Appendix A

Creative Clusters and the Changing Economy:  
A Review for Pinewood Studios

The Work Foundation

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The Work Foundation is the leading independent authority on work and its future. It aims to improve the quality of working life and the effectiveness of organisations by equipping leaders, policymakers and opinion-formers with evidence, advice, new thinking and networks.
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Executive Summary

This is a critical time for the United Kingdom. The UK economy has emerged from recession but amidst record levels of public debt and public spending cuts there is an urgent need to support private sector growth, job creation and the ongoing transition towards a more knowledge-intensive economy – one based on the production, use, sharing and analysis of knowledge.¹

The economy is changing. Over the past 40 years the UK economy has shifted towards a service-based, more knowledge-intensive and skills-hungry economy in which the ability to produce, use, share and analyse knowledge has become increasingly important as a source of economic growth and wealth creation. Knowledge intensive manufacturing and services acted as the primary drivers of employment growth in the boom period and the recession of 2008 to 2009 further accelerated the pace of this profound structural shift with low skill occupations and industries hardest hit.

Economic recovery depends on private sector expansion. Trends from previous recessions show that it was knowledge intensive high-tech and business services that drove economic recovery after the recessions of the 1980s and 1990s. The state of the public finances means that this recovery will be even more dependent on the expansion of private sector knowledge-based industries and occupations.

Key sectors will drive growth. This is therefore an opportune moment to think about how best to support the growth of private sector knowledge services and in particular the four sectors that The Work Foundation predicts will play a key role in driving innovation, exports and employment growth over the next decade: creative industries, low carbon goods and services, advanced ‘manu-services’ and high tech network services.

The creative industries are a key growth sector. The creative industries – industries which originate in individual creativity and create jobs and wealth through the generation and exploitation of intellectual property – are a major source of economic growth and competitive advantage for the United Kingdom. The UK has the largest creative sector in Europe and their significance to future economic prosperity has been recognised by the Coalition Government, with David Cameron highlighting the need to support the growth of the creative industries in his first speech on the economy as Prime Minister.

The geography of the creative industries will continue to be uneven. The sector has been highlighted as a source of future growth in the economic development strategies of many towns and cities in the United Kingdom. This is not realistic – The Work Foundation’s research has shown that the creative industries are most likely to grow in places which already have a strong creative presence in terms of businesses and creative practitioners². Nonetheless it reflects widespread understanding of the fact that the creative industries have not only played a key role in driving business and job creation over the last decade but may also have a number of beneficial characteristics.

Support mechanisms for growth sectors remain unclear. Beyond the intention to reduce red tape and headline rates of Corporation Tax, details of exactly how the Coalition intends to support important sectors like the creative industries without picking winners remains unclear. Enabling clusters of complementary business to form and develop in particular locations is one way of supporting growth sectors: the coalition needs to continue to explore policies which allow this to happen.

¹ For a definition of the Knowledge Economy and knowledge-intensive industries see page 7.
One approach might involve supporting growth industries in particular places. Economic activity has clustered in particular places throughout history and this continues despite the rise of new information and communications technologies. The clustering of businesses in particular industries or across complementary industries is thought to bring advantages including increased competitiveness, higher productivity and profitability, innovation, employment growth and business creation for both businesses and the locales in which they operate. Examples of dynamic and successful industrial clusters include Silicon Valley in California, the Cambridge biotech cluster (often referred to as ‘Silicon Fen’) and the aviation and advanced engineering cluster around Bristol. Each of these was the product of the private sector building on public assets such as Universities or military contractors.

The creative industries are known to cluster. As an important sector in the UK, policymakers have sought over the past five years to support the growth of creative industry businesses and employment. Recognising the potential of industrial clusters to drive economic growth, the majority of initiatives have been broadly underpinned by the concept of supporting the development and growth of ‘creative clusters’ in urban locations. As the sustainability agenda has become increasingly important, many stakeholders have also started to incorporate the idea of communities in which people live and work locally into cluster support and development strategies.

The concept of creative industry clustering underpins the planned Project Pinewood. Building on the success of the existing Pinewood Studios Group cluster of creative businesses and an understanding of creative clusters and live-work communities, the proposed Project Pinewood development envisages the construction of a purpose-built living and working community for film, television and the creative industries with Pinewood Studios at its core.

This report reviews evidence about the benefits and challenges associated with clusters. In light of the aims of Project Pinewood, this report reviews evidence about clusters – creative and live-work clusters in particular – and seeks to learn lessons from elsewhere about the associated benefits and challenges to determine how the growth of clusters can best be supported.

There is no single ‘right’ way to support creative clusters. Supporting clusters can be done in a variety of ways, through providing specialised accommodation for business, to lessons in entrepreneurship for particular sectors. The international case studies highlight the diversity of approaches undertaken in relation to the development of creative clusters and live-work communities. It is clear that whilst there is no single ‘right’ way to support the growth of a creative cluster, there is a need to work closely with businesses and respond to business demand, engage the local community and to create attractive, desirable spaces with high quality amenities, whatever the approach undertaken.

It is essential to build on existing connections and links. Ultimately the key distinguishing feature of a successful cluster is interconnectivity between individuals and businesses, be it through supply chains, informal networks, recruitment practices or formal processes of collaboration. This requires high levels of trust and openness – and the infrastructure to facilitate meetings, the exchange of ideas and the development of new ones. Cluster interventions must therefore respond to business demand and build on existing links and networks if they are to lead to spillovers in the form of innovation, increased competitiveness, higher productivity and profitability, employment growth and business creation.
Successful creative clusters share the following characteristics:

**Box A: Characteristics of Successful Clusters**

1. a dynamic business base which evolves to meet changing economic conditions
2. robust internal networks, both formal and informal
3. highly skilled, entrepreneurial and mobile workforces
4. high levels of competition, collaboration, mutual trust and engagement between businesses
5. high levels of investment in research, development and innovation
6. high levels of responsiveness to changing consumer and business demands
7. strong external partnerships and close links with public institutions such as universities and further education colleges
8. strong community links and relations
9. tend to be based on existing economic advantage
10. access to external markets and knowledge linkages
Introduction

This is a critical moment for the United Kingdom. Markets have stabilised and the UK economy has emerged from recession but it is also clear that significant challenges remain. Amidst record levels of public debt, high levels of unemployment and the Coalition’s plan to cut public spending in order to eliminate the structural deficit in the course of the parliamentary cycle, the need for private sector growth and job creation is paramount.

Policymakers seeking to mitigate the impact of public spending cuts must understand how and why the economy is changing and how they can enable the private sector to grow and flourish. This will likely require a combination of general measures to support high growth enterprises with specific policies that can respond to the distinctive needs of sectors that are predicted to be particularly important to the future prosperity of the UK.

The Pinewood Studios Group has commissioned this independent report to develop an understanding of the policy levers which will help the creative industries to grow and contribute to the UK economy over the next decade. It focuses in particular on the importance of clustering of economically complementary activities in the creative industries. The creative industries are one of the four key sectors that The Work Foundation predicts will be an important source of economic growth over the next decade. As The Pinewood Studios Group seeks permission to capitalise on the success of the existing Pinewood Studios lot and build the ‘Project Pinewood’ creative cluster, it is keen to understand more about the impacts of clustering and how clustering might be enhanced through the creation of live-work communities.

This report investigates three issues:

1. At a time when private sector growth is critical to UK recovery, what are the competitive advantages and disadvantages of clustering for the creative industries? How does this vary for ‘live-work’ clusters?

2. What is the potential for spillovers from creative clusters that can benefit the wider economy, learning from national and international case studies?

3. What are the public policy implications of these findings?

To respond to these questions, the report first reviews the context for economic recovery, highlighting the impact of the growing importance of knowledge to successful businesses. As Section 1 highlights, demand for individualised goods and services continues to grow, drawing on access to increasing numbers of new technologies and highly trained minds. This is changing both how people do business, relying more heavily upon skills and innovation, and where they do business, with benefits associated with co-location.

The changing economy is also increasing the importance of certain sectors to economic growth, with creative industries identified as a key. Section 2 reviews creative industries’ historic and potential future contribution to economic growth.

In this changing economy, evidence suggests many businesses – particularly knowledge based businesses – gain an advantage from locating in clusters. This should therefore provide a fruitful focus for policymakers and so Section 3 reviews what clusters are, their advantages and disadvantages, and also assesses what role public policy might have in creating clusters.
The report then reviews how ‘creative clusters’ have been supported elsewhere by policymakers (Section 4).

Finally, the report concludes with a series of issues for policymakers to consider when reviewing how best to support growth in the creative industries over the next decade, and what role clusters might play.
1) The Changing Economy

How is the economy changing?
Over the past 40 years the UK economy has undergone a seismic shift. We have moved away from an economy dominated by basic manufacturing and reliant on physical capital and low cost labour for competitive advantage. Instead, we have moved towards what is often called a ‘knowledge economy’, in which the ability to produce, use, share and analyse knowledge has become increasingly important as a source of economic growth and wealth creation.3

Box A: The Knowledge Economy

The knowledge economy is a description of the transition from an economy reliant on physical capital and low cost labour for competitive advantage and organisational performance to an economy where advantage increasingly comes from investment in knowledge-production, such as Research and Development, branding or design.

That the ability to produce, use, share and analyse knowledge has become increasingly important as a source of economic growth and wealth creation is clear from changing patterns of business investment.

In 1970 firms invested just £4 on ‘intangible’ investments - research and development, software, marketing, training and design - for every £10 on traditional investment in ‘tangible’ machines, tools, computers and buildings. By 2004, for every £10 that firms invested in traditional tangibles, they invested £13 on the intangible investments like R&D and workforce skills to foster innovation and help create comparative advantage.

Knowledge intensive manufacturing and knowledge intensive services acted as the primary source of economic growth in the boom period, generating significantly more new jobs and productivity than other sectors. Between 1995 and 2005, 12 new jobs were created in knowledge intensive industries4 for every one new job created in other industries and nearly half of all UK employment was in knowledge intensive industries by 2007.


This transition towards a more knowledge intensive economy is a universal process across the OECD, affecting all sectors, all sizes of firm, and both the public and the private sectors. Across the OECD these structural changes have been driven by three underlying forces.

- **Market demand** from consumers, business and government shifting towards higher value added goods and services associated with the knowledge economy. Consumers have not just become wealthier; they are more demanding and much better informed than previous generations5;

- **New “general purpose” technologies** acting on the supply side: the general purpose ICT technologies introduced in the early 1980s and boosted by the spread of the internet in the 1990s have made the knowledge economy possible. As well as

4 Based on the Eurostat definition and including financial services, professional services, high tech manufacturing, education and healthcare.
5 HMT (2007)
their universal direct technological applications they have simultaneously expanded and diversified global markets and vastly increased the free flow of ideas and best practice across national borders;

• **Globalisation** acting as an accelerator on both demand and supply sides: increased trade, information, knowledge, capital and human flows across borders have accelerated the pace of change on both the demand and the supply side.

**What will drive the economic recovery?**

Following six consecutive quarters of negative growth and the most severe drop in economic output since the Great Depression, the UK economy finally emerged from recession in the third quarter of 2009. Growth - of 0.3% between October and December 2009⁶, a further 0.3% between January and March 2010 and 1.2% between April and June 2010⁷ – restarted with a whimper rather than a bang. Amidst record levels of public debt and the Coalition’s plan to eliminate the structural deficit over the five years to 2015-16, it is clear that conditions are likely to remain challenging for some time.

The state of the public finances means that it must be the private sector that leads the recovery in employment and productivity. Evidence shows that it was knowledge intensive high-tech and business services that drove economy recovery after the recessions of the 1980s and 1990s (Figure 1) and it is certain that this recovery will be even more dependent on the expansion of private sector knowledge-based industries and jobs⁸ - so far the recovery from this recession in both the UK and US has been dominated by the knowledge-intensive industries (Figure 2).

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Figure 1: The 1990s Recovery

Source: Total employment, EU KLEMS database definition. Indexed to 1980 (1980 = 1.0)
N.B. KE market based is telecoms, high tech, business, financial, and cultural services; KE public based is education and healthcare

Figure 2: Recovery from the 2008/09 recession in the UK and US

Source: Office for National Statistics, 2010
Which sectors are set to grow?
The Work Foundation’s research indicates that four knowledge-intensive sectors are likely to play a particularly important role in driving innovation and employment, productivity and export growth over the next decade. These four sectors are:

- The creative industries
- Low carbon goods and services which help to facilitate the transition to a low carbon economy
- Advanced ‘manu-services’ where manufacturing and services become increasingly interlinked
- High tech and high value-added network services

These sectors chime closely with the Coalition Government’s commitment to supporting growing industries such as aerospace, pharmaceuticals, high-value manufacturing, hi-tech engineering, low carbon technology and the creative industries. This report focuses on one of these sectors in greater detail: the creative industries.

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10 Speech by the Prime Minister Rt Hon David Cameron MP on 28th May 2010
2) The Creative Industries and the UK Economy

The creative industries have been identified as a sector in which the UK already has internationally recognised competitive advantage, as well as being important for future growth of employment and productivity. Greater clarity about which industries are included in this term ‘creative industries’, therefore, and what contribution they might make to the economy is important for policymakers considering how best to use limited public funds to enable private sector growth.¹¹

**What are the creative industries?**

The creative industries are industries, ‘which have their origin in individual creativity, skill and talent and which have a potential for wealth and job creation through the generation and exploitation of intellectual property’.¹²

**Box B: Identifying Creative Industry Sectors**

There are a number of different ways of defining the creative industries. The Department for Culture, Media and Sport (2006) identifies thirteen distinct creative industry sectors. These are¹³:

- Advertising
- Architecture
- Art and antiques
- Computer and video games
- Crafts
- Design
- Designer fashion
- Film, video and photography
- Music
- Performing arts
- Publishing
- Software
- Television and radio

The creative industries are a major source of economic growth and competitive advantage for the United Kingdom, which has the **largest creative sector in Europe**.

**Before the onset of recession the creative industries accounted for 7.3 per cent of the economy (comparable to the financial services sector), employed one million people (with a further 800,000 employed in creative occupations) and were growing at an average rate of 5% a year.¹⁴**

**Why are the creative industries important?**
The creative industries play a vital role in the UK economy and the sector has been highlighted as a source of future growth in the economic development strategies of many towns and cities in the United Kingdom. This is not realistic – The Work Foundation’s research has shown that the creative industries are most likely to grow in places which already have a strong creative presence in terms of businesses and creative practitioners. Nonetheless it reflects widespread understanding of the fact that the creative industries have not only played a key role in driving business and job creation over the last decade but may also have a number of beneficial characteristics.

First, the creative industries are important in driving innovation and increase productivity in other sectors of the economy. This may happen through spillovers, where location near creative industries provides benefits for other nearby sectors, such as access to creative ideas, but where these benefits are not traded in the market. More prosaically, it might be through the integration of the creative industries as part of the wider production chains of other industries. Design agencies may be commissioned to add value to the products of manufacturers, for example. These two processes may mean that non-creative firms that are located near creative firms are more productive and more successful.

**Figure 3: A Typology of the Creative Industries**

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16 See Box A in the Annex
Second, the creative industries may make places more attractive to other businesses and highly skilled individuals. The focus of research in this area has been on the role of creativity or creative industries in attracting highly skilled members of the ‘creative class’, but there is a more general point around the importance of attractive locations in attracting highly skilled individuals.¹⁸

Third, it is often argued that particular aspects of the creative industries – such as art, music or performance – have an intrinsic value in themselves. This has made strategies based on the creative industries a very popular part of urban policy. As Andy Pratt has argued, it is hard to oppose creativity.¹⁹

Yet this does not mean that evidence about the creative industries is unambiguous. Despite the popularity of the creative industries with policymakers, there is only limited evidence for the wider growth effects in the sector, such as spillovers or making places more attractive. While some studies have suggested that the creative industries can lead to growth in other firms, this is principally through traded production networks where the value of creative content is traded between firms rather than via creative ‘spillovers’ where value is created in one firm through spillovers of knowledge with other firms.

The creative industries will play an important role in driving economic recovery in the United Kingdom. Along with low carbon goods and services, advanced ‘manuservices’ and knowledge intensive network services, the creative industries are one of the four sectors that The Work Foundation predicts will play a greater role in the economy in 2020, driving innovation, exports and employment growth over the next decade. Their significance to future economic prosperity has been recognised by the Coalition Government, with both David Cameron and Jeremy Hunt highlighting the need to support the growth of the creative industries.

Box C: The Coalition and the Creative Industries

Speech by Rt Hon David Cameron MP on 28th May 2010
Transforming the British economy: Coalition strategy for economic growth

Today our economy is heavily reliant on just a few industries and a few regions – particularly London and the South East. This really matters. An economy with such a narrow foundation for growth is fundamentally unstable and wasteful – because we are not making use of the talent out there in all parts of our United Kingdom.

We are determined that should change. That doesn’t mean picking winners but it does mean supporting growing industries – aerospace, pharmaceuticals, high-value manufacturing, hi-tech engineering, low carbon technology. And all the knowledge-based businesses including the creative industries.

Yet beyond the intention to reduce red tape and headline rates of Corporation Tax, details of exactly how the Coalition intends to support these important industries without picking winners remains unclear. The next section reviews one way in which the Coalition might do this; by supporting groupings or clusters of these industries in particular locations.

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21 Speech by the Prime Minister Rt Hon David Cameron MP on 28th May 2010
22 Foreword by Jeremy Hunt in A creative recovery: How the UK’s creative industries can regain their competitive edge. REFORM
3) Clusters and the Knowledge Economy

**What are clusters?**
Throughout history economic activity has clustered in particular places. Despite the rise of new information and communications technologies that theoretically allow individuals and businesses to locate anywhere in the world, this pattern of clustering continues. This is evident from the ongoing growth of cities in the UK and abroad, as well as from the existence of industrial clusters of international repute such as Silicon Valley, Canary Wharf and the Cambridge science and biotechnology cluster. One of the most prominent examples of clustering comes from advertising agencies in Madison Avenue in New York where the advantages of locating nearby other advertising firms disappear completely in less than a mile.

Michael Porter, one of the leading academics on businesses clusters, defines them as ‘geographic concentrations of interconnected companies, specialised suppliers, service providers, firms in related industries, and associated institutions (for example, universities, standards agencies, and trade associations) in particular fields that compete but also cooperate’. The concept is perhaps better understood using the NESTA idea of clusters as ‘geographical agglomerations of firms from the same sector that collaborate and compete with each other, and have links with other actors in the location.

Following influential work on industrial clusters in the 1990s, clusters assumed renewed policy significance as policymakers sought to develop new models of economic growth and adopted the support and growth of business clusters as a key economic development strategy. These were underpinned by work from the Department for Trade and Industry, and the review by Lord Sainsbury of Biotechnology clusters and a series of cluster related policies were implemented relating to the creative industries. Creative clusters have been seen internationally as a popular method of supporting creative industries to grow.

**Why is clustering advantageous?**
The notion that the clustering, or the agglomeration of businesses in similar industries, can bring advantages such as increased competitiveness, higher productivity and profitability, innovation, employment growth and business creation for businesses and the locales in which they operate is not new. Indeed the renowned nineteenth century economist Alfred Marshall was referring to similar ideas when he said in 1890 that ‘the secrets of industry are in the air’.

Yet it is important to understand exactly why clustering can be advantageous for businesses and why, when technology theoretically allows businesses to locate in cheaper non-urban locations, so many large and medium-sized businesses choose to remain in high cost urban locations. In this respect the work of Giles Duranton and Diego Puga is useful. They summarise the benefits of what are known as ‘urbanisation economies’ as:

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• **Sharing:** co-location facilitates the sharing of the cost of infrastructure (roads, airports, leisure amenities etc), production facilities and marketplaces, thereby reducing the cost of access to markets for each user.

• **Matching:** the scale of a city provides firms with access to a large and diverse pool of customers, suppliers and highly skilled labour, making it easier for each to fulfil specific needs. This, together with sharing (see above), allows increasingly specialised functions to be undertaken, and enables people and firms to develop specialised products and skills with the confidence that they will be able to find a market.

• **Learning:** close proximity to other firms and individuals in similar industries provides opportunities for face to face contact and facilitates the building of trust, leading to the sharing of information, technological spillovers and the development of new ideas and innovation.

Sharing, matching and learning are thought to be particularly valuable to high value businesses in knowledge intensive industries as they tend to rely upon specialist skills and innovation for comparative advantage. At the same time it is important to recognise that other considerations (such as the cost of supplies or access to international transport links) can outweigh the advantages of clustering near similar businesses.

**What determines the success of clusters?**

Whilst all clusters offer some of the advantages set out above, some clusters are undoubtedly more successful than others. Silicon Fen or the Cambridge Cluster of biotechnology, software and electronics businesses, for instance, has proved more successful in the long-term than Silicon Glen, a cluster of electronics and software businesses in the Central Belt triangle between Dundee, Inverclyde and Edinburgh.

So, why are some clusters more successful than others? A review of academic cluster literature undertaken for the Department of Trade and Industry in 2004 identified three factors critical to the success of business clusters:

1) the presence of functioning networks and partnership;

2) a strong innovation base with supporting R&D activities; and

3) the existence of a strong skills base.

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Case Study: The Cambridge Cluster

The area in and around Cambridge is home to one of the largest and most concentrated clusters of high-tech businesses (particularly in the biotechnology, software and electronics sectors) in Europe.

The start of the so-called Cambridge phenomenon is commonly dated to the construction of the Cambridge Science Park (the UK’s first science park) on land owned by Trinity College, Cambridge in the early 1970s. This followed a review by the Mott Committee which called for an expansion of ‘science based industry’ in Cambridge to maximise the advantages associated with the concentration of scientific expertise, equipment and libraries in the University of Cambridge.

Growth was initially slow but a cluster of high-tech businesses had developed in and around the Cambridge Science Park by the mid 1980s. The St John’s Innovation Park and Centre opened in 1987 following the publication of The Cambridge Phenomenon: The Growth of High Technology Industry in a University Town by Segal Quince Wicksteed in 1985. The 1990s heralded the arrival of large multinationals such as Microsoft and GlaxoSmithKline as well as the continued evolution of spin-outs, start-ups and existing high-tech businesses.

Silicon Fen businesses secured 24% of UK venture capital in 2004 according to the 2004 Cambridge Cluster Report and the Cambridge Technopole area (covering the city centre and the Greater Cambridge hinterland) was home to over 1,400 high technology ventures employing around 43,000 people in 2008.

Case Study: Silicon Glen

The origins of Silicon Glen lie in the establishment of a series of electronics manufacturing plants by multinational companies (including Ferranti, Honeywell and IBM) in the 1940s and 1950s. This followed the decline of traditional heavy industry in Scotland and financial support from Scottish development agencies that viewed electronics manufacturing as a satisfactory replacement industry that could, with some investment in training and reskilling, provide employment for former heavy industry workers. The hope was that the presence of large multinationals and high quality university research universities would lead the formation of entrepreneurial spin-out businesses, just as in Silicon Valley.

The strategy succeeded in attracting more multinational businesses so that by 1996 Silicon Glen employed 55,000 people and produced 35% of European computers and 12% of the world’s semi-conductors. Yet levels of indigenous entrepreneurialism remained low and the Scottish electronics industry was essentially a branch-plant manufacturing system.

Overreliance on electronics manufacturing left Silicon Glen heavily exposed to the burst of the dot-com boom and the global downturn. Over the next five years a large number of multinationals (including Motorola, Hewlett-Packard, Chunghwa, Samina and Inventec) closed or scaled back their operations in Scotland in favour of lower cost centres in Eastern Europe and beyond, with the loss of tens of thousands of direct and supply chain jobs. Silicon Glen was described as ‘the miracle that melted away’ in 2007, yet the legacy of Silicon Glen remains in the presence of businesses such as Amazon and IBM and the small but dynamic software and electronics design industry.

The three attributes of successful clusters identified by the DTI can clearly be identified in and around Cambridge, which has numerous local networks and international links, an ancient and world-renowned research intensive university, high levels of public and private
sector R&D activity and one of the most highly skilled workforces in the United Kingdom. Many can also be identified in Silicon Glen but to a lesser – and more geographically diffuse – extent.

It is also important to recognise the role that other factors have played in driving the development and evolution of the Cambridge and Silicon Glen clusters. For Cambridge, these factors include:

- first mover advantage associated with its early – and largely bottom-up and unplanned – development as a high-tech cluster;
- accidents of history such as land ownership by Cambridge colleges;
- geographical proximity to London; and
- its financial and venture capital institutions.

For Silicon Glen, targeted government support for the electronics industry acted as a key driver for the initial development of Silicon Glen but ultimately failed to engender high rates of entrepreneurialism and left Silicon Glen exposed to global shifts.

This highlights some of the challenges associated with cluster interventions:

1) Clusters evolve over an extended period of time, making meaningful evaluation challenging within political timescales.

2) Distinguishing between clustering causes and effects is extremely difficult and the presence of the three ‘cluster success factors’ does not in and of itself lead to the development of a successful cluster.

3) Policy interventions can have unintended consequences in the short and longer-term, for instance in Silicon Glen where interventions designed to create a vibrant entrepreneurial hub instead create an overspecialised branch-plant economy.

4) Clusters must evolve, diversify and adapt to macroeconomic change, changing consumer demands and external shocks in order to survive and prosper.

**How have policymakers sought to support the growth of clusters?**

Following widespread recognition of the Cambridge phenomenon and Michael Porter’s influential work on industrial clusters in the early 1990s, the support and growth of business clusters was adopted as an economic development strategy by local, regional and national policymakers across the UK.

Yet despite numerous cluster support initiatives, the extent to which public intervention can help create successful industrial clusters or support existing ones is far from conclusive.31 Successful clusters such as Silicon Valley, Madison Avenue, Bloomsbury and the Cambridge cluster have tended to develop organically as the result of self-selection processes by businesses which public interventions, however well intentioned, do not seem to have been able to replicate.32 Critics have highlighted the descriptive nature of cluster theory – it is easier to identify the characteristics of successful clusters like Silicon Fen than to identify ways of reproducing them – and questioned the assumptions that have been made about cluster formation leading to improved economic outcomes for co-located businesses and the places in which they are located.33

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That nowhere in the United Kingdom has succeeded in developing a cluster as successful as Silicon Fen means we should be cautious about assuming clusters will be successful. Yet that is not to suggest that all policy interventions have failed. A detailed study of more than 250 cluster initiatives concluded that those that focus on clusters that are already strong and set in locations with good business environments are more successful than those that do not.34 This implies a need for policymakers to build on existing strengths and to work closely with existing networks, capitalising on both hard and soft infrastructure, when thinking about the best way to support the growth of clusters.

The success or failure of clusters may depend in part on the unintended consequences of policy in other areas. Many of the notable clusters which have developed, including computing in Silicon Valley and biotechnology in Cambridge, have evolved partly due to the existence of government research laboratories. Similarly, other nascent clusters may have failed to develop because of policies – such as lack of planning permission or regulatory restrictions in other areas. These failed clusters are rarely documented by their very nature.35

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4) The Creative Economy and Creative Clusters

Given the importance of creative industries to future economic prosperity in the UK and the potential benefits associated with ‘clusters’, there is merit in understanding more about whether creative industries cluster and whether it would be useful for policymakers to support these clusters proactively.

Do creative industries already cluster?
Creative industry businesses and individuals are already known to cluster in particular places.36 This can be seen in Figure 4, which maps levels of employment in the DCMS creative industry sectors across Great Britain and clearly shows the concentrations of creative industry employment in London and the South East and regional hotspots in and nearby the cities of Birmingham, Bristol, Bath, Cambridge, Cardiff, Edinburgh, Leeds, Manchester, Nottingham and Sheffield.

Intuitively one might expect there to be more links between some creative industry sectors – film and computer games, for instance – than others and recent research does identify particular sector clustering patterns within the creative industries.

According to NESTA there are two broad subsets of creative industries which tend to co-locate. The first sub-set includes advertising, designer fashion, software, computer games and electronic publishing; whilst the second, more weakly co-located subset, includes music and the performing arts, video, film and photography, publishing and radio and TV.37 This supports the idea that there are particular synergies between certain creative industry sectors.

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Figure 4: Employment in the Creative Industries in Great Britain (2008)

How has public policy sought to support the creative industries?

Recognising the importance of the creative industries and the potential of industrial clusters to drive economic growth, policymakers across the United Kingdom have over the past five years sought to support the growth of creative industry businesses and employment.

Policy initiatives have taken many forms, including:

- workspace provision;
- sponsoring arts graduates to work in creative industry businesses;
- the provision of business advice and training;
- the provision of grants and loans; and
- the development or improvement of physical infrastructure (e.g. broadband).

The majority of initiatives have been broadly underpinned by the concept of supporting the development and growth of ‘creative clusters’ in urban locations. Creative clusters are defined by DCMS as groups of competing and co-operating creative industry businesses ‘that enhance demand for specialist labour and supply networks in a particular location’ and are supported by public infrastructure and public investment.

Case Study: City Growth Strategy for the City Fringe

The City Fringe area of London encompasses 13 wards covering parts of the London Boroughs of Camden, Hackney, Islington and Tower Hamlets. It has long associations with the UK jewellery trade (clustered in the Hatton Garden area) and has traditionally been a hub for the creative industries, which provided 14% of local employment in 2005. In 2001 the area was chosen as one of seven deprived inner city areas to pilot the City Growth Strategy, a business-led approach to regeneration that was inspired by the work of Michael Porter and aimed to help local leaders create a new vision for their inner city areas by identifying market-based strategies and engaging the private sector.

The City Fringe’s City Growth Strategy (CF CGS) was launched in 2003 and continued until 2009. It involved working with key industry clusters (fashion, furniture, jewellery, printing & publishing, health & social care; hospitality and leisure) to:
- identify barriers to competitiveness and opportunities for intervention;
- develop Cluster Action Groups;
- develop Sector Investment Plans; and
- deliver targeted interventions.

A 2009 evaluation of the scheme found that it had helped to improve prospects for local people, provide the skills and environment for business growth and bring benefits to the wider sub-region but also highlighted that the increased knowledge flows that are generally thought to result from clusters were not always apparent in the City Fringe.

As highlighted above, there are some weaknesses within the cluster-focused approach to economic development. And there are some further challenges associated with many creative cluster initiatives. As researchers have highlighted, programmes have often been

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designed to fulfil a number of different – and potentially contradictory – aims. These often include:

- creating new jobs and businesses;
- increasing innovation;
- enhancing economic growth rates;
- bringing disused buildings back into use;
- enhancing visitor and tourist offerings; and
- addressing social and economic disadvantage.\(^{39}\)

A further challenge derives from the nature of creativity itself. As Richard Florida has stated, “creativity is organic, you can’t plan for it, you can only give it room and freedom to grow”.\(^{40}\)

**What is the relationship between creative clusters and the live-work agenda?**

As the sustainability agenda has become increasingly important, policymakers have also started to incorporate the idea of communities in which people live and work locally into cluster support and development strategies. Such ideas are loosely defined but sometimes referred to as ‘live-work communities’ and are often mentioned in conjunction with creative cluster.\(^{41}\) The 2004 London Plan, for instance, suggested that designating, developing and managing creative quarters ‘can help address the need for affordable workspace for creative industries, provide flexible live-work space, encourage clusters of activity and provide a trigger for local regeneration’.\(^{42}\)

There are a number of examples of small scale live-work clusters in the UK. However, as this remains a relatively new idea and one which has not yet been subject to considerable government policy, there have been no extensive evaluation of their success to date. Examples include:

- **Box Wharf and Timber Wharf, Manchester:** Five 850 sq ft live-work units in 85 unit Boxworks residential scheme, with 17 2000 sq ft live-work units on adjoining Timber Wharf site. It was completed in 2002 and all the units sold (although primarily for business use).\(^{43}\)

- **BedZed, Sutton, London:** 82 mixed tenure homes, 1,600 square metres office and community space, nursery, clubhouse and outside sports area. Failure to identify a clear target market at the time of design proved a weakness for live-work at the site and some of the live-work spaces were converted to solely residential spaces, possibly because of the location in suburban Sutton.\(^{44}\)

- **St Austell Urban Village, Devon and Cornwall:** 148 dwellings, of which 6 will be live-work, including three storey houses totalling 135 sq metres with ground floor as office/workshop space.\(^{45}\) No evaluation is available to indicate how successful this has been.

- **Electric Wharf, Coventry:** Four-phase development of 68 live-work loft units, 18 eco-homes and 2,600m\(^2\) of high-tech offices for small- to medium-sized businesses. Units have no formal split of live and work, with many of the units having been taken

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\(^{41}\) G Evans (2008) From cultural quarters to creative clusters – creative spaces in the new city economy


by people working in IT. Most of the loft units and offices were occupied in August 2005.\footnote{http://www.liveworknet.com/live-work-sec3.html}

Building on the existing Pinewood Studios Group cluster of creative businesses is highly important to the success of the cluster going forward. The studios are already an important economic asset, employing around 200 staff in the company itself plus additional employment of around 750 people in tenant companies and employment in production which could add up to around 1,800 people. This gives an estimated contribution to GVA of over £90 million pounds.\footnote{Project Pinewood (2009) Economic impact assessment. Pinewood: London.}

With this success as its foundation, the proposed Project Pinewood development envisages the construction of a purpose-built living and working community for film, television and the creative industries with Pinewood Studios at its core.

### Project Pinewood

Located next to and linked with Pinewood Studios, Project Pinewood is intended to provide a hub for the growth of the UK’s international status as a centre for creative excellence.

Key aspects of the ‘Project Pinewood’ proposal are:

- **Job creation**: delivery of approximately 630, rising to 960 new jobs by 2022
- **Production cost savings**: significant reduction in the cost of location filming with the creation of living streetscapes including Venice, Amsterdam, Prague and New York
- **Training**: creation of a new Pinewood Screen Crafts Academy providing specialist training for the creative industries
- **Housing**: construction of up to 1,400 homes within the streetscapes, of which 420 will be affordable housing
- **Carbon savings**: at least a 45% reduction in carbon emissions for both residents of Project Pinewood and film and television productions.

This proposal is currently being consulted upon for planning permission.
5) Learning from international experience: creative cluster case studies

In light of the evidence about the potential benefits of creative clusters and the decisions that need to be made by policymakers about where to invest funds or enable development – a choice they are facing with regard to Project Pinewood, amongst others – this section examines a number of specific initiatives designed to support the growth and development of creative clusters. Drawing on evidence from international creative clusters and live-work initiatives, The Work Foundation has undertaken three case studies to identify key lessons for policymakers and private sector businesses considering investing in creative clusters.

Case Study: Liberty Village (Toronto, Canada)

| What? | Liberty Village ([http://www.lvbia.com/](http://www.lvbia.com/)) is a 45 acre brownfield site located to the west of downtown Toronto. Following deindustrialisation and a process of transformation over four decades, the Liberty Village neighbourhood is now a vibrant creative and residential hub that is in high demand amongst Toronto residents. |
| Why? | Liberty Village was formerly a traditional industrial area containing warehouses, factories and other historical commercial and manufacturing buildings. Following deindustrialisation in the 1960s many industrial buildings became vacant and Liberty Village became popular with artists who were attracted by the large workspaces and studios available for low rents, as well as the possibility of converting spaces for residential use at low cost. Culture and the arts have long played a key role in Toronto’s economic development strategies. Following the initial development of an artistic community, local policymakers facilitated the growth and evolution of Liberty Village through deregulating land use, supporting public-private partnerships and developing cultural policies and strategies. |
| How? | Liberty Village was originally an organic, bottom-up artistic cluster. Art-based regeneration of the area gained momentum in the 1970s and 1980s, leading to the formation of a number of not-for-profit organisations in the 1990s that collaborated to increase recognition of Liberty Village as a creative cluster and to attract public and private investment. This was facilitated by the deregulation of land use and flexible zoning which allowed commercial and residential spaces to be developed in close proximity. Other factors that played a key role included the creation of a series of strong public-private partnerships, high levels of community engagement and a renewed emphasis on cultural policies and strategies at the city level. In combination, these led to expansion in the provision of workspaces and residential accommodation and the formation of the Liberty Village Business Improvement Area which lobbies for capital improvements and is financed through a levy on municipal business taxes. Over time the number of artists in Liberty Village has dwindled but the area has attracted a wider range of creative industry professionals and businesses in the ICT, photography, design, marketing and new media industries. There are currently around 400 high tech, arts, design, entertainment and media businesses located in Liberty Village (including high profile firms such as Corus Entertainment, Nelvana, |
Adobe, BMG/Sony Music, Yowza Animation and Alcina Pictures) which employ 5,000 people. The Liberty Village New Media Centre (LVNMC) was built with public-private cooperation to support Liberty Village as a new media and information technology cluster.

| Evidence of Success | Over the course of five decades, Liberty Village has, through a series of organic and planned processes, evolved from a derelict manufacturing district to a self-sustaining creative cluster with a 95% occupancy rate in 2007. The area remains in high demand and is marketed as a vibrant destination where people can live, work, and play. |

Case Study: One North (Singapore)

| What? | One-North ([http://www.one-north.sg](http://www.one-north.sg)) is a 200-hectare business park in Singapore that is being developed by JTC Corporation on behalf of the Government of Singapore to house R&D and high technology activities in the biomedical sciences, ICT and media industries. |

| Why? | The aim of the One-North project is to attract domestic and international knowledge workers and knowledge intensive businesses to ‘work, live, play and learn’ in One-North, thereby supporting Singapore’s transition to a knowledge-based economy and enhancing economic competitiveness. |

| How? | Singapore’s Science Hub Steering Committee set out a plan to build a creative cluster of knowledge based industries, specifically bioscience, ICT and media in the mid 1990’s. The Buona Vista area was chosen as the site for the development owing to its strong transport links, infrastructure and its proximity to Singapore’s science parks, the National University of Singapore, the National University Hospital, Singapore Polytechnic and Holland Village.

In 2000, the Singapore Government commissioned the JTC Corporation, a quasi-governmental agency in charge of planning, promoting and developing industrial facilities and infrastructure, to develop a masterplan for the One-North project. This set out three phases of development for the period 2000 to 2020 with an expected cost of S$7 billion.

The One-North scheme involves a number of different components:

- constructing seven districts with distinctive specialisms such as biomedical research and technology-based start-ups;
- developing mixed use communities by interweaving office space with housing and live-work spaces, retail units, entertainment facilities and green space;
- building a new subway station that is scheduled to open in 2011 to further improve connectivity.

To date there are two major One-North hubs or industrial clusters. These are Biopolis, a biomedical science R&D hub which aims to encourage collaboration between the public and private research communities, and Fusionpolis, a vibrant cluster for the ICT and media industries. Construction work on Mediapolis, a digital media cluster, started in early 2009. Once completed it will house a media ecosystem of soundstages.
with green screen capabilities, including digital production and broadcast facilities and interactive digital media and R&D activities.

**Evidence of Success**

One-North remains under construction but the development has already attracted a number of global businesses including GlaxoSmithKline, Vanda Pharmaceuticals and Paradigm Therapeutics and some renowned scientific researchers.

GlaxoSmithKline located its $62 million Centre for Research in Cognitive and Neurodegenerative Disorders at Biopolis in 2004 and announced plans to invest a further $13 million in a new laboratory researching treatments for Alzheimer’s and schizophrenia in 2007, citing the quality of the research base and staff, the flexibility of the laboratory space at Biopolis and the ability to collaborate with the National University.

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**Case Study: Working Artists Ventura (California, United States)**

**What?**

Completed in April 2010, the $61 million Working Artists Ventura or WAV (http://wavartists.com/) initiative is a mixed-use and mixed-income development in Ventura, California.

It provides affordable housing, recreational facilities and workspace for artists and creative businesses and is intended to support the growth of a live-work creative cluster, enhance Ventura’s reputation as a cultural city and act as an economic development catalyst.

**Why?**

San Buenaventura, commonly known as Ventura, is a small city located north west of Los Angeles on the Californian coast. It has a growing reputation as a place for culture and a designated downtown cultural district. The WAV project is part of the process of realising the vision of Ventura as ‘California’s new art city’ that was set out in the 2005 Ventura Cultural Plan and reinforcing Ventura’s reputation as a vibrant cultural city.

**How?**

The WAV project was conceived of and developed by the City of Ventura and PLACE, a not-for-profit developer, working in collaboration. Following a successful application for planning permission in 2007, the City of Ventura provided a $2 million Redevelopment Agency/Public Art Fund Construction Loan and $19 million in state tax credits to help fund the project. To ensure that the local community was involved in and able to shape the project, a series of 35 public meetings were held and a conceptual oversight group and advisory board met regularly to discuss the project.

The four storey WAV building contains workspaces for artists and creative businesses and includes 54 live-work units for artists and their families, 15 units of permanent supportive housing for recently homeless families and individuals and 13 market-rate apartments that cross-subsidise the affordable housing. These are complemented by retail space, gallery and theatre space and shared garden areas.

WAV promotes small business development and the intention is for new galleries, coffee houses, art supply stores and jazz clubs to set up in the WAV development and provide jobs for residents as well as contributing...
to community cohesiveness and vitality.

The WAV buildings were designed and built to high standard of green building technology using recycled building materials. They are LEED certified (LEED is the nationally accepted benchmark for the design, construction and operation of high-performance green buildings in the United States) and are part-powered by solar energy.

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<td>The WAV project is a very recent development so it will be some time before its success in fostering the growth of a creative cluster and catalysing economic development in Ventura becomes clear. Nonetheless in a short space of time it has succeeded in attracting 77 artists (painters, sculptors, dancers, musicians, writers, actors and filmmakers) from 21 countries. Local news reports indicate that it is also playing host to a series of cultural events such as film screenings and art lectures.</td>
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These three international case studies highlight the diversity of approaches that have been undertaken in relation to the development of creative clusters and live-work communities, in terms of scale, top-down versus bottom-up development and public and private sector involvement. It is clear that whilst there is no single ‘right’ way to support the growth of a creative cluster, there is a need to work closely with businesses and respond to business demand, engage the local community and to create attractive, desirable spaces with high quality amenities, whatever the approach undertaken. The case studies also suggest that benefits can be realised through investing in creative clusters, if the approach is right and it builds on existing strengths.
5) Implications

The creative industries already play a vital role in the national economy and are a key source of competitive advantage for the United Kingdom. Over the next decade the creative industries are one of the four key sectors that are likely to play a central role in driving economic recovery and innovation, exports and employment growth. So what does this mean for the three key questions asked at the beginning of the research?

Given the current economic context, what are the advantages and disadvantages of clustering?

Our review of the evidence around industrial clusters and creative clusters in particular suggests that there are advantages associated with clustering for the creative industries. These include the ability to share ideas and collaborate with likeminded people, develop new products and services, and to identify, respond to and create new market opportunities. There may also be some disadvantages, including the potential for ineffective clusters to be artificially created by public funds rather than business need and challenges of affordability for less profitable creative businesses. This suggests that clusters need to be market-led, although there may be potential for the public sector to support or facilitate their growth.

What is the potential for spillovers to other areas of the economy?

All industrial clusters involve groups of co-located businesses in similar industries but not all groups of co-located businesses constitute industrial clusters. The key distinguishing feature of a successful cluster is interconnectivity between individuals and businesses, be it through supply chains, informal networks, recruitment practices or formal processes of collaboration. This requires high levels of trust and openness – and the infrastructure to facilitate meetings, the exchange of ideas and the development of new ones.

It is the combination of geographical proximity and high levels of trust and engagement that can lead to spillovers in the form of innovation, increased competitiveness, higher productivity and profitability, employment growth and business creation. Infrastructure can help to facilitate the growth of links and trust between businesses but ultimately it cannot create the personal relationships, cultures of openness and willingness to take risks that underpin innovation. Cluster interventions must therefore build on existing links and networks, be they formal or informal.

What are the implications for public policy?

Some key lessons emerge from this review of the evidence around industrial clusters and creative clusters in particular. These are set out below.

First, successful clusters tend to develop organically, at least initially, in or near major cities and over a relatively extended period of time. The most famous and successful clusters – such as Silicon Valley, Madison Avenue and the Cambridge cluster – were initially organic, path dependent developments that successfully evolved over a period of decades, primarily as the result of business-led demand rather than public policy interventions. Business demand is a key barometer and driver of a cluster's success.

Second, successful clusters tend to have robust internal networks and external partnerships, strong innovation bases and high levels of R&D, and access to a pool of highly skilled individuals. They are therefore indirectly reliant on public investment and close links with public institutions such as universities and FE colleges. The presence of networks, strong innovation bases and highly skilled labour are essential but will not, in and of themselves, guarantee the long-term success of industrial clusters.
Third, cluster specialisation is important but overspecialisation can be problematic. Industrial clusters tend to form due to commonalities or overlap between similar firms and specialisation in a particular niche area is a key part of creating comparative advantage and developing a reputation as a centre of expertise. Nonetheless it is important to recognise that consumer and business demands are constantly changing and that external shocks can have a disproportionate impact on specialist niches. The exchange of ideas between and within firms in an industrial cluster should therefore be focused on creating and meeting future demand.

Fourth, creative clusters have often been seen by policymakers as a particular type of industrial cluster and creative cluster policy interventions as a means of combining economic development, regeneration and positive social outcomes. In reality, demand from creative businesses and creative practitioners is paramount. Just as with other industry groupings, creative clusters only succeed when the advantages of proximate location to similar businesses outweigh the costs.

As Pinewood Studios Group seeks permission to capitalise on the success of the existing Pinewood Studios lot and build the ‘Project Pinewood’ creative cluster, these lessons are pertinent. Overall it is clear that the spatial clustering of businesses in particular industries can and does produce positive ‘spillover’ effects in the form of new ideas, innovation, increased competitiveness, higher productivity and profitability, new firm formation and the creation of new jobs. This suggests that industrial clusters have the potential to enhance private sector growth at a time when it is badly needed across the United Kingdom. Yet it is also clear that these benefits are not inevitable and the public policy interventions have too infrequently been based on real business demand. Ultimately it is the combination of geographical proximity and high levels of mutual trust between businesses and individuals that can produce beneficial effects and realising these benefits necessitates building on existing strengths.
Annex

Box: Innovation – A Definition

Innovation means the successful exploitation of new ideas.

a) **Innovation comes in many forms:** new or significantly improved products (goods or services), processes, marketing techniques, organisational methods in business practices, workplace organisation or external relations all constitute forms of innovation.\(^{48}\)

b) **Innovation does not only refer to radically new ideas:** radical and revolutionary innovation may have the greatest immediate societal impact, but new ideas do not have to be novel. An idea that is new to firm rather than a new invention also counts as innovation – and can have significant benefits for that firm’s productivity.

c) **Innovation can mean adopting ideas from elsewhere:** innovation does not have to be devised in situ; the ability to draw on a variety of sources of knowledge and exploit ideas created in other city regions, universities and firms is critical.

d) **Innovation is important to all sectors:** Whilst often associated primarily with science and technology, innovation is in fact a major economic driver within all sectors of the economy.


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