribute to further shifts from use value to exchange value.

3.1 The eco-city and smart-city in the service of privatisation and enclavisation

Around the world, there has been an increasing trend for city authorities to pursue different forms of urban regeneration and development under the banners of the 'eco-city', 'smart-city', and related concepts. However, as Gibbs *et al.* (2013: 2151) argue:

At the same time as governments, planners, environmentalists and private interests are actively calling these new ['sustainable'] urban development imaginaries – which can be viewed to encourage a revitalised role for more comprehensive and 'collaborative' planning – a discourse of market triumphalism has been continuing to sweep its way through different spatial scales of government. States – local, regional and national – seem to be rolling back their own authority and rolling out market-based approaches to urban development – what (Peck, 2004) has referred to as 'state-authored market fundamentalism'.

What Gibbs *et al.* (2013) describe is essentially the deployment of urban sustainability as an argument in favour of the special zones – 'premium network spaces' (Graham, 2000) – in which sustainability can be encapsulated in tandem with economic growth. The argument, paradoxically and invidiously, boils down to sustainable development by deregulation. This is in part because monetisation of the environment has meant the urban policymakers are increasingly pressed to prove that sustainability can be profitable. It is also in part because – in the context of the shrinking state – public-private partnerships are depended upon to pay for sustainability, and the private side of these partnerships is the piper that must itself be paid for its ambiguous services.

Key to this development has been the gradual coalescence of the concepts of ecologically sustainable cities and technologically advanced (and thus expensive) cities. Rapoport (2014: 140) argues that "ecological modernization promises that technological and procedural innovation can solve urban environmental problems," with the result that "many contemporary eco-cities rely heavily on technology as a means for achieving their sustainability objectives." By the same token, Joss *et al.* (2013: 67) have undertaken a comparative analysis of eco-city initiatives, which has revealed the envisioning "of the eco-city as advanced socio-technical system, consisting of an array of renewable energy and other 'green' technologies and supported by digital information technologies." 111 of the 178

eco-city initiatives Joss *et al.* (2013: 67) studied focused mainly on technological innovation, to such an extent that “the modern eco-city is designed not just to function as efficient high-tech system, but also as incubator and hub for the next generation of research and high-tech industries.”

Yet despite the manner in which the eco-city concept emphasises technology, Yigitcanlar and Lee (2014) highlight that the labelling of cities is subject to a fluid nomenclature: It is difficult to distinguish between “carbon-neutral, low-carbon, smart-eco, sustainable, ubiquitous-eco, zero-carbon and so on,” and a particular city may alter or add new characteristics to its label in line with shifting trends in marketing and developments in corporate and public tastes worldwide. This multitude of illusorily precise designations for sustainable cities conceals a common understanding of an “ecologically healthy city using advanced technologies and having economically productive and ecologically efficient industries, a systematically responsible and socially harmonious culture, and a physically aesthetic and functionally vivid landscape” (Yigitcanlar & Lee, 2014: 100).

Nevertheless, although the categorisation and subcategorisation of sustainable cities is complex beyond all proportion (de Jong *et al.*, 2015), the general concept remains “loosely defined” (Alusi *et al.*, 2011), and there is a lack of shared determinants or measures of urban sustainability. It is easy to claim that one is moving toward urban sustainability and eco-city status when no one knows what these designations actually mean. Eco-city status is often regarded as connected with carbon neutrality; focus on public transport, walking, and cycling rather than private motorised transport; proper waste disposal systems; ‘green’ construction; and other aspects of urban systems (Alusi *et al.*, 2011) that are particularly easy to achieve and communicate within closed or delimited spaces as opposed to within a wider continuous urban fabric. The result is both that the highest profile eco-cities are often located in geographically bounded (though not necessarily remote) settings, such as islands, and that aspects of sustainability, such as food consumption, which are difficult to quantify, achieve, and communicate within such spatial limitations are not typically included in the eco-city definition. Even cities that are not located in self-evidently bounded spaces are subject to artificial bounding through jurisdictional and zoning divisions. This combination of

explicitly limited spatial and 'green' ambitions calls into question the ability of eco-city and smart-city initiatives to contribute to wider sustainability in a meaningful manner. Indeed, many such 'cities' are presented as models for development elsewhere even if their planned or actual achievements are impossible on a true existing city scale.

Such eco-city developments can occur within the existing city as well, yet the since the existing city is unlikely to ever be quantifiably 'sustainable' in and of itself (at least absent fantastic levels of investment, of which the modern state is incapable and in which finance is uninterested), focus is placed on icons of sustainability. Just as the eco-city outside the city is designed to serve as a closed circuit of sustainability, urban sustainable development initiatives that strive for iconicity belie their interest in genuinely improving environmental standards. Although the responsible government bodies may indeed regard such iconic projects as contributing to global sustainability, the implicit or explicit added value that such projects offer to urban place brands through their purported ability to serve as role models for sustainability results in a confusion of motivations.

The environmental role model project may indeed be of significant financial value but is of questionable environmental value: Not only do role models (inasmuch as they are successful) encourage their own reproduction elsewhere (that is, the creation of other eco-icons of limited environmental value), but they also lead to a global *devaluing* of urban development processes that contribute to sustainability but are not designed with iconic or symbolic properties in mind. Thus, for example, we find that the genuine provision of a city with renewable energy may be less attractive to municipal authorities than the symbolic provision of a city with renewable energy through a highly visible, artistic, or communicable process: Well-meaning, talented, and industrious individuals and organisations are thus set to the task of designing marketable and financially attractive green city solutions that nevertheless make a minimal contribution to urban sustainability relative to the amount of public and private funds invested in these projects. Examples include the solar-power generating "supertrees" and overall "principles of environmental sustainability" enshrined in Singapore's Gardens by the Bay development, an enormously expensive eco-theme park constructed on reclaimed land (<http://www.gardensbythebay.com.sg/en/the->

gardens/about-us/sustainability.html) and the Swedish city of Malmö, which explicitly trades on its green role model status, placing special emphasis on aesthetic values, highlight how its “modern architecture is combined with ecological sustainability” (<http://malmo.se/English/Sustainable-City-Development/Sustainable-Top-Ten-Malmo.html>). The argument is not that these urban regeneration or development projects are necessarily regressive in themselves, only that their contribution to the financialisation, aestheticisation, and internationally competitive aspect of urban sustainable development is worrisome.

Urban sustainable development initiatives are not always linked to eco-city or smart-city discourse, but they often are – and as a result, municipal and regional government focus on improving the built environment is frequently directed toward either urbanising ground outside of the existing urban fabric or replacing an existing part of the city with a new one, neither of which tend to benefit existing local residents. Such processes are typically proposed, guided, and implemented by internationally active design companies “with responsibility for feasibility studies, masterplanning, finance and development” (Joss et al., 2013: 63). The Copenhagen’s Ørestad smart city serves as a lesson in how an urban sustainability megaproject can go wrong and how the state can be exploited by powerful developers. Majoor and Jørgensen (2007) show that Ørestad’s entrepreneurial and speculative development rapidly lost its whole-city perspective: The objective of developing this disused land on the outskirts of the city with the aim of strengthening Copenhagen as a whole was replaced by a focus on urban competitiveness. This process was epitomized by the overturning of an existing municipal ban on out-of-town shopping centres. Although the ban had sought to protect businesses in the city-centre, insufficient demand for plots of land in Ørestad pushed the municipality to permit a foreign company to establish Denmark’s largest shopping centre on the site. A major rationale for this was to increase income from public transport, which would provide a boost for the devastated finances of the semi-public developer (Majoor & Jørgensen, 2007: 183). The development of Ørestad was also used to justify the creation of a costly rapid transit/metro public transport system. The earliest routes

for this metro system focused on being accessible to speculative high-value population (in contrast to already existent populations that lacked good public transport options).

Even today, Ørestad hosts offices and housing yet minimal community life, limited retail opportunities besides those provided by the shopping centre, and poor pedestrian accessibility. Ørestad, however, does possess iconic architecture, and the neighbourhood continues to be marketed by the VistCopenhagen (n.d.; *translation my own*) tourist office as an “architectural pearl,” as “a green neighbourhood [...], built around nature, water and architecture.” Even though it had been sold to the public as a method of strengthening Copenhagen’s economy and acting as a role model for ecological and sustainable living, Ørestad has in fact drained prestige and money from the city and its businesses and residents. Developers and designers in Copenhagen, however, still promote Ørestad as a showcase sustainable city (Cleantech, 2015) even though its ‘greenness’ seems to be rooted in symbolic architectural aspects (Lowenstein, 2009): Iconic, expensive, and superficially green aesthetics dominate any actual efforts to sculpt a more environmentally and socially sustainable urban lifestyle.

An even more extreme example of the vanquishing of social aims by profit motives is provided by the Northern Ankara Regeneration Project, in which a large squatters’ settlement was cleared – ostensibly to permit the rehousing of existing residents in improved on-site accommodation. However, the financialisation of this regeneration plan via a public-private partnership led to the prioritisation of profitability, and the neighbourhood’s existing, low-income residents found themselves unable to afford even the subsidised replacement housing on offer during the construction period. These difficulties of affordability were worsened by the developer’s focus on first constructing high-value properties, the sales of which were intended to provide funds for the eventual construction of inexpensive properties. This kind of public-private partnership allows developers to skim the profits of gentrification, as the clearing of squatters from the land is followed by an increase in development rights and the ability of developers to transform former low-income communities into high-value elite enclaves (Topal et al., 2015).

This result is in fact entirely typical for urban transformation projects in Ankara, in which the urban poor have often needed to bear the costs of their own dispossession and the transfer of their properties to high-value users. For example, in the Dikmen Valley Project, squatter settlements have been replaced by exclusive gated communities (Topal et al., 2015). Even in Ankara's theoretically less coercive regeneration processes, in which squatters are given the (often unaffordable) choice of remaining, the population replacement can be rapid and near absolute: High percentages of the original residents move from their redeveloped neighbourhoods within the first three years (for example, 89.5% from redevelopment project of Koza Street and 93.3% from the redevelopment of Küpe Street) (Güzey, 2009: 185).

What is striking in both the Copenhagen and Ankara cases is that these redevelopment processes have been promoted as directed toward the public good. The removal of informal housing from Ankara's Dikmen Valley aimed to provide leisure and recreational space for residents from across the city – though this redevelopment has been financed through the on-site construction of luxury housing and office complexes, with the result that the project simultaneously creates and degrades a recreational green space: The poor have been removed from their land for the sake of a public park that has been compromised from inception by integral yet insensitive high-rise construction (Malusardi & Occhipinti, 2001).

Developments such as Ørestad and Dikmen Valley are examples of what Graham and Marvin (2001: 222) term 'secessionary networked spaces', the production of which "enrols security, urban design, financial, infrastructural and state practices in combination, to try and separate the social and economic lives of the rich from those of the poor." The increasing trend toward secessionary networked spaces in the city results in the 'unbundling' and 'rebundling' of urban spaces as 'megaprojects' "maximise profitability by carefully packaging enclave-style 'total environments' (Crilley, 1993, 127) encompassing a range of uses, differentiated according to logics of geodemographic marketing" (Graham & Marvin, 2001: 223). Smart, green, and eco-city transformations thus involve creating ever-clearer distinctions between elite and unprivileged segments of society. The differentiation of infrastructure networks that accompanies such urban regeneration and development projects – as certain neighbourhoods or other urban spaces are equipped with exceptional

IT, electricity, water, transport, or other infrastructures – leads inevitably to “the gradual withdrawal of the practices of social and geographical cross-subsidy that tended to underpin the extension of networked infrastructures under the modern infrastructural ideal” (Graham & Marvin, 2001: 233). That is, once elite communities in the city are dependent on privatised or otherwise-distinct infrastructural networks, the urban poor are increasingly left to their own (meagre) resources.

Because such urban megaprojects often exceed the economic capacities of municipal authorities and because, across much of the world, expectations for public control over urban networked infrastructures are in decline, the state finds itself pushed to act entrepreneurially and seek to attract finance. In the absolute antithesis to any vision of genuine sustainability and urban improvement for all, Graham and Marvin (2001: 227) argue, entrepreneurial urban governance means that “Heavy public subsidies, infrastructural contributions and seductive grants are mobilised by public and public-private development agencies alike, to lure in the international real estate capital” with the necessary capacity for constructing “spectacular flagship projects, set-piece developments aimed at revitalising downtowns or launching peripheral and ‘postsuburban’ spaces towards economic success.”

The very urban regeneration and megaprojects that are sold to the city and to the public as a means of restoring or securing the city’s place in a competitive world serve to transform the government’s role into that of a facilitator of finance on the one hand and a last refuge for the dispossessed on the other.

Even though the Ankara and Copenhagen cases we have considered here are not examples of Special Economic Zones or similar constructions of exceptionally deregulated urban space, they have all involved the urban government compromising on its social obligations within the framework of public-private partnerships. Entrepreneurial urban governments seek finance to fund development, but they also accede to financialisation in order to have acquire legal grounds for engaging in competitive activities (which can otherwise fall foul of European Union state aid rules) and to release themselves from inconvenient social responsibilities. Once initiated, such ‘extrastatecraft’ (Easterling, 2014) is a game that finance might not always win but that the state always loses – for its very

essence is one of loss of regulatory competence and capacity relative to the power of international finance.

3.2 Urban regeneration as a financial conquest of space

Because finance is driven by the rent gap, by the potential for as-yet-unrealised profits, it is inherently uninterested in serving the interests of those who cannot pay more. As such, in their dealings with the forces of finance, urban governments ought to bear in mind that whatever finance *can* achieve, its interests do not primarily lie in achieving improved living conditions for the urban poor. What finance is instead likely to do is conquer new or existing urban space in the name of the elites. Whether the creation of high-tech smart-city districts and eco-city enclaves or the destructive 'regeneration' of vulnerable neighbourhoods in favour of green symbolism, finance is in the business of claiming space for profit. This represents accumulation by dispossession at its most fundamental: It is not just buildings that are dedicated to private interests but the horizontal and vertical space of the city itself.

Central to the secessionary networked enclaves discussed above is their exclusivity: Their financial value would be partially lost if they transformed the city as a whole rather than simply seceded from it. Inasmuch as 'elite cities' exist, it is because they have succeeded in seceding from the mass of other 'ordinary' cities. The rent gap and the illusion of infinite wealth creation depend on scarcity. Thus, for example, Copenhagen's Ørestad neighbourhood competes with the rest of Copenhagen just as surely as it competes with other cities – and since Ørestad is an elite, high-value development, it tends to win this financial competition relative to the rest of Copenhagen. This is despite the 'smart-city' of Ørestad being one of Copenhagen's outstanding examples of an unloved neighbourhood, perhaps precisely because its social character has been deprioritised relative to its financial impetus.

Ankara's Northern Ankara Regeneration Project and Dikmen Valley Project involve straightforward accumulation by dispossession since squatters have been cleared from the land to make way for speculative development. Urban regeneration projects of the kind occurring in Ankara are, for the moment at least, inconceivable in contexts such as

Copenhagen and Stockholm. This is both because the relative strength of past urban planning in these cities prevented the development of sizeable informal settlements that could today be cleared and because any attempts to do so could prove political unfeasible. Indeed, the solution hit upon for Scandinavia's most famous informal settlement, the neighbourhood of Christiania (occupying financially valuable ground on the island of Christianshavn), was basically to formalise squatter ownership on highly beneficial terms (Thornburgh, 2012). It is thus that, in Denmark, Sweden, and much of the rest of Western Europe, elite enclaves – whether 'smart cities', 'eco-cities', or merely desirable apartment complexes – have been constructed on new or largely unused urban space. Ørestad was constructed on 'wasteland', requiring major drainage works, while other prestige developments in Copenhagen (for example, recent and ongoing coastal developments in Nordhavn and Kalvebods Brygge) have been constructed on reclaimed land or former, disused industrial land. In common with explicitly eco-city and smart-city developments such as Stockholm's Hammarby Sjöstad and Malmö's Västra Hamnen, these new Copenhagen neighbourhoods represent triumphs of 'infrastructure space' (Easterling, 2014): iconic by design, aesthetically oriented, and role-model aspiring enclaves, which are paradoxically globally standardised. Their green and sustainable credentials are subverted by their own financialised public-private development models, which strive for internationally interchangeable spaces for the illusory circulation of capital and jacking up of exchange values.

Indeed, finance is particularly empowered in island and coastal cities like Copenhagen, Stockholm, and Malmö, where the potential for easy suburbanisation is constrained by water boundaries. Here, international finance is almost uniquely capable of investing in the manufacture of new ground through land reclamation: In such situations, developers and their investors quite concretely hold a monopoly on the creation of new urban space (Grydehøj, 2015). In London, the designation of Canary Wharf and the Isle of Dogs as enterprise zones – incentivising investment and the presence of the financial industry – 'regenerated' former industrial districts into more or less exclusive cities-within-the-city. Often, public capital is channelled both directly and indirectly into private hands for this

purpose: In the case of Singapore's Gardens by the Bay, international designers and developers received public funds for carrying out a megaproject that burdened the public with expenses for land reclamation and extension of transport and other infrastructures. Although the resultant gardens are open to the public and designed to emphasise Singapore's status as a garden city, the charity that manages the gardens runs them as highly controlled private spaces. A similar process seems to be at work in London's Garden Bridge project (<https://www.gardenbridge.london/>).

Less dramatic examples include the construction of residences on a mix of reclaimed and disused land in Copenhagen's Sluseholmen and Teglholmen in the traditional working class Sydhavn neighbourhood. This mix of upper- and middle-income residences and in some cases the land on which they sit has been constructed through speculative investment: Copenhagen Port Ltd. (today, CPH City & Port Development, following a merger with Ørestad Development Corporation and Frederiksbergbaneselskabet Ltd.) partnered with Copenhagen Municipality to create a real estate development company, which then sought investors. Indeed, CPH City & Port Development continues to cast around for investors in its various projects. It is thus that private finance becomes instrumental in physically expanding the city's urban space. In CPH City & Port Development's own words:

One of [CPH City & Port Development's] special skills is to optimize the value growth in an individual urban area. The company ensures that the overall goals are incorporated so that the overall solution will be as good as possible for the benefit of the many people who will subsequently reside and live in the urban neighbourhoods. CPH City & Port Development shall act on a commercial basis and emphasize quality. The company has a long development perspective and we will not allow poor quality to compromise the future urban area (By og Havn, 2015a).

The emphasis on value creation and operations on a commercial basis is important, for part of CPH City & Port Development's purpose is to pay off the debts accrued through the development of the Ørestad smart-city and the associated metro rapid transit system (By og Havn, 2015b): As is so often the case, the public private partnership behind Ørestad left private investors with notes receivable while leaving the public in debt. It is thus that

decisions on Copenhagen's physical transformation; its mix of residential, industrial, and commercial zones; and the (frequently elite) users of these zones are being driven not just by the needs of the city but significantly by the necessity of servicing the city's debt to the very financial system with which it continues to partner on further development. It is thus that the government of Copenhagen has found itself continually engaging in new megaprojects and infrastructural development in order to support old megaprojects and infrastructural development (see also Grydehøj, 2014): Infrastructure space is self-replicating.

Even when strict physical limits to urban expansion – to the creation of new urban space – do not exist, powerful societal actors nevertheless tend to step in to prevent existing available space from being colonised by less powerful societal actors, which do not contribute to or cannot or will not play along with the space's financialisation. This process is not necessarily wholly invidious: For instance, across much of the world, public authorities seek (sometimes successfully, sometimes not) to limit the ability of individual residents from erecting their own buildings and infrastructure simply because urban development does indeed benefit from a degree of planning control. The same planning control that prevents the urban poor from (legally) building their own houses without government permission and oversight also serves to protect them from empowered investors and developers, which might otherwise conquer the space for their uses. However, another result of urban planning guidelines is that it is ultimately *only* the investors and developers which are legally capable of creating new urban space since it is typically only such powerful actors that possess sufficient skills and capital to follow the legally mandated processes.

The 'regeneration' of new urban space, cast as central to urban sustainability (with 'sustainability' seemingly – and worryingly – becoming interchangeable with 'growth'), thus frequently represents an exceptionally pure form of accumulation by dispossession, with new urban space being by for finance from inception. Precisely because such new urban space, often on the waterfront, was never explicitly public to begin with, this kind of *de facto* privatisation is difficult to conceptualise and thus difficult for the public to oppose. The corporate construction of new urban space may appear superior to coercive 'renewal' of urban space that already exists, but it is also a means of sidestepping potentially productive

social conflict. Urban renewal projects that are locally controversial can spark public protest, activism, and democratising social movements. In comparison, the creation of new urban space disenfranchises and impedes identification of non-elite stakeholders (Grydehøj, 2015). It is thus that financialisation can come to embody the very foundations of the city.

4. Conclusions

As we have seen, financialisation of the built environment is deeply integrated into processes of urban regeneration and development as well as urban sustainability. None of these processes are in the control of any one societal actor. They instead represent complex interactions between various state, corporate, and individual actors. Finance's ability to impact the built environment is strongly conditioned by municipal, regional, state, and international policy (Hansen et al., 2014; Grydehøj et al., 2015), yet the state itself has become trapped in a self-perpetuating reliance on private finance to achieve policy. In this sense, although private finance is dependent on the state, it has become adept at deploying the state as its own instrument. There is a growing body of literature on how financialisation has transformed markets for more-or-less material goods: privileging larger and international contractors over local businesses (Santos et al., 2015), involving the deployment of environmentalist discourse in neoliberal arguments (Bayliss et al., 2013: 32), the creation of "liquidity out of spatial fixity" (Gotham, 2009). As the present paper has shown, financialisation is also influencing the built environment at the level of urban space: In some cases, creation the land itself – that most fundamental of urban infrastructures – is being driven by financialised processes.

Initiatives aimed at urban regeneration, development, and sustainability are not protected from financial exploitation. Indeed, finance has proved remarkably adept at deploying narratives of environmental sustainability and healthy urban environments in order to increase profit on existing services and create new services. Investors, contractors, and developers exchange value through ecosystem services provided to and paid for by the state. Once the (frequently illusory) benefits of the prestige characteristics associated with purported eco-city or smart-city status become accepted, entrepreneurial urban policymakers the world over feel compelled to invest in them. This is as much because these

abstract but expensive values have become markers of urban quality as because they are believed to be of genuine use value. It is a great – and not entirely unintended – irony that the economic actors which are demanding particular standards across infrastructure space are often the same actors which are called upon to construct the built environment and implement these standards in this space. International banks, real estate investment trusts, architecture practices, developers, construction firms, and so on are exploiting state dependency on private investment to drive the creation of conditions that facilitate the smooth, effortless, and deregulated circuit of capital (Easterling, 2014). From the perspective of the beneficiaries of finance, the work of finance should never be done, with the result that there are incentives for these beneficiaries to keep the state trapped in a race to the bottomless depths of ever-less regulation – and thus, in a sense, of ever-less statehood.

One effect of the increasing financialisation of the built environment has been the globalisation of the playing field for urban entrepreneurialism. No longer is it sufficient for a city to 'compete' with other cities in its region or even continent. Now, Danish, Swedish, and Turkish cities are competing with cities and designer deregulated spaces in China, South Korea, and Singapore.

None of this is to say that municipal, regional, and national policymakers should reject efforts to improve the city through urban regeneration and sustainability initiatives. It is instead to say that it may be necessary to take a step back from what have become recognised markers of urban policy achievement. Are the most useful investments in the built environment necessarily the most visible, iconic, and communicable ones? Who is truly served by the increasing aestheticisation of 'green' values? What real benefits (which filter down to city residents) does the city accrue through entering into the realm of globalised urban entrepreneurialism? When it is the nature of private finance to strive for the removal of barriers to its freedom, can it ever be responsible for the state to partner with private finance in designing the form and function of the future city?

It is vital that European urban policymakers begin the difficult task of disengaging from the 'game' of finance-fuelled competitive sustainability and regeneration.

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Financialisation, Economy, Society and Sustainable Development (FESSUD) is a 10 million euro project largely funded by a near 8 million euro grant from the European Commission under Framework Programme 7 (contract number : 266800). The University of Leeds is the lead co-ordinator for the research project with a budget of over 2 million euros.

THE ABSTRACT OF THE PROJECT IS:

The research programme will integrate diverse levels, methods and disciplinary traditions with the aim of developing a comprehensive policy agenda for changing the role of the financial system to help achieve a future which is sustainable in environmental, social and economic terms. The programme involves an integrated and balanced consortium involving partners from 14 countries that has unsurpassed experience of deploying diverse perspectives both within economics and across disciplines inclusive of economics. The programme is distinctively pluralistic, and aims to forge alliances across the social sciences, so as to understand how finance can better serve economic, social and environmental needs. The central issues addressed are the ways in which the growth and performance of economies in the last 30 years have been dependent on the characteristics of the processes of financialisation; how has financialisation impacted on the achievement of specific economic, social, and environmental objectives?; the nature of the relationship between financialisation and the sustainability of the financial system, economic development and the environment?; the lessons to be drawn from the crisis about the nature and impacts of financialisation? ; what are the requisites of a financial system able to support a process of sustainable development, broadly conceived?'

THE PARTNERS IN THE CONSORTIUM ARE:

Participant Number	Participant organisation name	Country
1 (Coordinator)	University of Leeds	UK
2	University of Siena	Italy
3	School of Oriental and African Studies	UK
4	Fondation Nationale des Sciences Politiques	France
5	Pour la Solidarite, Brussels	Belgium
6	Poznan University of Economics	Poland
7	Tallin University of Technology	Estonia
8	Berlin School of Economics and Law	Germany
9	Centre for Social Studies, University of Coimbra	Portugal
10	University of Pannonia, Veszprem	Hungary
11	National and Kapodistrian University of Athens	Greece
12	Middle East Technical University, Ankara	Turkey
13	Lund University	Sweden
14	University of Witwatersrand	South Africa
15	University of the Basque Country, Bilbao	Spain

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Published in Leeds, U.K. on behalf of the FESSUD project.