

Policy Institute at King's

Economic and Demographic Scenarios for London in 2030



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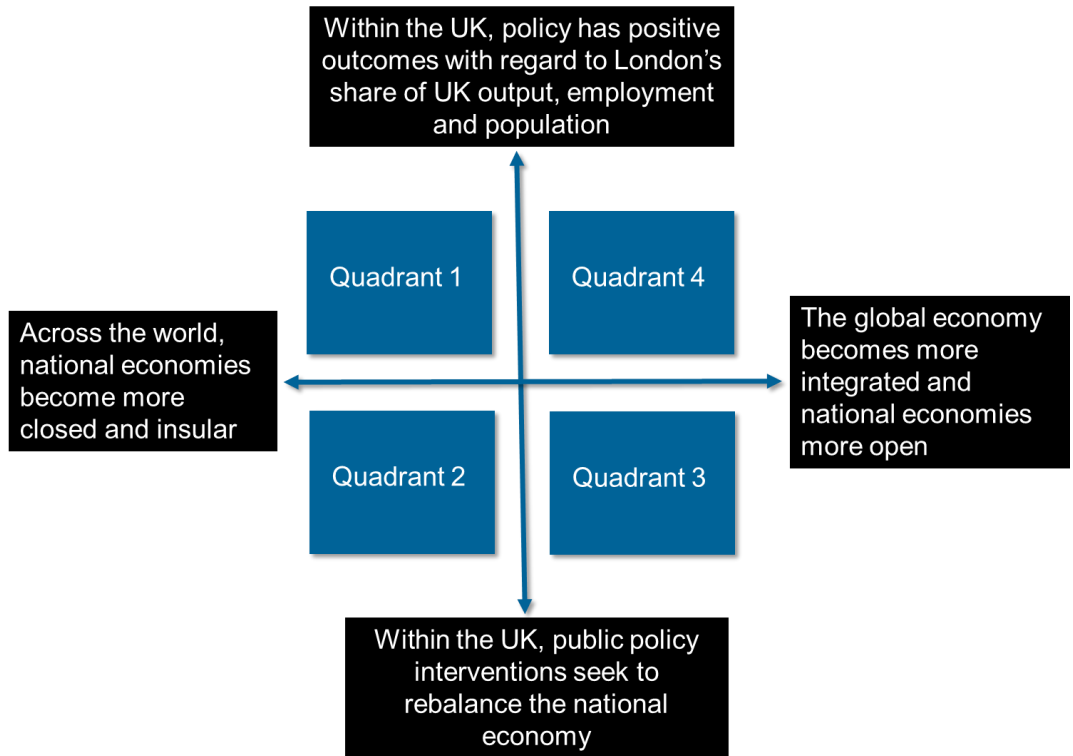
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Executive Summary

- The decision of the UK to leave the European Union, the election of President Trump and the aftermath of the financial crisis have combined to create a mood of uncertainty in politics and economics. Nobody seems clear on the long-term consequences of these factors, though most agree that the assumptions that have underpinned the British economy for the last 25 years will change in significant ways. For London, which has benefited greatly from that existing economic order, these challenges could be especially acute. In what direction will London's economy go? Is it at the mercy of global and national forces, or does it have some control over its destiny?
- This climate makes future-gazing more difficult but also more necessary – London's future could look very different from its present. This study therefore develops four distinct scenarios. Each of them tries to tease out the implications of different trajectories for London, focusing on London's future economic, trade, demographic and employment prospects. All of them are plausible. None of them is inevitable.
- In thinking about future scenarios for London, it is important to understand its recent performance. London has grown substantially over the past decades to account for an increasing share of UK population, output, and employment, with its population growth supported by international migration. The economy has become increasingly specialised in knowledge-based sectors, in particular financial and business services, providing a large contribution to the UK's trade surplus in services. Within London itself, the pattern of growth has been spatially uneven, with Inner and Outer London experiencing different economic and demographic growth. As a consequence of its growth, London has also seen increasing congestion, pollution and affordable housing shortages.
- To identify scenarios that are sufficiently distinct, policy axes have been developed which consider London's position from international and national perspectives. The intersection of these policy axes creates four quadrants (see Figure 1). Within each quadrant, a possible scenario for London is then described and quantified using a framework linking historical data trends, inputs from consultations with key London stakeholders, and relevant previous studies. The scenario is not meant to cover all possibilities within its quadrant – rather, it is intended to be an example of what London might look like within the parameters set by its quadrant. To use an analogy, if the quadrant is a field surrounded by a hedge, the scenario is a sheep within it.

Figure 1: Policy axes and quadrants



The four scenarios, each of which sits within the quadrant of the same number, have each been named to help understand what they might look like. The assumptions for each scenario have been summarised in the tables below.

Scenario 1 (from Quadrant 1): 'Paris on Thames'

A global shift towards protectionism leads to some of London's key sectors such as finance and tech moving away to the EU, although Inner London continues to attract significant resources and talent, particularly from the rest of the UK. Outer London does not fare as well, however, resulting in a central core that remains relatively successful and prosperous, though no longer attracting cutting-edge businesses, surrounded by a ring of economically struggling suburbs – a city with a passing resemblance to modern Paris.

Table 1: Summary assumptions for Scenario 1

Indicator	2000-15	2015-30	2015	2030
	(pp change)		(level)	
UK Population share	1.3	0.2	13.3%	13.5%
UK Employment share	1.0	-0.5	16.5%	16.0%
UK Output share	2.7	-2.4	22.4%	20.0%
Relative Productivity (UK=100)	8.3	-6.1	136.1	130.0
Share of KIBS Employment (% of total London)	3.4	-1.3	28.3%	27.0%
Inner London Employment (% of total London)	3.6	0.2	59.8%	61.0%

Scenario 2 (from Quadrant 2): '1970s London'

A 'disorderly' Brexit leads to some of London's more distinctive industries leaving (finance, tech, creative); a decline in FDI; and sharp reductions in international migration. London returns to being the 'capital of England' – with an economy and demography that more resembles the rest of England. National political pressure to do something about 'left-behind' areas and a need to compensate for lost EU regional funding leads to a transfer of public spending away from the capital.

Interventions on this scale at both the global and national level would mark a distinct break with the world order that has broadly prevailed for the last two decades. London might therefore find itself in a similar situation to that which it occupied in the 1970s, before it emerged as a key hub in a globalised world economy.

Table 2: Summary assumptions for Scenario 2

Indicator	2000-15	2015-30	2015	2030
	(pp change)		(level)	
UK Population share	1.3	-0.8	13.3%	12.5%
UK Employment share	1.0	-1.5	16.5%	14.0%
UK Output share	2.7	-4.4	22.4%	18.0%
Relative Productivity (UK=100)	8.3	-11.1	136.1	125.0
Share of KIBS Employment (% of total London)	3.4	-4.3	28.3%	24.0%
Inner London Employment (% of total London)	3.6	-3.8	59.8%	56.0%

*Scenario 3 (from
Quadrant 3):
'Modern Rome'*

While still being connected into an open, global economy London's relative status within the UK declines somewhat. London's key industrial sectors that depend on access to global talent and international export markets continue to thrive, but a relative lack of infrastructure investment and a growing population leads to worsening congestion and poorer public services.

In this it might come to resemble a city like modern Rome today – still a very important city, with a great history to draw on, but one with a public infrastructure that is fraying and a place in the global economy which is under pressure.

Table 3: Summary assumptions for Scenario 3

Indicator	2000-15	2015-30	2015	2030
	(pp change)		(level)	
UK Population share	1.3	1.2	13.3%	14.5%
UK Employment share	1.0	1.0	16.5%	17.5%
UK Output share	2.7	2.6	22.4%	25.0%
Relative Productivity (UK=100)	8.3	3.9	136.1	140.0
Share of KIBS Employment (% of total London)	3.4	1.7	28.3%	30.0%
Inner London Employment (% of total London)	3.6	3.2	59.8%	63.0%

*Scenario 4 (from
Quadrant 4):
'Super City'*

Following Brexit, London's role as a global city grows and this acts as the 'engine' pulling the wider UK economy forward. Low business taxes and deregulation enhance London's competitiveness, and along with a 'country-neutral' immigration policy, attract leading businesses and world-class talent. Economic problems in Europe mean that the EU becomes less important to London's economy overall, while links with emerging economies strengthen and free trade agreements are negotiated with key markets.

The urban academic, Richard Florida, has popularised the argument that, just as there are 'superstar' effects in entertainment and sport, where the most talented people capture a huge proportion of the rewards available, there are cities which attract disproportionate shares of talent, culture and business. In this scenario, London is a 'super city'.

Table 4: Summary assumptions for Scenario 4

Indicator	2000-15	2015-30	2015	2030
	(pp change)		(level)	
UK Population share	1.3	2.2	13.3%	15.5%
UK Employment share	1.0	2.5	16.5%	19.0%
UK Output share	2.7	4.6	22.4%	27.0%
Relative Productivity (UK=100)	8.3	13.9	136.1	150.0
Share of KIBS Employment (% of total London)	3.4	6.7	28.3%	35.0%
Inner London Employment (% of total London)	3.6	5.2	59.8%	65.0%

1 Introduction

1.1 Background

Cambridge Econometrics (CE) and SQW worked with the Policy Institute at King's College London (PIK) to develop four scenarios to explore the economic and demographic prospects of London in 2030.

This study is one input into the wider King's Commission on London – a two-year research project on the future challenges and issues facing London and their possible solutions, covering economic, social, cultural and governmental issues.

1.2 Scope of the study

The aim of the study was to develop and quantify four possible scenarios for London in 2030. Each scenario looked at London's future economic, trade, demographic and employment prospects, in order to investigate the possible implications of each scenario for London. The study did not look to quantitatively compare London with other global cities, but concentrated any comparisons with the rest of the UK.

For the purpose of this study, London was defined as the 32 local authority boroughs plus the City of London. The study also considered how Inner¹ and Outer² London's performance may vary in each of the scenarios.

1.3 Report structure

This report describes the findings of this project. Chapter 2 takes a brief look back at London's economic and demographic history over the last two decades. Chapter 3 describes the framework used to develop the scenarios and how the relationship between the main indicators of interest, such as population, employment and output is used to quantify London's economic and demographic prospects.

¹ Inner London is defined here as: Camden, City of London, Hackney, Hammersmith and Fulham, Haringey, Islington, Kensington and Chelsea, Lambeth, Lewisham, Newham, Southwark, Tower Hamlets, Wandsworth and Westminster.

² Outer London is defined here as: Barking and Dagenham, Barnet, Bexley, Brent, Bromley, Croydon, Ealing, Enfield, Greenwich, Harrow, Havering, Hillingdon, Hounslow, Kingston upon Thames, Merton, Redbridge, Richmond upon Thames, Sutton and Waltham Forest

2 Recent Economic and Demographic Trends

2.1 Introduction

This chapter takes a brief look back at London's recent economic and demographic history.

London has experienced rapid growth in population, employment and output over the last two decades and has become increasingly important to the UK economy. London has benefited from globalisation and specialisation in financial and business services, but as a result it has also faced pressures on public services and infrastructure. The sections below give an overview of London's relative importance, its governance, recent demographic and migration trends, its sectoral and spatial structure, and patterns of trade.

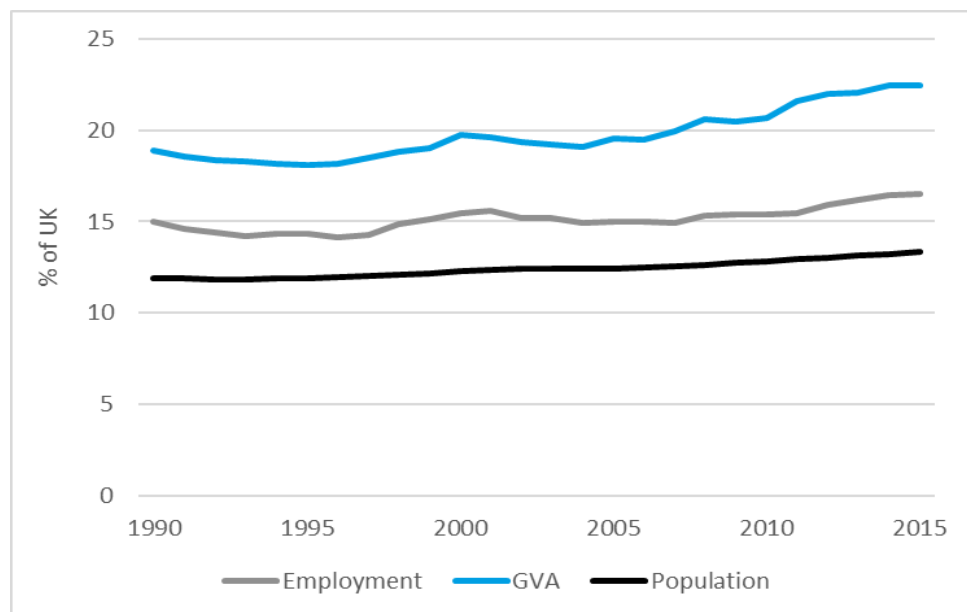
2.2 Relative importance

Within the UK

London's share of UK employment has increased from around 14% in the early 1990s to 16.5% in 2015 (see Figure 2.1). In part, this is because as it shed manufacturing employment in the early 1990s, it grew its service sectors, allowing it to become a thriving centre of finance and professional services. As a result, London's productivity in 2015 (£65,100 per job) is much higher than the UK average (£47,800 per job).

Along with economic growth, London has seen rapid population growth over the last 25 years, with its population growing by about 1.9m over 1990-2015, increasing its share of the UK's population (see Figure 2.1).

Figure 2.1 Total employment, GVA and population in London



Source: Cambridge Econometrics, November 2016.

Against other cities

Table 2.1 compares London's GVA, employment and productivity growth over 1990-2015 with a selection of other UK cities: Manchester, Birmingham and Leeds. Over the whole period, employment in London grew by 1% pa, faster than in the other three cities. GVA growth in London was even faster at 2.7% pa over 1990-2015, implying a further pull away in productivity performance.

Table 2.1: GVA, employment and productivity growth in comparator cities

	GVA		Employment		Productivity	
	Growth rate (% pa)					
	1990-2000	2000-15	1990-2000	2000-15	1990-2000	2000-15
London	2.9	2.5	0.5	1.3	2.3	1.2
Manchester	1.2	2.3	-0.3	1.3	1.5	1.0
Birmingham	1.1	1.1	-0.9	0.3	2.1	0.8
Leeds	2.9	1.6	0.6	0.6	2.4	1.0

Note: The cities are defined in terms of the city council local authority boundary.

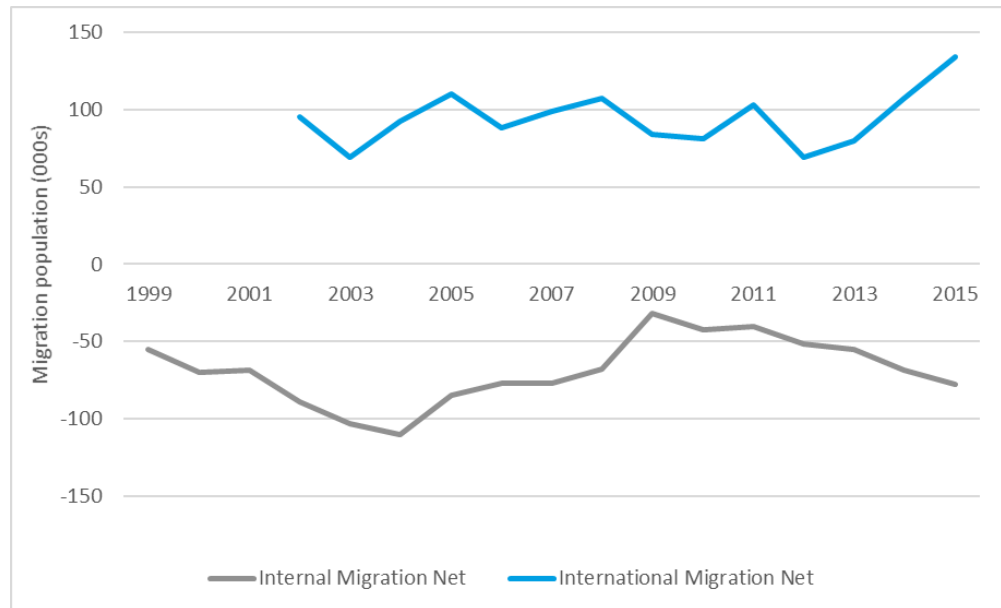
Source: Cambridge Econometrics, November.

2.3 Governance

The structure of London's governing bodies puts it in a strong position to implement change, having more tools at its disposal than other cities in the UK. Since 2000, London has been governed by a top-tier administrative body, the Greater London Authority (GLA), headed by the Mayor of London and the London Assembly, and is the only regional body continuing to operate in England following the abolition of the Regional Development Agencies in 2010. The GLA's aim is to develop a vision for London as a whole and improve coordination between the local authorities within London, in order to improve its economic, social and environment position. The GLA shares local government powers with the councils of the 32 London boroughs and the City of London Corporation. It is a strategic regional authority with the responsibility to create plans and policies covering a range of areas such as: arts and culture, business and economy, environment and housing. The Mayor's aims include: improving mobility around the city; improving the environment; helping businesses to thrive; providing more affordable housing; and providing more opportunities for young people.

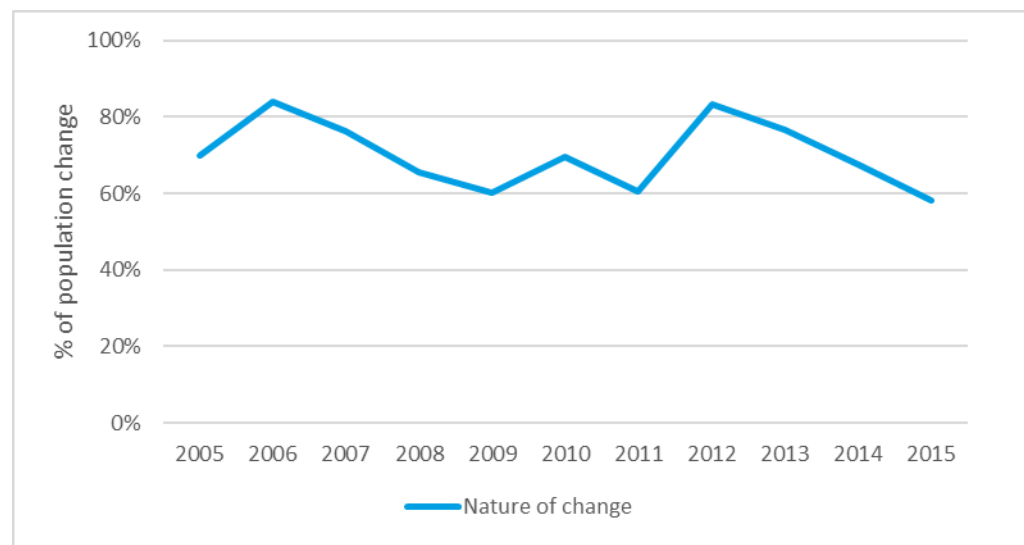
2.4 Demographics and migration

London's population growth is supported by international migration, as seen in Figure 2.2. A positive net international migration of 134,000 people was recorded in 2015. In contrast, there has been a net outflow of people from London to other parts of the country, partly driven by pressures on housing.

Figure 2.2: Net migration flows in London

Source: HM Revenue & Customs.

Though international migration is a strong driver of population growth in London, when comparing net migration as a whole (internal plus international migration) with natural change (births minus deaths), natural change is a much larger component of population change. On average, natural change accounted for about 70% of population change over 2005-15, while net migration accounted for the remaining 30% (see Figure 2.3). However, it should be noted that international migration is driving much of the natural change in London's population too – 49% of babies born in London in 2015 had two foreign-born parents, with a further 20% having one foreign-born parent³.

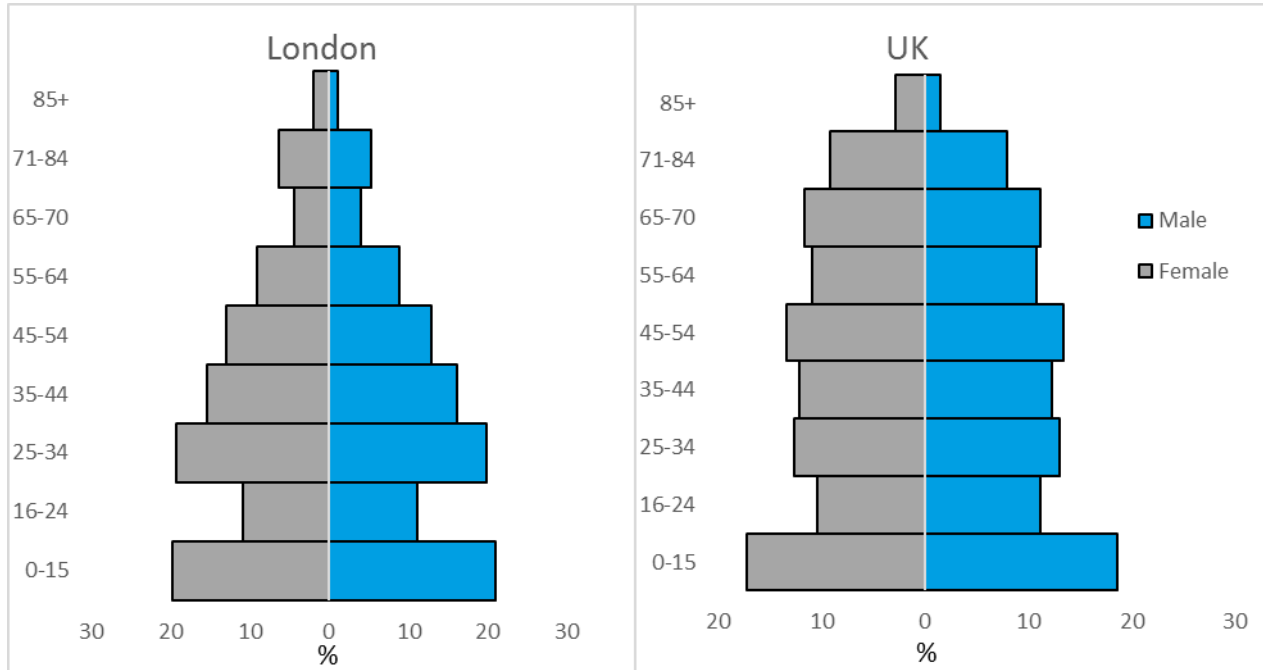
Figure 2.3: Proportion of population growth due to natural change

Source: Mid-year Population Estimates, ONS.

³ Response from the UK Statistics Authority to a parliamentary question from Sir Nicholas Soames, 24 November 2016: <http://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Commons/2016-11-22/54334/>

Compared with the rest of the country, London has a young population, reflective of an *escalator economy*. People (both the UK population and international migrants) tend to move to London in their twenties to work, staying until they start families, when they may leave in search of more living space. Figure 2.4 shows that the over 65s make up a smaller proportion of London's population (12%) than in the UK as a whole.

Figure 2.4: Population structure in London and the UK in 2015 (%)



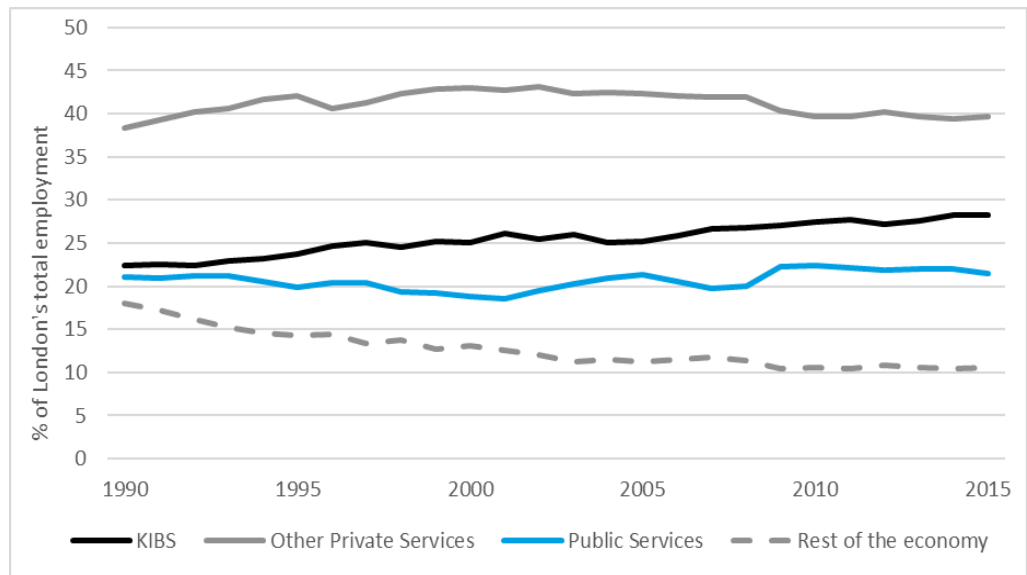
Source: Mid-year Population Estimates, ONS.

2.5 Sectoral and spatial structure

Sectoral structure

For many decades, but particularly since the early 1990s, London's economy has moved away from manufacturing towards a more service-orientated economy (see Figure 2.5). Knowledge-intensive business services (KIBS), such as financial, scientific and technical services, as well as communications, and digital and creative industries are all growing sectors of London's economy, and employment in those sectors in London is accounting for a larger share of the UK's employment over time. London's strong growth in these sectors has in turn increased demand for buildings and homes, fuelling growth in the construction sector. This sectoral shift has been moving the economy towards a high-skilled economy for some time.

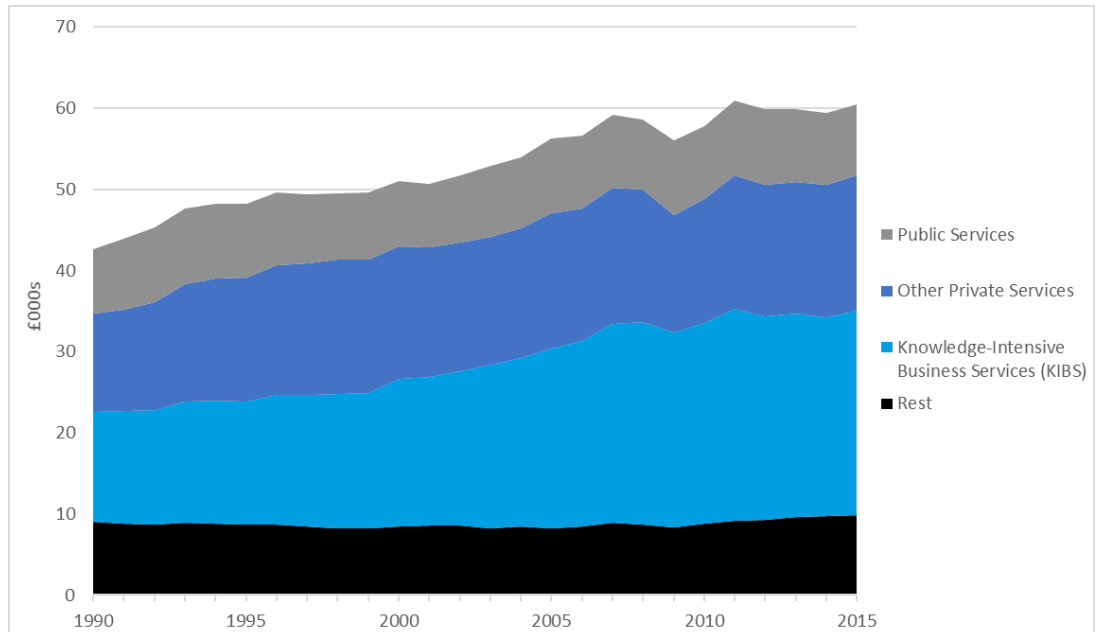
Figure 2.5: Employment by sector in London



Source: Cambridge Econometrics, November 2016.

Figure 2.6 compares productivity by four broad sectors in London over 1990-2015 (weighted by employment share of the sector). KIBS show a particularly strong improvement in productivity, with an increase in weighted productivity of more than 85% over 1990-2015. Other private services have also seen strong growth (37%), while productivity in public services has been much more volatile, and productivity in the rest of the economy has been fairly flat.

Figure 2.6: Weighted productivity by sector in London



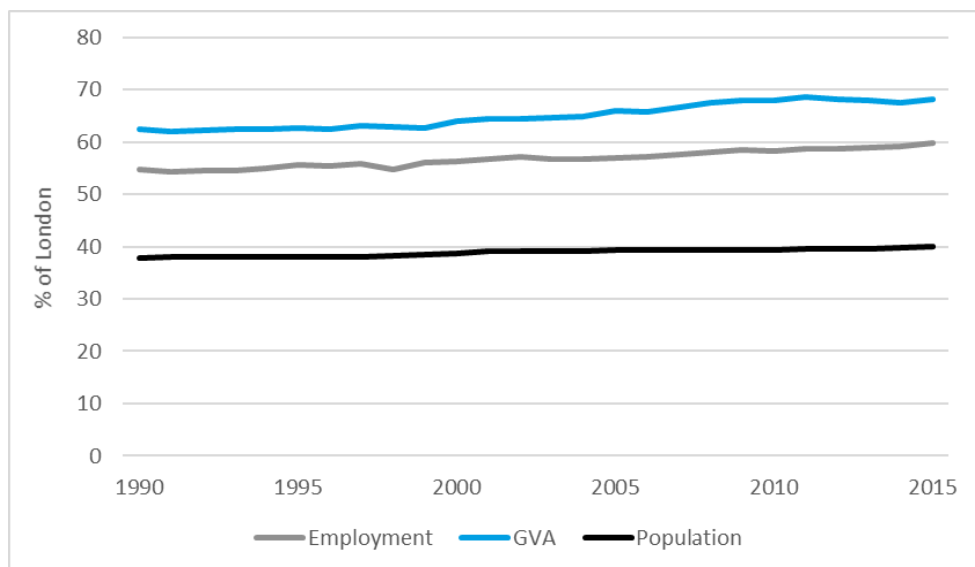
Source: Cambridge Econometrics, November 2016.

Spatial structure Within London itself, the pattern of growth has been spatially uneven. Overall, the Inner London economy has grown faster than the Outer London economy. By 2015, it provided 60% (3.3 million jobs) of London’s employment, and accounted for almost 70% (£246bn) of its total output (see Figure 2.7).

Employment in Inner London has grown by 1.3% pa over 1990-2015, compared with 0.5% pa in Outer London, and GVA in Inner London has grown by 3% pa over 1990-2015, compared with 2% pa in Outer London. Productivity growth has been slightly slower in Outer London (1.5% pa over 1990-2015) than in Inner London (1.7% pa), though both areas have seen stronger growth than in the UK as a whole (1.4% pa).

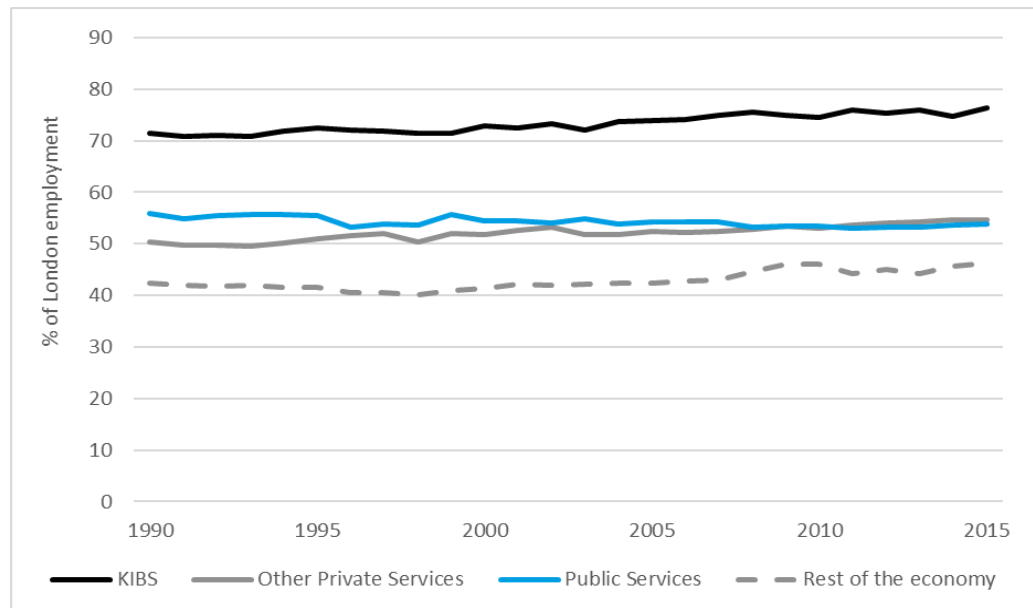
Inner London accounts for about 60% of London’s employment, but is home to 40% of London’s population (3.4 million people in 2015). From the Victorian period to the 1930s there was a great suburban expansion in London. Outer London suburbs are home to many Inner London workers.

Figure 2.7: Shares of employment, GVA and population in Inner London



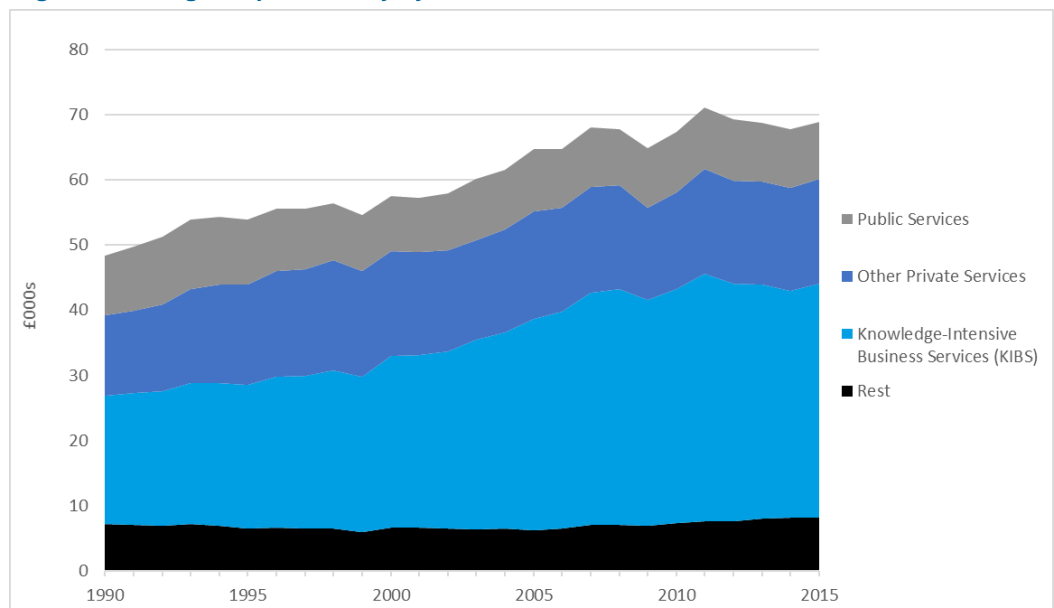
Source: Cambridge Econometrics, November 2016.

Knowledge-intensive business services and private services, such as leisure and retail services, have grown more strongly in Inner London than Outer London over the last 15 years (see Figure 2.8). On the other hand, Inner and Outer London’s share of employment in Construction, real estate and utilities has converged, as both areas face housing pressures from a growing population.

Figure 2.8: Share of employment by sector in Inner London

Source: Cambridge Econometrics, November 2016.

Productivity growth in KIBS is particularly strong in Inner London, where it accounts for more than half of the total productivity growth (see Figure 2.9).

Figure 2.9: Weighted productivity by sector in Inner London

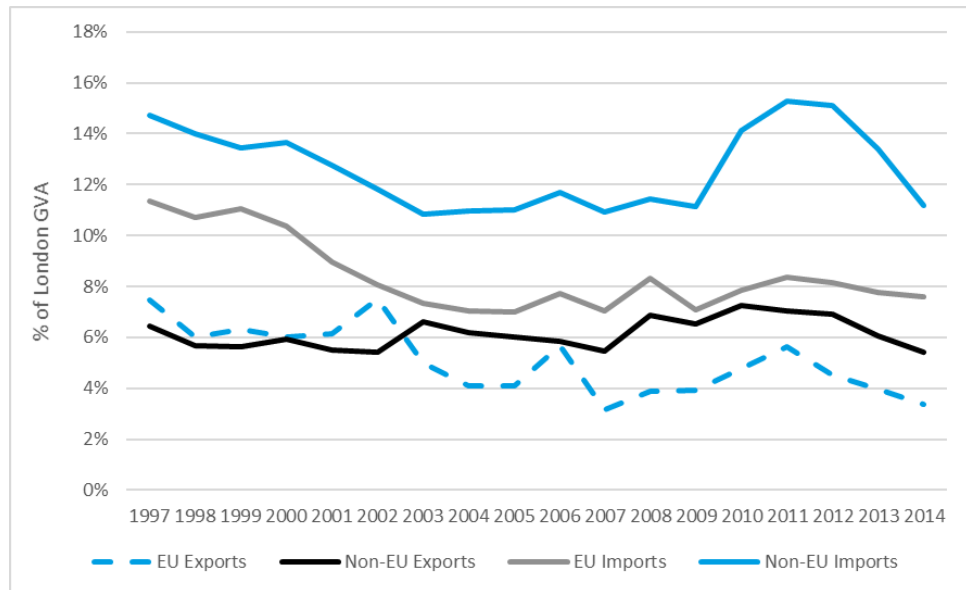
Source: Cambridge Econometrics, November 2016.

2.6 Trade

Goods London has experienced a net negative balance of trade in goods over the last 20 years as the economy has moved away from manufacturing industries to services. While the deficit in non-EU goods trade has improved somewhat since 2011, the balance in EU goods trade has been worsening since 2002. Exports to the EU as a share of London's GVA have fallen from 6% in 2011 to 3% in 2014, while imports from the EU have stayed fairly constant over the same period (8% of London's GVA) (see Figure 2.10). London's non-EU imports, on the other hand, have increased from 11% of London's GVA in 2009 to 15% in

2012, before starting to fall back to pre-2008 levels. As with EU exports, non-EU exports as a share of London's GVA have also been falling.

Figure 2.10: EU and Non-EU trade in goods as a share of London GVA



Source: HM Revenue & Customs.

Services

Between 2011 and 2014, London's exports in services as a percentage of GVA decreased from 29% to 25%⁴, despite increasing in absolute terms⁵. Total export in services were mostly made up of activities in the financial sector, real estate, professional & scientific services, IT services and tourism. Over this short period, the greatest changes were in financial services, London's largest service export (7% of GVA in 2014 compared with 10% in 2011), and wholesale and motor trades (0.5% of GVA in 2014 compared with 2.5% in 2011).

London's exports per job are notably higher than those of other cities in the South East and the UK as a whole (see Table 2.2). This is driven by exports in services, which were estimated to be almost £18,000 per job in London, compared with about £7,500 per job in the South East and the rest of the country.

Table 2.2: Export per job in London and cities in the South East and UK, 2014

	Total export per job	Good exports per job	Service exports per job
			2014(£)
London	23,470	5,770	17,710
South East Cities average	17,533	9,849	7,682
UK cities average	15,690	8,240	7,450

Source: Centre for Cities

⁴ ONS Regionalised estimates of UK service exports, based on the United Kingdom Balance of Payments - The Pink Book; International Trade in Services.

⁵ London's service exports more than doubled between 2003 and 2013 (An analysis of London's exports, GLA Economics, August 2015).

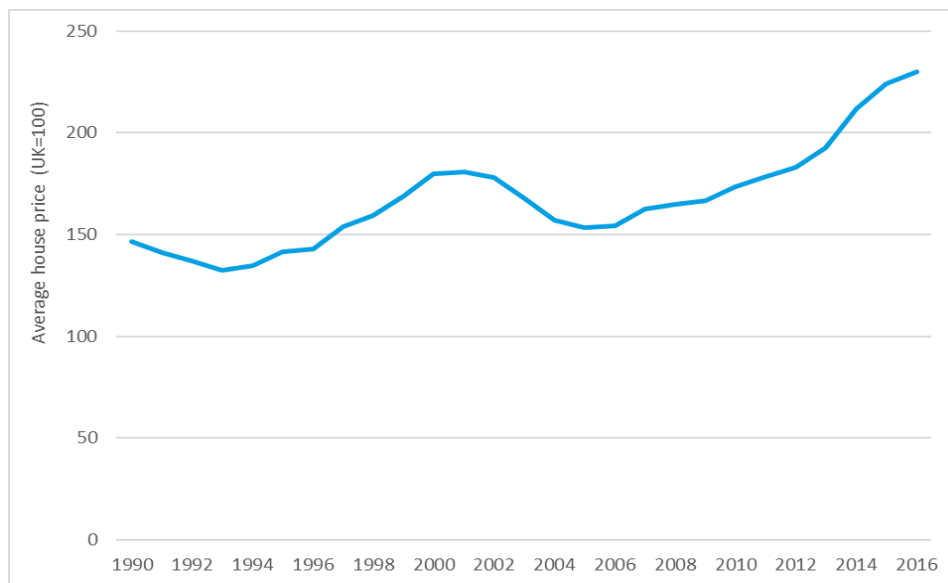
2.7 Other indicators of interest

Alongside the variables described above, a number of other indicators were considered when looking at London's economy, including house prices, unemployment, commuting patterns and public expenditure on transport. Patterns in these variables are likely to reflect London's attractiveness as a place to live and to work, and are affected by the large changes in London's population. The recent trends in each of these indicators are discussed below.

House prices

As London's population continues to grow, it has increased demand for housing. House prices in London have increased almost six-fold over the last 25 years, and since 2009, London has experienced a much faster rise in house prices than the UK as a whole (see Figure 2.11).

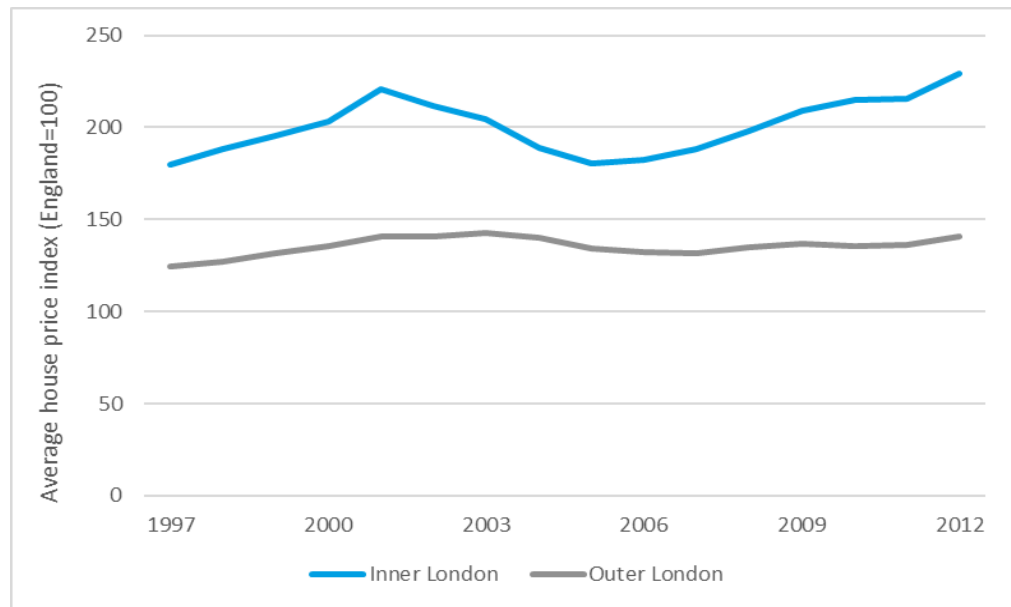
Figure 2.11: Average house price in London indexed against the UK average



Source: Nationwide.

House prices grew at comparable rates in Inner and Outer London up to the recession, after which the growth in house prices in Outer London has slowed down, while Inner London has maintained its historical pace. The gap in house prices growth between the two areas therefore widened between 2007 and 2012, at the same time when the rise in house prices in London as a whole started to outpace the average rise in UK house prices.

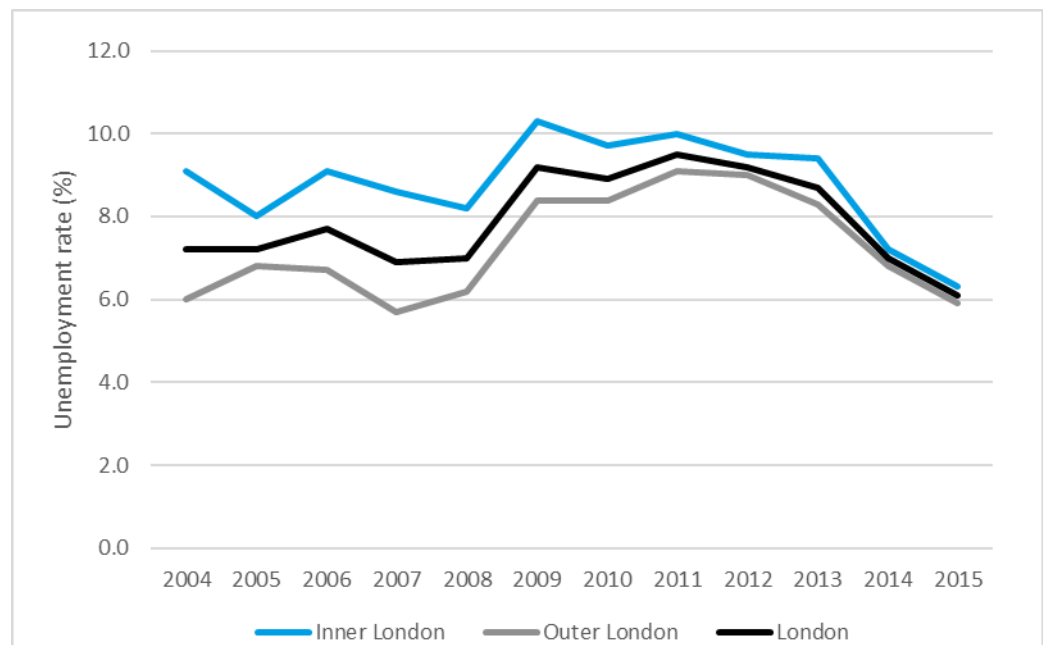
These trends are reflected in Figure 2.12, which compares the average house prices in Inner and Outer London with the England average. In both areas, there is a clear pattern that coincides with the business cycles. Inner London, however, tends to experience a stronger increase in house prices during a boom and a sharper fall during a recession. The relative price compared to the England average has increased at a faster rate in Inner London than Outer London. At their peaks in 2012, the average house prices in Inner and Outer London were respectively 3.3 times and twice the England average.

Figure 2.12: Average house price in Inner and Outer London

Source: DCLG.

Unemployment

Unemployment in London was fairly constant in the period immediately before the recession (7.2% on average over 2004-2008) (see Figure 2.13). It increased to 9-9.5% during the recession. Since 2013, the unemployment rate has declined, reaching 6.1% in 2015 (284,000 people), and falling below the pre-recession average.

Figure 2.13: Unemployment rate in London

Source: Annual Population Survey.

The unemployment rate in Inner and Outer London followed a similar trend to the London average. Over 2004-2009, unemployment in Inner London (8.9% on average) was higher than in Outer London (6.6% on average), but since 2009 unemployment rates in the two areas have gradually converged.

Transport

There was a reduction in the proportion of people commuting by car in London over 2001-2011, supported by factors such as the introduction of the Congestion Charge in 2003, people's increasing concerns about environmental issues and rising fuel costs. Consequently, there has been an increase in the use of public transport (underground, trains and buses), increasing the pressures on London's public transport.

Average journey times

Table 2.3 shows how journey times on local 'A' roads during the weekday morning peak has changed over time (measured by minutes per mile)⁶. London as a whole saw a 4% decrease in the average journey time over 2007-2011, but thereafter the pattern has reversed, with the average weekday morning peak journey on 'A' roads taking 10% longer from 2011-15.

Table 2.3: Change in average journey times

	2007-2011	2011-2015	2007-2015
			% change
London	-4%	10%	6%
Inner London	-2%	9%	7%
Outer London	-4%	9%	5%

Source: Department for Transport

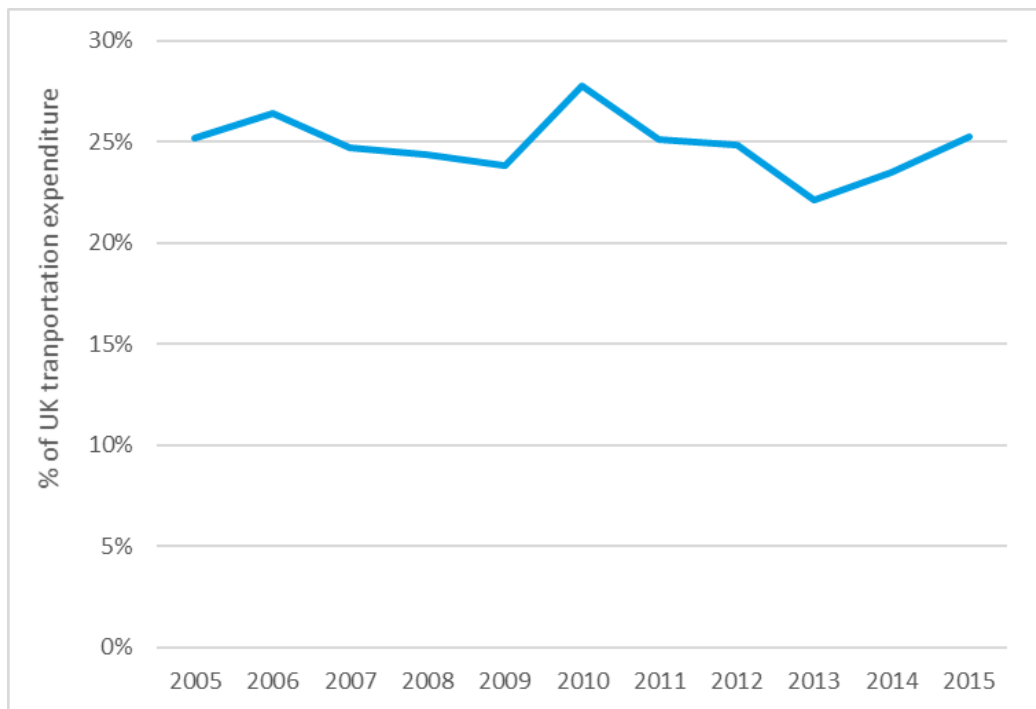
Public expenditure on transport

Over the past decade, public expenditure on transport in London accounted for about a quarter of the total UK transportation expenditure⁷. This reflects both the scale of the "local" demand in London and the role of London's transport infrastructure at the hub of the national transport system. After consuming a falling proportion of the UK's transport expenditure over 2010-2013, Figure 2.14 shows that London's share of UK transport expenditure has started to increase again, from 22% in 2013 to 25% in 2015.

⁶ Based on data from Department for Transport, though there are other reports based on alternate measures, such as "Travel in London – Report 9" (Transport for London, 2016), available at <http://content.tfl.gov.uk/travel-in-london-report-9.pdf>.

⁷ It should be noted that London's transport infrastructure – both currently under-construction and planned – is partly funded by fare revenues, which to an extent is not possible in the rest of the country.

Figure 2.14: Public expenditure on transport in London



Source: HM Treasury, Public Expenditure Statistical Analyses.

3 Developing the Scenarios

3.1 Introduction

The previous chapter presented a narrative of London's economic and demographic development over the previous two decades. It paints a picture of a city which:

- has grown substantially to account for an increasing share of UK population, output, and employment;
- has been an increasingly attractive location for international migrants, with net international migration more than offsetting net internal out-migration;
- has become increasingly specialised in financial and business services, and knowledge-based sectors in general;
- provides a major contribution to the UK's trade surplus in services, partly helping to offset the (even larger) trade imbalance in goods;
- receives a greater per capita public investment on transport than any other region or city in the UK;
- has improved its governance and coordination between individual councils through the work of the Greater London Authority and other related bodies.

At the same time, however, there have been other developments which reflect the constraints and direction of growth:

- Inner London has benefited more than Outer London on most metrics, in particular on the specialisation in KIBS-related activities;
- despite the scale of infrastructure investment, average traffic speed continues to slow, particularly in Inner London, while congestion and pollution are increasing concerns;
- the ability of London to provide affordable housing for its workforce remains a major issue, with the rapid growth in house prices a reflection of the limited scope for new development as well as the general attractiveness of the area to foreign investors.

This chapter looks forward to where London might find itself in the next 15 years, specifically by 2030. It is not a forecast, per se, but rather a set of scenarios which explore the prospects for London's economic and demographic development using a framework which links population, employment, output, and other main indicators of interest.

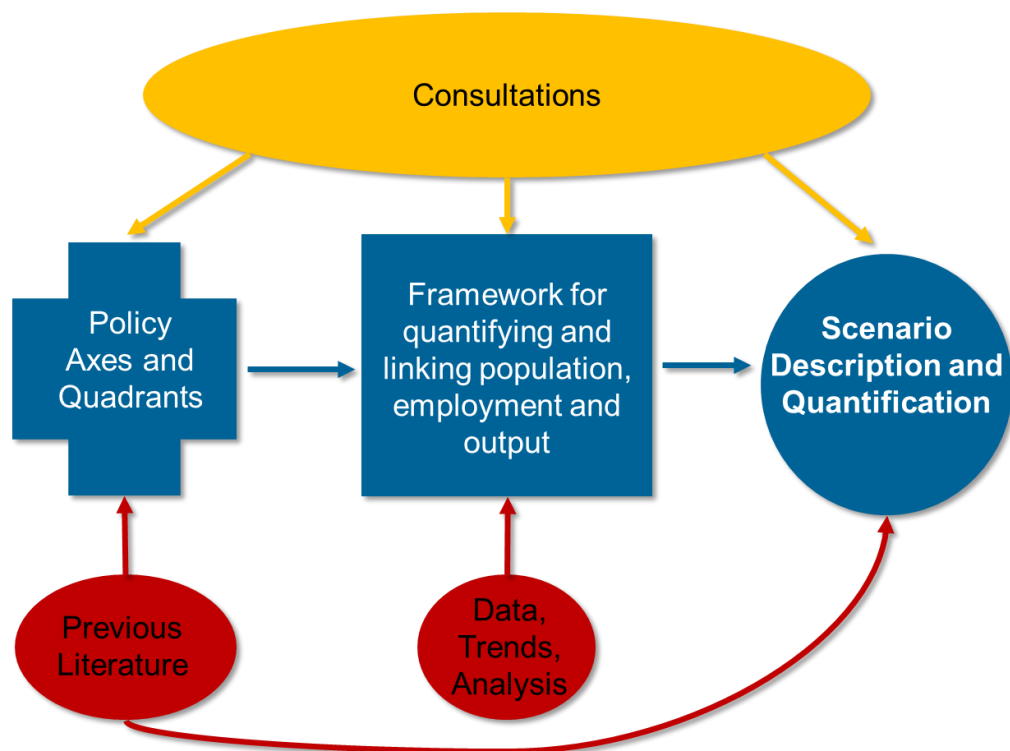
3.2 General approach

The method adopted to construct the scenarios had several stages and different types of input, and is shown in Figure 3.1.

The process starts with a consideration of policy axes, within which the interaction space, or quadrants, are established (these are described in Section 3.4). Feeding into this process is previous work (particularly post-EU referendum studies – see Section 3.3), and the feedback from a process of consultations with a range of individuals/organisations with views on London’s future (see Appendix A).

The framework for providing some quantification to the scenarios is set around three main set of indicators covering demography, employment, and output, and is based on data analysis and consultation feedback. Within this, sector and spatial performance are also considered. This is described in Section 3.4, along with a more detailed description of the scenarios, building on the preceding work but also taking direct input from the consultations, which were an iterative process throughout the project.

Figure 3.1: General approach for scenario construction



3.3 Findings from previous studies

Table 3.1 summarises the set of studies that were most useful in shaping the scenarios presented in the following sections. Given the rapidly changing policy environment over the past 12 months, the focus is mainly on studies published after the referendum on EU membership in June 2016, which either specifically focus on London or are forward-looking, scenario-based, and long-term in nature.

Table 3.1: Review of previous studies

	Study Name	Author	Publication Date	Points of Interest and Relevance
1	The Long View How will the global economic order change by 2050?	PWC	Feb 2017	Discussion of the direction of the global economy as well as individual economies including the UK out to 2050 while assuming no long-term retreat to protectionism. Emerging economies are expected to make progress in closing the gap with advanced economies while the report notes the potential for UK growth to exceed the average EU27 and G7 growth rates after the transitional impact of Brexit has passed. The projection for the UK is largely dependent on the UK developing trade and investment links with faster growing emerging economies to offset the weakening of EU27 trade and investment post Brexit.
2	Where Are You Headed, Globalization?	Credit Suisse	Jan 2017	Scenario-based analysis of globalization trends according to three main scenarios with relevance for London's place in the global economy; (i) Globalization continues, (ii) a multipolar world, and (iii) the end of Globalization. The conclusion from the analysis of current and potential developments is that the most likely scenario is the emergence of a multipolar world.
3	Devolution: A Capital Idea	London Finance Commission	Jan 2017	Examines the issue of fiscal devolution within the context of London's position in the UK. Suggests devolution would be positive for economic growth in London. Recommends the devolution of property taxes; council tax, business rates, stamp duty, annual tax on enveloped dwellings and capital gains property disposal tax.
4	London 2036 'An agenda for job and growth'	London First	Jan 2017	Reviews the opportunities and challenges for London in the global economy after Brexit and also the ways in which the linkages between London and the wider UK might be strengthened. The report discusses the need for London to (i) remain an open global hub in the face of challenges to trade, international talent, tourism and financial services, (ii) support innovation and growth through improving digital connectivity and support for SMEs, (iii) address weaknesses in infrastructure, housing and skills.

5	The Future of London 2050	Bright Blue and Localis	Sep 2016	Discussion of forward-looking themes relating to London's competitive advantage in the global economy and how these can benefit the London and UK economy: infrastructure, higher education and greater collaboration between institutes for innovation, housing, finance, flexibility at work and technology development. This study also makes recommendations on how London can maintain its competitive position. The recommendations include: investment in public transport to free up spaces for houses and parks, and to tackle road congestion; investment in high quality teachers and graduates to enhance productivity, business opportunities and innovation; investment in technology and innovation to improve productivity; and investment in the environment through a technology-led transport system.
6	AdiEU: The Impact of Brexit on UK Cities	Metro dynamics	July 2016	Discussion of forward-looking themes post Brexit based on the case of the UK economy becoming more closed and less integrated with the EU. Among the factors discussed include (i) loss of EU funding for investment, (ii) loss of jobs and investment from decreased EU trade in goods, services, R&D and intellectual property (iii) the effect of political uncertainty on city devolution in terms of a delayed timetable, legislation, deals and funding (iv) stakeholders in terms of voting and inclusive growth.

The literature above focuses on themes of major uncertainties and challenges. For instance, it is suggested that a crossroads has been reached for the global economy with relevance for London's place in it. Another major theme from the literature is London's position within the UK and the ability of London to deal with specific challenges to its economic performance, particularly in the global economy. The final theme is the need for public investment in London to continue to address challenges to competitiveness in the future.

The literature generally argues for the importance of London remaining open to international trade and investment despite the challenges to trade and investment posed by leaving the EU as well as the potential for protectionist policies in the global economy. It is also suggested that the devolution of powers to London would help give London the flexibility to improve its competitiveness but notes the political uncertainty that comes with such developments. Finally, the need for public investment in infrastructure, housing and skills in London to deal with challenges to competitiveness and economic performance over the short and long term is stressed throughout.

3.4 Policy axes, quadrants and scenarios

Policy axes

London's success in the last twenty years has taken place within the policy context of Britain's membership of the European Union, the UK's commitment to globalisation and a broadly pro-business regulatory culture. From a sectoral perspective, a desire to support the financial services sector in particular, as one of London's and the UK's key economic specialisms, has both enhanced and entrenched London's position. In more recent years, some of this has come under challenge. First, the credit crunch and subsequent recession brought into question the role of the financial services sector and highlighted its susceptibility to global upheaval (e.g. from the sub-prime mortgage market in the US). Then the EU referendum vote overturned many fundamental assumptions about the trajectory of the London (and UK) economy. In addition, a new President in the US has created uncertainty about policy, raising the likelihood of changes in direction.

As a result, the post-war assumptions about public policy have been challenged; and the future is uncertain, perhaps to an unprecedented degree. Many questions are up in the air. What role in the international trading system can the UK forge for itself? What should the UK state do to address the issue of the 'left behinds'? What should be the level of immigration? Do public spending decisions overly favour London? Can the economy actually be 'rebalanced'?

In starting to consider alternative scenarios for the future of London, questions of this nature suggest a very wide range of possible outcomes. Broadly, though, the parameters of the discussion might be defined in relation to two main policy-related considerations: the role of the UK within the global economy (which will have consequences for London); and the role of London within the national economy.

In seeking to define alternative scenarios, these considerations might be regarded as "axes" which intersect to define four quadrants. The rationale for this structure – and the consequences of it – is outlined below.

Global public policy

The first (horizontal) axis considers global public policy.

Clearly, there is great uncertainty about the outcomes of the Brexit negotiations. Although the government seems to have concluded that the UK will leave the single market and the customs union, and wishes to avoid a 'cliff edge' for business, it is not at all clear what arrangements might be put in place to replace them (if any), and whether a transitional arrangement can be agreed. The indications are that the government is looking to negotiate sector-by-sector deals, which adds a further degree of complexity to what are already hugely challenging discussions. By 2030, the UK's trading position with the EU (currently its largest trading partner) may therefore range from one that is only a little less close than it is now to one in which the UK's exports have no privileged access to the EU market at all.

This uncertainty is also echoed in other parts of the world. There are already signs that under President Trump the United States will take a more protectionist line on trade. Other countries may respond in kind. More generally, there are indications that the assumptions that underpin international institutions – shared values and a belief in transnational 'rules' – may be being challenged. However, at this stage it is still unclear how dramatic this retreat from globalisation might be.

Linked to the Single Market negotiations, migration too is on an uncertain trajectory. There is a belief that the Brexit vote was motivated in part by a desire to keep migration under control. Yet migration has largely been driven by a demand for labour among British firms that domestic workers have been unable to meet. It may well be the case that in a post-Brexit world, demand will remain, though foreign workers may see the UK as a less attractive destination when it is out of the EU.

Foreign direct investment, which has been a big part of London's economy in recent years, is likely to be affected by the interaction of trade policies, regulation and the availability of skilled labour. The direction in which this interaction goes, though, is still uncertain.

Two extremes in terms of outcome are: a resurgence in economic nationalism with associated trade and migration barriers; and the continuation (and even strengthening) of the existing liberal, rules-based internationalist order. Table 3.2 summarises these two positions.

Table 3.2: Global policy axis

Inward-looking Policies	Outward-looking Policies
Increased barriers to trade on goods and services	The establishment of new free trade agreements with minimal use of tariffs and quotas
National regulations become more onerous than before	Dismantling of various regulations which emanated from the EU (e.g. Working Time Directive)
A restrictive approach to international migration	A liberal approach to international migration, including foreign students
Security concerns lead to more 'buy British' policies in e.g. sourcing of food and energy policy	International inward investment continues to be positively encouraged

UK public policy

The second (vertical) axis concerns UK public policy. The current government has talked about both 'rebalancing' the economy and devolution – topics that are thought to have been made more urgent by the result of the EU referendum. Yet what such ideas might mean in practice is still unclear. Enhanced decentralisation of the UK's centralised governance system could provide London with the greater freedoms, flexibilities, resources and capacity required to enable meaningful decisions to be made and funded. Related to this, permitting local areas (e.g. City Regions) to retain local receipts from property taxes, business taxes and local services, could allow London to receive the full benefit of its tax base.

Relaxation of restrictions on planning policy for housebuilding could benefit those areas (e.g. London) where local housing provision is a major constraint holding back home ownership and the ability of people to live near to where they work. Another constraint on London's growth and attractiveness is transport infrastructure. Continuing with proposed projects such as Crossrail 2, HS2, east-west rail and the Thames Estuary 2050 growth commission will enhance London's ability to grow employment and benefit from high-skilled high-productivity activities in its surrounding areas (the Greater South East).

In contrast, a spatial planning framework could set high-level political objectives and policy targets for a more balanced economic development of the UK, and develop a ‘national planning framework’ for the whole of the UK. It could coordinate the decentralisation of public administration and establish objectives and priorities for UK-wide infrastructure investment, perhaps diminishing London’s control over its investment. Part of such a move could see the decentralisation of the centre of government and the relocation of major departments of state and the civil service from Whitehall to other parts of the UK. In addition, there could be reform of the UK tax system to align the objectives of spatial and sectoral rebalancing, for example through new instruments such as ‘Advanced Manufacturing Bonds’ with favourable tax treatment to increase the flow of funds into advanced manufacturing (concentrated more in the northern cities).

On a per capita basis, London receives more public transport funding than other regions around the UK⁸. A policy aimed at reducing this disparity would affect London’s ability to function as a city and attract the skills and talent it requires to operate. While a greater proportion of London’s transport funding comes from the private sector compared with elsewhere, any reappraisal of funding rules or a more active channelling of funds outside of the Greater South East would impose an increased constraint on London’s growth.

At one extreme therefore is a series of interventions that, whether intentionally or not, broadly favour London in terms of its share of the UK’s output and employment. The other is a set of policies that seek to diminish London’s relative economic power (often grouped together under the banner of ‘rebalancing’). Table 3.3 summarises the types of policy that each end of the axis could include.

Table 3.3: UK public policy axis

“Favoured London” Outcome	“Disfavoured London” Outcome
Decentralising and devolving governance in England	An institutional framework for coordinating policies to address spatial imbalance across the UK
Fiscal devolution	Decentralisation of public administration
Less regulated planning policy	Decentralisation of the financial system, e.g. regional investment banks.
Delivery of existing infrastructure plans	Redirected transport investment

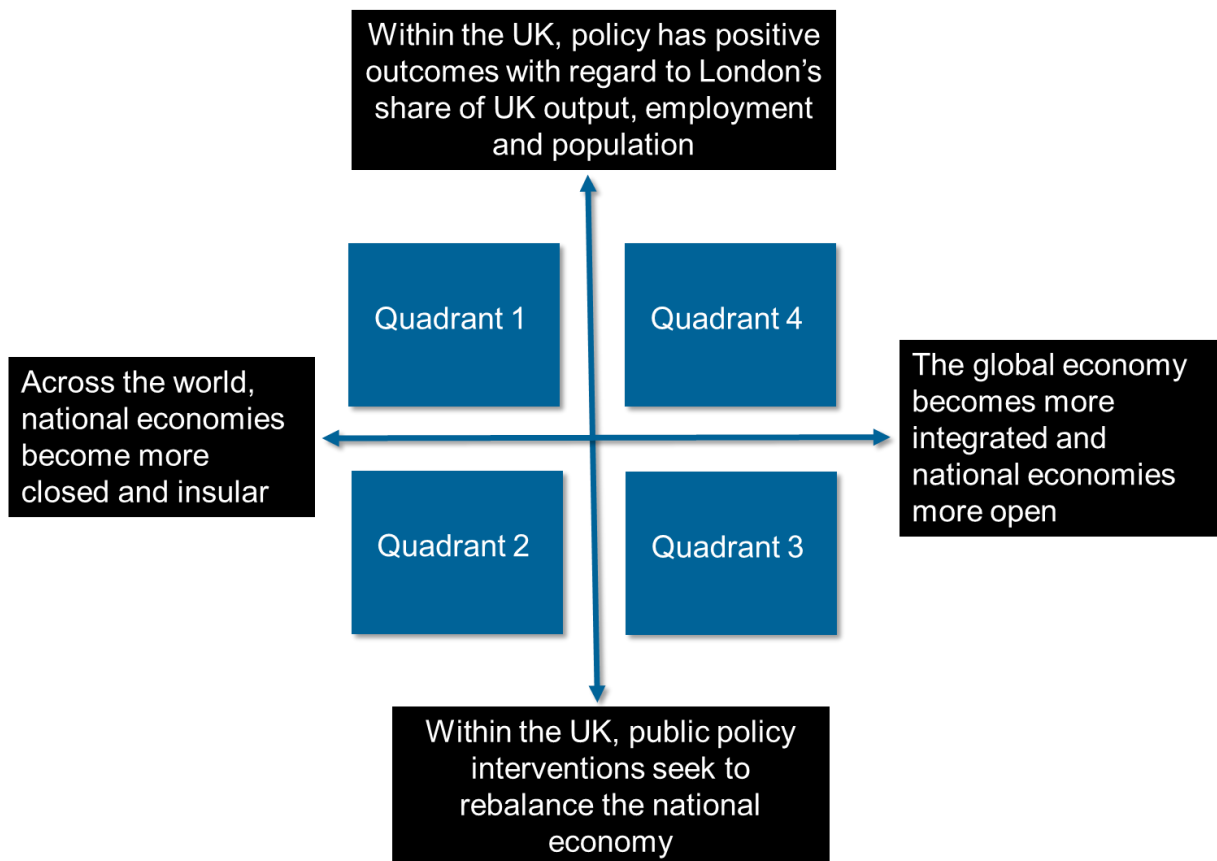
Quadrants and scenarios

The intersection of these two policy axes creates four “quadrants”, as shown in Figure 3.2. Each quadrant includes a range of possibilities, some more extreme than others. (Full-blown trade wars will have more economic effects than a modest raising of tariff barriers, for instance.)

Within each quadrant there are a range of possible scenarios. The report provides a narrative description of one such scenario within each quadrant – by analogy, the scenario is a sheep within a larger field. Each scenario is then given a name to help visualise the type of economy it implies. Despite the innate difficulty in pinning such descriptions down, an attempt is then made to provide some quantification for each scenario.

⁸ <http://www.ippr.org/news-and-media/press-releases/transport-secretary-urged-to-close-1-600-per-person-london-north-spending-gap>

Figure 3.2: Policy axes and quadrants



Quadrant 1: A more closed economy, London favoured

In Scenario 1 it is assumed that the UK becomes a more inward-looking economy (i.e. higher trade barriers, a relatively weak currency, the loss of some businesses to the EU, reduced foreign investment). Exports decline and international migration falls.

Scenario name: Paris-on-Thames

Some of London's key economic sectors such as finance and tech move away from London to the EU. Nevertheless, London, and central London in particular, continue to attract significant resources, both public and private, and talent. Much of this talent is drawn from the rest of the UK, reflecting less liberal immigration policies.

Domestically, however, London is not disadvantaged. The idea of 'rebalancing' turns out to be more rhetoric than reality, and the emphasis switches towards supporting the UK's one global city. Major transport and infrastructure projects go ahead, public administration grows to deal with Brexit etc. and reduced migration and slower overall population growth take some of the strain off public services.

Central London continues to draw huge number of visitors, and there may be a greater focus of tourism as the government recognises London more as the UK's main tourist hub. Outer London, however, doesn't benefit to the same extent, seeing its problems such as the loss of jobs and employment sites deepen. The success of London thus becomes ever-more concentrated in the centre.

The result is a city with a successful, heavily visited, but less economically dynamic centre surrounded by struggling suburbs – a city with a passing resemblance to modern Paris.

<p><i>Quadrant 2: A more closed economy, London disfavoured</i></p> <p><i>Scenario name: 1970s London</i></p>	<p>Internationally the situation is broadly similar to Scenario 1. Domestically, however, London is disadvantaged by policy developments.</p> <p>A ‘disorderly’ Brexit leads to some of London’s more distinctive industries leaving (finance, tech, some creative); a decline in FDI; and sharp reductions in international migration; Scotland, Wales and Northern Ireland continue to go their own way politically. London returns to being the ‘capital of England’ – with an economy and demography that more resembles the rest of England.</p> <p>National political pressure to do something about ‘left-behind’ areas and a need to compensate for lost EU regional funding leads to a transfer of public spending away from the capital. Public services are ‘rebalanced’, giving London less scope to control its own fortunes. For example, research institutes which currently locate in large numbers in London could be moved elsewhere, resulting in a shift towards lower-skilled, lower-productivity activities. Furthermore, an attempt to direct tourism to other parts of the UK could also see London negatively impacted.</p> <p>These restrictions make London a less attractive place for business and talent, leading to a reduction in in-migration and in-commuting and also affecting growth in the South East. Skills policies fail to provide the flow of domestic talent to replace the loss of international migrants, further hampering London’s economy. The greatest threat, the loss of the financial sector, would lead to some convergence between Inner and Outer London as Inner London declines but it is unlikely that the characteristics of each part of the city would change drastically.</p> <p>Interventions on this scale at both the global and national level would mark a distinct break with the world order that has broadly prevailed for the last two decades. London might therefore find itself in a similar situation to that which it occupied in the 1970s, before it emerged as a key hub in a globalised world economy.</p>
<p><i>Quadrant 3: Open economy, London disfavoured</i></p> <p><i>Scenario name: Modern Rome</i></p>	<p>In contrast to Scenarios 1 and 2, this scenario assumes the UK maintains an outward-looking economy (as envisaged in ideas of ‘Global Britain’) and manages to negotiate reasonable trading terms with the EU as well as new free trade agreements with others. The rest of the world maintains a globalised approach (current concerns over increased protectionism turn out only to disturb things briefly). London’s economy sees some declines in individual sectors but generally maintains its overall status as a world-leading city. International migration remains high in practice, as jobs are still created in London.</p> <p>Domestically, however, London is in the same situation as Scenario 2, with the added complication of the city’s growing population putting further pressure on its public services and housing.</p> <p>A relative lack of infrastructure investment leads to worsening congestion and poorer public services, exacerbated to some extent by its growing population, in turn driven by continued international migration. Despite the openness of the city, rising costs and overcrowding might cause businesses to consider relocating to the continent and northern cities.</p> <p>The financial service sector in London might be indirectly impacted by growth constraints in creative industries, public services and construction, but would still benefit greatly from trade. While there is likely to be greater automation at the lower skill levels, high-skilled workers would still be in high demand,</p>

although supply would struggle to keep up as London becomes a less attractive place to live and work and people commute longer distances to find affordable housing. This situation might not be sustainable in the long term unless the government implements appropriate measures to deal with the building pressures.

Nonetheless, this scenario implies that those of its key industrial sectors that depend on access to global talent and international export markets continue to thrive. London could thus become even more a city of the rich, where private money is used to navigate and compensate for the deterioration in support from public services.

In this it might come to resemble a city like modern Rome today – still a very important city, with a great history to draw on, but one with a public infrastructure that is fraying and a place in the global economy which is under pressure.

*Quadrant 4:
Open economy,
London favoured*

*Scenario name:
Super City*

Internationally the situation in Scenario 4 is as favourable as in Scenario 3, while domestically, London is not disadvantaged. The idea of ‘rebalancing’ turns out not to be too damaging to London’s interests, and London continues to grow, assisted by increased devolution of tax and spending powers. Major transport and infrastructure projects go ahead, while public administration grows to deal with Brexit. High migration and buoyant overall economic growth add to the strain on public services. London remains a very expensive city – with high wages and high house prices.

Following Brexit, London’s role as a global city grows. A strategy at national level of low business taxes and deregulation leads to London enhancing its competitiveness. Free trade agreements are negotiated with key markets. Economic problems in Europe mean that the EU becomes less important to London’s economy overall, while links with emerging economies strengthen. A ‘country-neutral’ immigration policy allows London to draw in talented people from all over the world.

As a result, business and talent have a greater focus on high-level skills, particular in creative and technology industries, while more would be invested in housing, transport and tourism to accommodate the expanding city. The links between London and the South East would strengthen, leading to greater integration and spillovers of London’s growth into the surrounding areas. Within London itself, there is much scope for development in Outer London as well as Inner London, as a business-friendly environment might attract more SMEs and start-ups to the suburbs, as long as additional space is made available.

London thus maintains and even enhances its status as one of the world’s greatest (and most expensive) cities (including in economic terms), able to draw leading businesses and world-class talent. Although success brings its own strains, London’s infrastructure and transport improve as new schemes get built and tech innovations come into effect. London acts as the ‘engine’ pulling the wider UK economy forward.

The urban academic, Richard Florida, has popularised the argument that, just as there are ‘superstar’ effects in entertainment and sport, where the most talented people capture a huge proportion of the rewards available, there are cities which attract disproportionate shares of talent, culture and business. In this scenario, London is a ‘super city’.

4 Quantifying the scenarios

4.1 Introduction

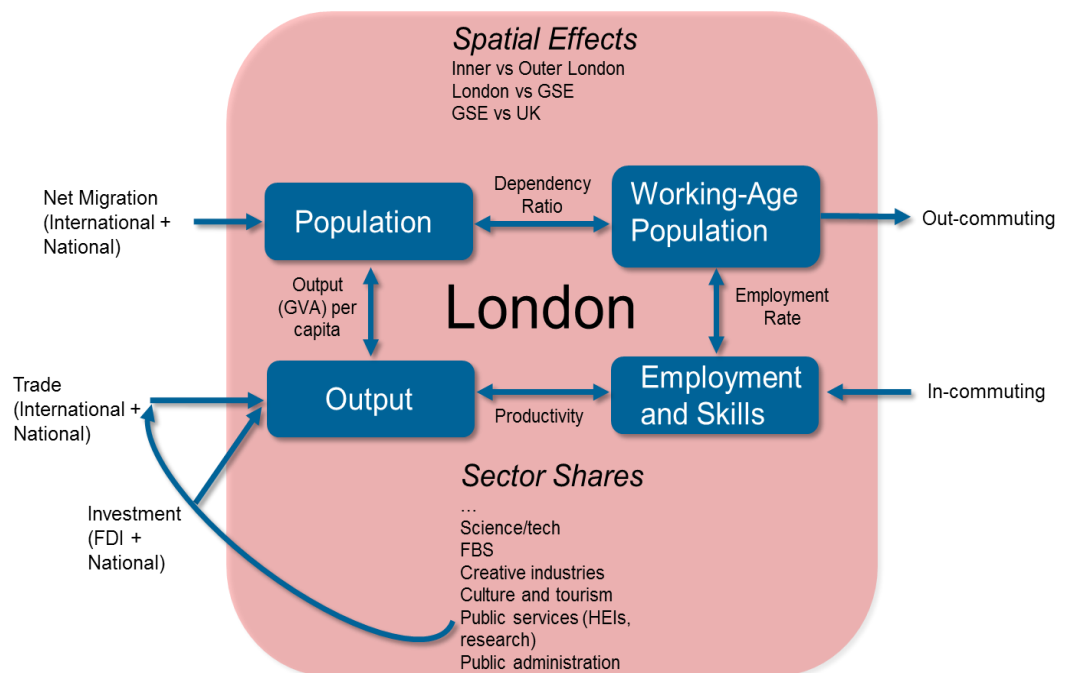
This chapter describes how the scenarios are given some quantification, in terms of key indicators such as population, employment, and output. At the start, it should be pointed out that there is no all-encompassing economic model behind the scenario numbers. The degree of complexity in capturing the cause-and-effect of an as yet unknown post-Brexit world is too great to simplify in a set of abstract economic and demographic relationships.

Instead, a framework to consider likely outcomes has been constructed which is based on:

- past trends of London's economy to act as a sense-check against future trends;
- key ratios between indicators such as employment rates, productivity, and population density;
- shares of activity such as the distribution of production and employment across sectors and the split between inner and outer London.

This framework (as shown by Figure 4.1) was combined with the views coming from the consultations. This allowed the framework to be further developed so that a description of the scenarios for London can be established and be made consistent with the supporting numbers⁹.

Figure 4.1: Economic and demographic framework



⁹ Clearly the framework could be made much more complex, by identifying agglomeration effects, access to finance, transport infrastructure, etc. While these effects are considered as part of the consultation exercise, and included in the shaping of the scenario findings, explicitly including these types of linkage would create an overly complex system which would obscure the main features of what is being represented.

The tables in the following section provide some numbers in support of the scenario descriptions in the preceding chapter. These should be regarded as *assumptions* rather than projections, although the results are not independent of one another as they are linked through the framework described above.

4.2 Demographic performance

There already exist projections for London's future demographic trends, and the process starts with these.

(i) ONS sub-national projections

The ONS¹⁰ produce sub-national projections for the English regions, with the most recent being from a 2014 base. From here, the share of London's total population in the UK rises by 1 percentage point over 2015-2030 to around 14½% (or 10.2m people). The equivalent working-age population share is projected to rise by 0.7 percentage point to around 15½% (or 6.9m people). London's working-age to total population ratio is projected to fall by just over 2 percentage points over the same period.

(ii) GLA projections

The GLA produces its own set of projections for London¹¹ on a 2015 base. These differ slightly from the ONS with slightly smaller rises in the UK share of total and working-age population of 0.6 percentage points (to 10m people) and 0.5 percentage points (to 6.8m people) respectively. London's working-age to total population ratio is also projected to fall, but by less than the ONS projection, by just over 1 percentage point. The GLA also produce projections for international and national migration, and these show a fall of 0.8 percentage points in international migration as a share of total London population, and no change in the equivalent national migration figure.

Although, over the longer term the natural change in population is the main determinant of overall growth, over the timeframe of this research the component most affected by the scenarios is the balance between internal and international net-migration. It is this that will largely determine the relative direction of total population and working age population. Scenarios 2 and 4 are opposite cases, where these two migration forces reinforce each other giving positive and negative outcomes. As international migration has historically been more important to London than internal migration, its continued boost in Scenario 3 gives a positive overall effect to that scenario too, though perhaps to a lesser extent than in Scenario 4. The outcome for Scenario 1 is less clear-cut, as it depends on the extent to which the balance of internal and international migration offset one another.

Based on these arguments, existing projections and historical trends, Table 4.1 summarises the assumed demographic performance across each of the scenarios. Scenario 4 is in many ways the easiest to consider, as it represents an enhancement of the previous 15 years when globalisation was increasing and the domestic policy environment towards London was relatively benign,

¹⁰ See

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections> for more information.

¹¹ See <https://data.london.gov.uk/demography/population-projections/> for more information.

albeit with some constraints on growth such as transport and housing infrastructure. In this case, both international and domestic migration move in London's favour to boost the population, particularly that of working age. Scenario 2 presents an opposite case, where London becomes relatively less attractive for migrants and performance is worse on all metrics. Scenarios 1 and 3 represent offsetting policy forces for domestic and international migration, with the result that the working age to population share is broadly neutral in both cases.

Table 4.1: London's demographic performance by 2030

Indicator	2000-15	2015	Value by 2030			
	(pp change)		Scenario 1	Scenario 2	Scenario 3	Scenario 4
UK Population share (%)	1.0	13.3	13.5	12.5	14.5	15.5
UK WAP share (%)	1.4	14.7	14.5	13.5	15.5	16.5
WAP/Total Population (%)	0.8	68.1	67.0	65.0	68.5	70.0
Net Migration (% London Pop)						
- National	0.3	-2.2	-1.0	-4.0	-3.0	-0.5
- International ¹²	0.5	2.6	1.5	1.0	3.0	3.5

4.3 Overall economic performance

Table 4.2 shows how London's share of employment and output has increased over the past 15 years, particularly since the financial crisis in 2008. It is assumed that these trends would accelerate in Scenario 4 leading to London accounting for almost a fifth of UK employment and over a quarter of output by 2030. Output would rise at a greater rate than employment leading to a further widening of the productivity gap with the rest of the country. Although London's employment rate has not changed over the past 15 years, some increase might be expected as the prosperity of the city provides more jobs and lower unemployment. Scenario 2 moves things in the opposite direction as the business environment worsens and higher value jobs leave the city, pushing London's relative position back to where it was in the early 1990s before the effects of financial liberalisation and globalisation fully took hold. Scenarios 1 and 3 fall somewhere in between, with Scenario 3 seen as a relatively more positive outlook due to maintaining the attractiveness for international high-value business, which is the core of London's prosperity.

Table 4.2: London's economic performance by 2030

Indicator	2000-15	2015	2030			
	(pp change)		Scenario 1	Scenario 2	Scenario 3	Scenario 4
UK Employment share (%)	1.0	16.5	16.0	14.0	17.5	19.0
UK Output share (%)	2.7	22.4	20.0	18.0	25.0	27.0
Relative Productivity (UK=100)	8.3	136.1	130.0	125.0	140.0	150.0
Employment Rate ¹³ (%)	0.0	93.7	93.0	90.0	93.0	95.0

¹² Note that the period start for International migration is 2002, not 2000 as for the other indicators.

¹³ This calculation includes commuting, i.e. it is workplace-based employment against resident population, and so can go above 100%.

4.4 Sectoral performance

The increasing share of employment (and output) taken up by KIBS sectors is expected to increase further in Scenario 4, largely at the expense of other private services and the remainder of the economy, with public services remaining broadly stable, as seen in Table 4.3. Scenario 2 sees a reversal of this position as the attractiveness of London declines and business relocates either abroad or elsewhere in the UK where the costs of doing business are lower and supporting infrastructure has improved. Scenario 3 remains broadly positive to KIBS sectors, though less-so than in Scenario 4 due to increased costs of doing business (through worse supporting infrastructure), while Scenario 1 is broadly neutral to the private services sector and favours some increase in other area of the economy such as public services.

Table 4.3: London's sectoral performance by 2030

Share of London Employment (%)	2000-15	2015	2030			
	(pp change)		Scenario 1	Scenario 2	Scenario 3	Scenario 4
Knowledge-Intensive Business Services (KIBS)	3.4	28.3	27.0	24.0	30.0	35.0
Other Private Services	-2.1	39.6	41.0	45.0	40.0	36.0
Public Services	2.8	21.5	23.0	18.0	20.0	21.0
Rest of economy	-2.1	9.6	9.0	13.0	10.0	8.0

4.5 Spatial performance

The final aspect to consider is how performance might vary between Inner and Outer London. This is largely a reflection of previously described sector and overall performance patterns, and is summarised in Table 4.4. Although both Inner and Outer London will benefit in absolute terms from the overall growth generated in Scenario 4, Inner London should do relatively better as this is where most (approximately three-quarters) of the KIBS-related activities are located. Meanwhile the situation in Scenario 2 unwinds most of the gains for Inner London seen during the past 15 years. Scenarios 1 and 3 are both expected to see an improvement for Inner London with Scenario 3 slightly more so due to the relatively open global outlook.

Table 4.4: London's spatial performance by 2030

Indicator (for Inner London)	2000-15	2015	2030			
	(pp change)		Scenario 1	Scenario 2	Scenario 3	Scenario 4
Population share (%)	1.3	40.0	41.0	38.0	42.0	43.0
Employment share (%)	3.6	59.8	61.0	56.0	63.0	65.0
Output share (%)	4.3	68.3	70.0	62.0	73.0	75.0
Relative Productivity (London =100)	0.3	114.2	116.0	110.0	118.0	120.0

4.6 Summary

London's economic and demographic performance varies across the four scenarios developed in the sections above. It is not likely, however, to see an absolute decline in population, employment or output in any of the scenarios.

Scenario 4 sees the highest growth in population, employment and output. The scenario represents an enhancement of the previous 15 years when globalisation was increasing and the domestic policy environment towards London was relatively benign. Scenario 2 presents an opposite case, where London becomes relatively less attractive for migrants and performance is worse on all metrics, resulting in the lowest growth in population, employment and output across the four scenarios. Scenarios 1 and 3 fall somewhere in between, with Scenario 3 seen as a relatively more positive outlook due to maintaining the attractiveness for international high-value business, which is the core of London's prosperity.

Tables 4.5 – 4.8 provide a summary of the discussion in the previous sections, showing how the assumptions for each scenario fit together across a selection of the main indicators.

Table 4.5: Summary assumptions for Scenario 1: Paris-on-Thames

Indicator	2000-15	2015-30	2015	2030
	(pp change)		(level)	
UK Population share	1.3	0.2	13.3%	13.5%
UK Employment share	1.0	-0.5	16.5%	16.0%
UK Output share	2.7	-2.4	22.4%	20.0%
Relative Productivity (UK=100)	8.3	-6.1	136.1	130.0
Share of KIBS Employment (% of total London)	3.4	-1.3	28.3%	27.0%
Inner London Employment (% of total London)	3.6	0.2	59.8%	61.0%

Table 4.6: Summary assumptions for Scenario 2: 1970s London

Indicator	2000-15	2015-30	2015	2030
	(pp change)		(level)	
UK Population share	1.3	-0.8	13.3%	12.5%
UK Employment share	1.0	-1.5	16.5%	14.0%
UK Output share	2.7	-4.4	22.4%	18.0%
Relative Productivity (UK=100)	8.3	-11.1	136.1	125.0
Share of KIBS Employment (% of total London)	3.4	-4.3	28.3%	24.0%
Inner London Employment (% of total London)	3.6	-3.8	59.8%	56.0%

Table 4.7: Summary assumptions for Scenario 3: Modern Rome

Indicator	2000-15	2015-30	2015	2030
	(pp change)		(level)	
UK Population share	1.3	1.2	13.3%	14.5%
UK Employment share	1.0	1.0	16.5%	17.5%
UK Output share	2.7	2.6	22.4%	25.0%
Relative Productivity (UK=100)	8.3	3.9	136.1	140.0
Share of KIBS Employment (% of total London)	3.4	1.7	28.3%	30.0%
Inner London Employment (% of total London)	3.6	3.2	59.8%	63.0%

Table 4.8: Summary assumptions for Scenario 4: Super City

Indicator	2000-15	2015-30	2015	2030
	(pp change)		(level)	
UK Population share	1.3	2.2	13.3%	15.5%
UK Employment share	1.0	2.5	16.5%	19.0%
UK Output share	2.7	4.6	22.4%	27.0%
Relative Productivity (UK=100)	8.3	13.9	136.1	150.0
Share of KIBS Employment (% of total London)	3.4	6.7	28.3%	35.0%
Inner London Employment (% of total London)	3.6	5.2	59.8%	65.0%

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Appendices

Appendix A List of Consultations

In order to develop the scenarios, CE and SQW agreed to talk to individuals from a range of organisations, all of whom might have different perspectives on London's economy today and how it might evolve (see Table A.1 for full list of consultees). The project team are grateful to them for giving us their time and insights.

Table A.1: List of consultees

	Organisation	Name
1	Arup	Alex Jan
2	British Land	Sarah Cary, Julian Barker, Paul Jaffe
3	Centre for Cities	Paul Swinney
4	City of London Corporation	Giles French, Laura Davison
5	Greater London Authority	Jeremy Skinner
6	Lipton Rogers Developments	Sir Stuart Lipton
7	London First	John Dickie
8	King's College London	Anand Menon
9	King's Commission on London	Members of the Commission
10	Policy Institute at King's	Ben Wilkinson, Jack Brown
	Remainder of steering group	Tony Halmos, Jennifer Rubin, Tony Travers

The consultees were asked to consider the four quadrants framing the scenarios, and what might happen to the following elements of London's economy in each case.

- Sectoral mix, especially key London sectors
- Culture and tourism
- National and international migration
- Patterns of trade (exports and imports)
- Employment mix (including effects of automation)
- Economic relationships between "inner" and "outer" London
- Links to the Greater South East

They were also asked to consider, in relation to each quadrant, possible future shocks to the system that might cause major disruptions within the 15-year timeframe. Some examples are shown below:

- Major AI/ automation breakthroughs
- Large scale cyber-attacks damage underlying IT infrastructure
- Major environmental/climate change problems emerge
- Renewable energy breakthroughs

Table A.2 highlights the findings of the consultation process where consultees were asked to consider ‘future shocks’. Such shocks are difficult to predict with any degree of certainty, and accordingly their effects have not been considered across the scenarios but in a more general sense, under the assumption that they will not be economy-destroying threats.

Table A.2: Feedback on future shocks

Shocks	Consultation Feedback
Major AI and automation breakthroughs	While this was regarded as likely, views differed on its significance. Some thought it was likely to lead to major job losses; other were more sanguine, feeling that other jobs would be created to replace lost ones.
Major climate-change related incidents	One interviewee with a particular professional interest in sustainability thought it was very likely a high tide would top the Thames Flood Barrier in the next few years, leading to flooding within London. If this became more than a very occasional occurrence, then it might lead to some low-lying areas being permanently abandoned.
Large scale cyber-attacks	While such events (which would be aimed at damaging underlying IT infrastructure) were thought likely to become more expensive to deal with, they were not considered an existential threat to business.
Renewable energy breakthroughs	While progress continues to be made on this front, doubts were expressed about whether it could generate the energy intensity necessary to meet cities’ energy needs. It was suggested that improved battery technology might potentially be more of a game changer in this respect