Gatwick Airport Northern Runway Project

Needs Case Appendix 2 – The Economic Impact of Gatwick Airport: A Report by Oxford Economics

Book 7

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1.1. Introduction

1.1.1 **Gatwick Airport's operations and services deliver economic benefits to the UK.** It facilitates millions of passenger journeys each year—around 46.6 million in 2019 according to the CAA (Civil Aviation Authority, "Size of UK Airports", 2022)—making it a key component of national infrastructure, contributing billions in GDP and thousands of jobs to the local economy.

1.1.2 But it also has a broader impact, beyond its direct transport benefits to passengers and airlines, that 'ripples' through the regional and wider UK economy. At the centre of a complex network of supply chains, Gatwick Airport enables economic activity throughout the Gatwick Diamond, the Labour Market Area, and beyond.[1] Additionally, salaries sustained by employment at the Gatwick site provide an invaluable contribution to the local consumer economy.

1.1.3 **As well as these benefits, the aviation services provided at Gatwick Airport also have other important effects.** By connecting residents of the UK to the global aviation network, the Airport gives access to suppliers and consumers in new markets, facilitates inward investment in the UK, and enables higher levels of trade and tourism. These factors, in turn, boost the UK's productivity, a key measure of economic success and the principal long-term driver of prosperity.

1.1.4 This report estimates how each of these effects contributed to the UK economy during 2019, along with the regional economies of the Gatwick Diamond, the Airport's Labour Market Area, and the Six Authorities within which it operates.[2] This report also considers how the Airport's economic contribution could develop under a future scenario whereby its Northern Runway project plans are realised, increasing capacity at the Airport, relative to a Base Case scenario.

1.2. The economic impact of Gatwick Airport in 2019

1.2.1 Economic activity onsite at Gatwick Airport directly generated £1.75 billion in gross value added (GVA) contributions to UK GDP in 2019. Firms on the Airport site directly employed some 24,100 workers to produce this impact, and in doing so, underpinned £1.08 billion in tax revenues for the UK Government.

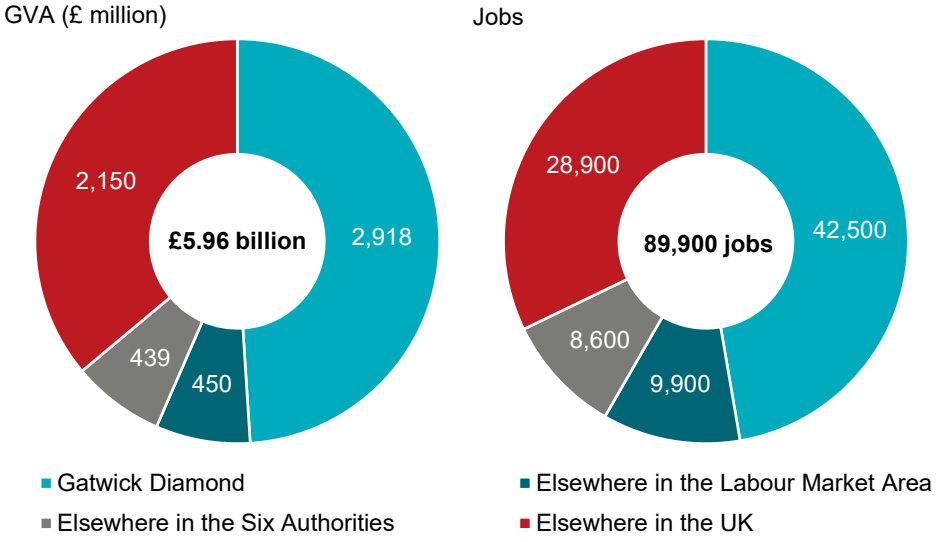
1.2.2 The Airport's GVA impact in the Gatwick Diamond rises by £654 million, when including its supply chain activity, and by an additional £513 million when accounting for the wages that its staff (and suppliers' staff) spend in the wider consumer economy. Once these multiplier effects are accounted for, Gatwick Airport is estimated to support 11,000 indirect and 7,400 induced jobs across the Gatwick Diamond area respectively, yielding a total of 42,500 jobs. These indirect and induced effects rise to £1.20 billion and £852 million, respectively, when expanding the scope of analysis to include the entire Six Authorities Area. Thus, across the Six Authorities there were an additional 10,200 and 8,300 indirect and induced additional jobs respectively.

1.2.3 Its footprint at a national level is larger still, amounting to £5.96 billion in GDP and almost 90,000 jobs in total (including direct, indirect, and induced effects). The greater UK-level impact

[1] The Labour Market Area is the area from which Gatwick Airport currently draws the majority of its operational workforce. The Gatwick Diamond refers to an area with the Airport at its heart where economic activity and businesses concentrate.
[2] See Figure 2.1 for the boundaries of the Gatwick Diamond, Labour Market Area, and Six Authorities Area.

reflects the extent that the Airport's supply chains (and the consumption of its workers) spread over the wider South East region and across the nation as a whole. Overall, the Airport's operations and activities on the Airport campus deliver benefits to distant communities throughout the UK. The Airport's economic footprint also generated approximately £2.03 billion in tax revenues.

Figure 1.1: Core economic impact by location, Gatwick Airport, 2019



Source: Oxford Economics. Note: may not sum due to rounding.

1.2.4 **The economic benefits of Gatwick Airport to the UK economy extend beyond this core impact.** The Airport also facilitates a range of catalytic impacts across the UK economy. The connectivity offered by Gatwick boosts the UK's long-term economic potential. Gatwick's air connectivity in 2019 boosted long-term productivity by an estimated 0.82% across the UK.

1.2.5 Gatwick also facilitates economic activity across the UK through facilitating international visitors and importing goods to the UK. The 5.6 million international visitors to the UK through Gatwick Airport generated a £4.37 billion GVA contribution to UK GDP and 84,100 jobs in 2019. Trade facilitated through the import of goods at Gatwick Airport added £4.78 billion of GVA and 88,400 jobs across the UK in 2019, once multiplier effects are included.

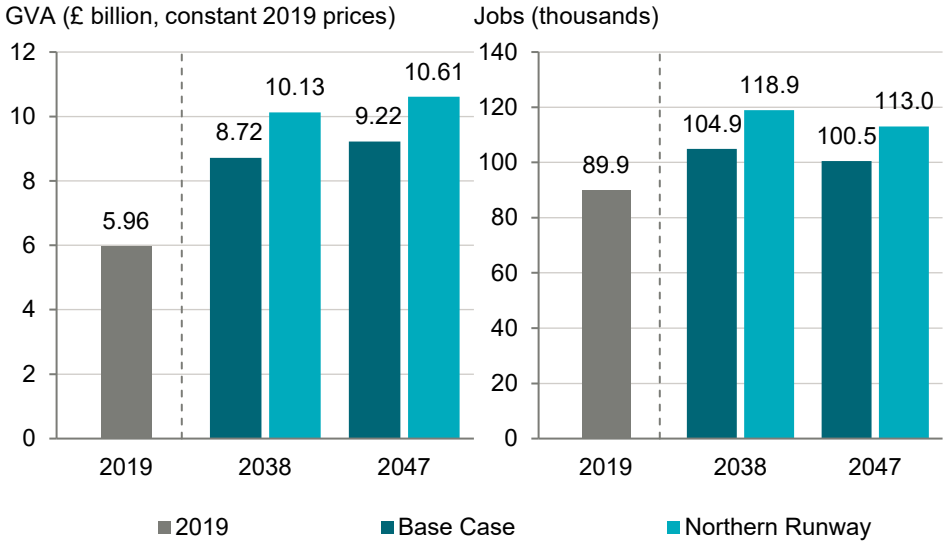
1.3. The economic impact of the Northern Runway project

1.3.1 Gatwick Airport Limited (GAL) propose to bring the Northern Runway at the airport into routine use to enable dual-runway operations, supporting an increase in the passengers and aircraft air transport movements at the Airport. This project—referred to as the 'Northern Runway Project'—would support an increase in passenger numbers to 80.2 million in 2047. This would be 13 million more passengers than could be handled without the project (the 'Base Case') (67.2 million passengers). Air transport movements would increase from a 2019 level of 283,000 to 386,000 with the Northern Runway Project, which would be over 60,000 more than could be handled in the Base Case (326,000).

1.3.2 **The Northern Runway Project will increase Gatwick airport's core economic footprint across the UK.** By 2047, the Airport would support £10.61 billion of GVA through the core channels of impact, more than three-quarters higher than in 2019, and 15% higher than the

equivalent contribution in the Base Case (£9.22 billion). Direct, indirect, and induced employment would increase to 118,900 jobs with the Northern Runway Project and 104,900 jobs in the Base Case in 2038, before falling slightly thereafter, as expanding activity at the Airport is more than offset by productivity improvements across the economy.

Figure 1.2: Core economic impact (direct, indirect, and induced), Northern Runway and Base Case scenarios, UK, 2019 to 2047



Source: Oxford Economics

1.3.3 **In addition to the core economic footprint, Gatwick's Northern Runway project will improve Gatwick's connectivity.** The Northern Runway project would see the long-run productivity boost increase from 0.82% in 2019 to 0.88% of UK GDP in 2038, before falling back to 0.80% in 2047, reflecting the UK's declining future share of global connectivity. By contrast, the Base Case would see the long-term productivity boost fall to 0.73% in 2038 and 0.67% in 2047.

1.3.4 **Boosting international visitors would increase the tourism impact facilitated by Gatwick Airport.** With the Northern Runway project, international visitors to the UK arriving through the airport would increase from 5.6 million in 2019 to an estimated 9.6 million in 2047. The increased spending of these international visitors would generate £9.85 billion of GVA and 130,100 jobs in 2047 across the UK. Fewer international visitors in the Base Case would facilitate a lower economic impact, of £7.87 billion of GVA and 104,000 jobs in 2047.

1.3.5 The increase in air transport movements will boost imported cargo volumes, increasing the trade-facilitated impact on the UK economy. With the Northern Runway scenario, the volume of imports would more than double between 2019 and 2047, to 174,200 tonnes. These imports would facilitate £10.59 billion of GVA and 160,400 jobs in 2047 once multiplier effects are included, around 20% higher than the equivalent activity facilitated in the Base Case.

1.3.6 In 2019, Gatwick Airport contributed £5.96 billion in GVA contributions to UK GDP through the direct, indirect, and induced channels, and 89,900 jobs. The Airport's core economic footprint also generated £2.03 billion in tax revenues.

1.4. Glossary of terms

Table 1-1: Glossary of Terms

Term	Description
Catalytic impacts	The activity in the economy enabled and/or stimulated by aviation services. In this report, the impacts of air connectivity are measured by boosting productivity, the economic impact of tourism spending arising from international visitors arriving to the UK via the Airport, and the economic impact of facilitating goods import trade.
Connectivity	Measures how well-connected a country is to the global air transport network. Defined as the number of seats available from an airport or country, weighted by the importance of the destinations served. The weights reflect how "connected" each nation's aviation network is in terms of potential onward connections.
Core impact	The economic 'footprint' of a company or sector within an economy, as measured by the activity relating to the operations and capital spending of the relevant company or sector. The metrics used in the measurement are usually GDP and employment.
Employment	The number of people employed, measured on a job or headcount basis.
GDP	Gross Domestic Product. The total value of final goods and services produced in the economy within a given time period. The contribution of an individual producer, industry or sector to GDP is measured in terms of gross value added, or GVA. GDP is GVA plus product taxes (like VAT) minus product subsidies.
GVA	Gross Value Added. A measure of the value of goods and services produced in an area, industry or sector of an economy. Can be understood as either: 1) the value of output (goods or services) less the value of intermediate inputs used in the production process; or 2) the sum of compensation of employees (gross wages) and gross operating surplus (profits).
Labour productivity	The ratio of GDP per person employed.

2 Introduction

2.1. Introduction

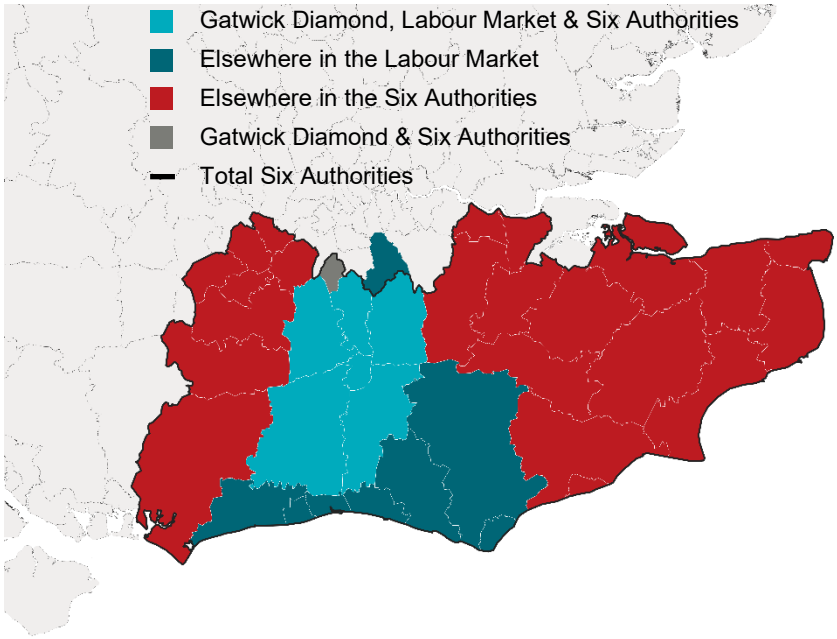
2.1.1 Gatwick Airport's operations and services deliver substantial benefits to the UK economy. Gatwick is the second-largest airport in the UK in terms of passenger traffic, accounting for 16% of all passengers travelling through UK airports in 2019 according to the CAA (Civil Aviation Authority, "Size of UK Airports", 2022). The airport experienced a sustained period of growth in the decade prior to the Covid-19 pandemic, with passengers increasing from 31 million in 2009 to more than 46 million in 2019 according to Gatwick Airport (Gatwick Airport Consultative Committee, "About the Airport", 2023). The airport served around 220 destinations in 2019, including more than 60 long-haul destinations—more than any other UK airport—and over 50 airlines fly from the Airport, ranging from low-cost airlines such as easyJet and Vueling to long-haul operators including British Airways and TUI according to Gatwick Airport (International Airport Review, "London Gatwick Airport", 2023).

2.1.2 Gatwick Airport Limited (GAL) commissioned Oxford Economics to quantify the contribution of Gatwick Airport to the sub-regional and UK economies and to assess how this impact would change with the Northern Runway Project. This study explores the Airport's impact on the UK as well as its footprint on the Gatwick Diamond,[3] the 14 local authority areas that form Gatwick's Labour Market Area,[4] and the county or unitary authorities within which these local authority areas are situated, termed the Six Authorities.[5] These geographies are illustrated in Figure 2.1.

2.1.3 This report estimates the economic contribution made by Gatwick Airport in the calendar year 2019. This study also presents projections for how Gatwick Airport's economic impact may develop through 2038 and 2047, in scenarios whereby the Northern Runway project is either realised or not. These forecasts are based on GAL's projections for the evolution of passenger traffic and air transport movements over this period. The resulting economic contribution is estimated using Oxford Economics' in-house forecasts for future growth in productivity and tourist spending.

[3] The Gatwick Diamond consists of seven local authority areas: Crawley; Epsom & Ewell; Horsham; Mid Sussex; Mole Valley; Reigate & Banstead; and Tandridge.
[4] The Gatwick Labour Market Area consists of 14 local authority areas: Adur; Arun; Brighton & Hove; Crawley; Croydon; Eastbourne; Horsham; Lewes; Mid Sussex; Mole Valley; Reigate & Banstead; Tandridge; Wealden; and Worthing. Note that while Epsom & Ewell is part of the Gatwick Diamond, it is not part of the Labour Market Area.
[5] The Six Authorities are: the County Council Authorities of West Sussex; East Sussex; Surrey; Kent; the Unitary Authority of Brighton & Hove; and the London Borough of Croydon. Medway Unitary Authority is not included within the Six Authorities study area.

Figure 2.1: Study area



2.2. Introducing economic impact analysis

2.2.1 The economic impact of a company or industry is measured using a standard means of analysis called an economic impact assessment. This consists of two parts.

2.2.2 First, this report quantifies the three 'core' channels of impact that comprise the organisation's 'economic footprint', consisting of:

- **Direct impact,** which relates to the activities taking place on the Gatwick Airport campus, encompassing both the airport operator (GAL) as well as other businesses on the site;
- **Indirect impact,** which encapsulates the activity and employment supported in Gatwick Airport's supply chain, as a result of the procurement of goods and services by GAL and businesses on the campus; and
- **Induced impact**, comprising the wider economic benefits that arise when workers at Gatwick Airport and its supply chains spend their earnings, for example in local retail and leisure establishments.

2.2.3 Using these pathways, a picture of Gatwick Airport's economic footprint is presented, using three key metrics:

- **Gross Domestic Product (GDP),** or more specifically, Gatwick Airport's gross value added (GVA) contribution to GDP;
- **Employment**, as the number of people employed, measured on a headcount basis; and
- **Tax revenues**, measured in terms of the corporate, employment, and indirect taxes generated.

2.2.4 Second, it examines the 'catalytic' effect that Gatwick Airport's services have in boosting or enabling economic activity elsewhere in the economy. The catalytic impact of Gatwick Airport represents the wider benefits that the government, consumers, society, and other industries gain

from the services the airport provides. For an airport, these are primarily captured in the contribution that increased air connectivity makes to wider economic potential, as greater air connectivity raises the productivity of an economy by opening up new business opportunities, and stimulating innovation and competition.

2.2.5 The impact of higher connectivity benefits all parts of the economy, but one of the important observable outcomes is the tourism facilitated by the activities of the Airport. Therefore, as well as quantifying the overall connectivity impact, this report measures the economic footprint of tourism in the UK enabled by Gatwick Airport.

2.2.6 The report also considers the economic impact of goods import trade facilitated by the airport, and its contribution to the local and national economies.

2.2.7 Drawing on historical data and projections from a wide range of sources, the modelling on which this report is based calculates the economic contribution of Gatwick in 2019, which represents the last year of data unaffected by the Covid-19 pandemic, and then forecasts of the Airport's expected impact both with and without the Northern Runway Project through 2038 and 2047. All values quoted in this report are in constant 2019 prices, unless otherwise stated.

2.2.8 It is important to note that downstream catalytic benefits constitute a separate analysis from the core economic impacts. Therefore, they are reported separately, and should not be added up. This ensures the robustness of the analysis by avoiding potential double counting issues.

2.2.9 Further detail about the economic impact methodology, and a summary of results is included in Annex A.

2.3. Structure of this report

2.3.1 This report is structured as follows:

- **Chapter 3** presents our estimates of the direct, indirect, induced, and catalytic economic contribution that Gatwick Airport made to the local and UK economies in 2019;
- **Chapter 4** considers the future economic contribution that Gatwick Airport could make if the Northern Runway Project is realised;
- **Chapter 5** provides conclusions; and
- **Annex A** describes our approach to the modelling and provides a summary of the results.

2.4. Glossary of terms

Table 2-1: Glossary of Terms

Term	Description
Direct impact	The economic activity that relates to a company or entity's own operations. In this study, the direct impact is taken to be all activity undertaken at Gatwick Airport, by Gatwick Airport Limited (GAL) and other firms also operating at the Airport.
Indirect impact	The economic activity generated by the procurement of inputs of goods and services from suppliers.
Induced impact	The economic activity supported in the economy by on-airport staff (direct employment) and those employed in all the airport's company's indirect supply chain spending their wage income, for example at retail and leisure outlets throughout the country.
Tourism spending	Consumer spending by foreign visitors, principally on accommodation, catering, recreation, retail, and other tourism-related goods/services.
Visitors	In the study visitors are foreign tourists or business travelers who are not normally resident in the country in question.

3 The economic impact of Gatwick Airport in 2019

3.1. Introduction

3.1.1 This chapter investigates the contribution that Gatwick Airport made to the local and national economies in 2019.

3.1.2 Gatwick Airport provided crucial transport services for 46.6 million passengers in 2019. The provision of transport services involves far-reaching interactions between businesses on the Gatwick campus and the rest of the UK economy, not least in the Gatwick Diamond area. As passenger numbers continue to rise, the importance of these interactions is only likely to grow.

3.1.3 Tens of thousands of jobs are sustained directly on the Gatwick campus to deliver these services, with tens of thousands more supported indirectly across the country. The procurement expenditures that businesses at Gatwick Airport make with local suppliers supports activity throughout supply chains in the Gatwick Diamond, the Labour Market Area, the Six Authorities, and the UK economy as a whole. Further activity is stimulated through workers at Gatwick Airport spending their wages, and the same was true of workers employed within its supply chains.

3.1.4 This chapter explores each of these effects, before turning to the catalytic benefits enjoyed by the UK as a result of Gatwick Airport's operations. In particular, it explores Gatwick Airport's contribution to connectivity through its role in linking the UK to airports across the globe, the contribution of tourism arising from the economic footprint of international visitors arriving in the UK through its terminals, and the economic footprint of trade enabled by the airport.

3.2. The core economic impact of Gatwick Airport

Direct impact

3.2.1 Gatwick's economic footprint can be quantified in terms of its contribution to economic output (as measured by GVA), the employment it supports, and the tax revenues it generates for the UK Government. The modelling for this study maps the complex and interwoven supply chains of the businesses that trade on the Gatwick campus. This allows the full contribution of its activities, including how they spread throughout the local, regional, and national economies to be quantified.

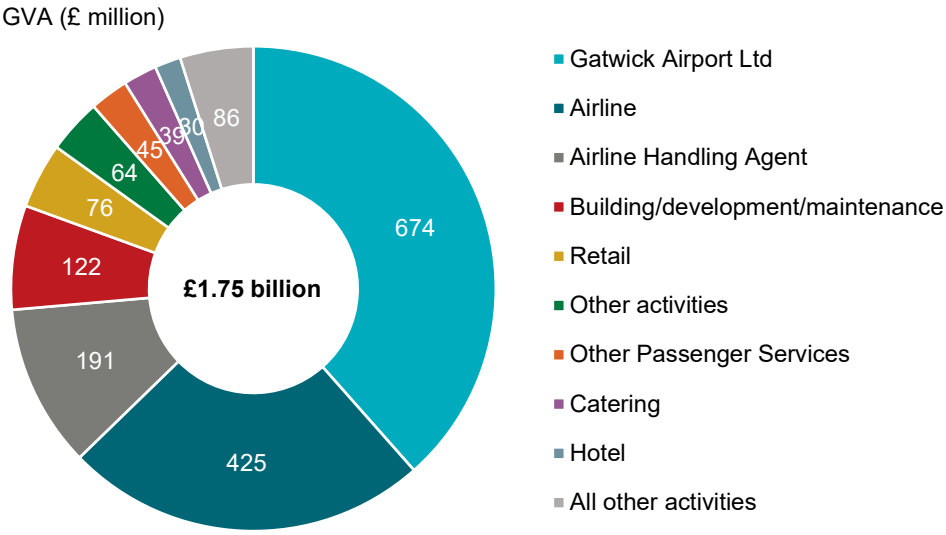
3.2.2 GAL's own activities lie at the heart of its impact on the economy. The Airport operator's reported turnover of £720 million in 2019, earned from sources such as airport charges to airlines, rents and commissions from catering and retail establishments on the site, car parking, and logistics fees. This turnover gave rise to around £473 million in gross profit.[6] While these are important financial indicators, they do not capture the entire contribution of GAL to the UK economy. One common way of appraising a company's contribution to the economy is through its gross value added (GVA) contribution to GDP. This is quantified as the sum of incomes that providers of labour and capital accrue as a result of GAL's activities.

[6] The gross profit measure noted here refers to earnings before interest, tax, depreciation, and amortisation (EBITDA).

3.2.3 On this measure, GAL's direct contribution to UK GDP reached £674 million in 2019. This sum is the combination of its gross profits (EBITDA), and the gross employment costs paid in the course of employing its 3,400 workers.[7]

3.2.4 Over and above GAL's own business, further economic activity is also undertaken by the other businesses located on the Gatwick Airport site. These businesses employed around 20,700 people during calendar year 2019, and in doing so contributed a great deal of output and value-added to the economy. These activities generated an additional direct GVA contribution of £1.08 billion, as illustrated in Figure 3.1. When taking account of these businesses as well as GAL itself, the Gatwick Airport site saw a direct GVA contribution of £1.75 billion during 2019.[8]

Figure 3.1: Direct GVA by type of activity, Gatwick Airport, 2019



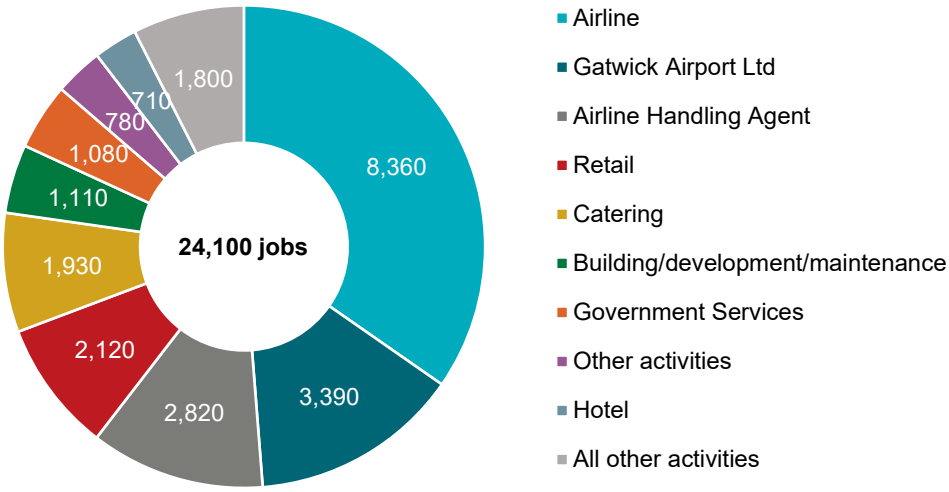
Source: GAL, Oxford Economics. Note: may not sum due to rounding.

3.2.5 Employment on the Gatwick Airport site totalled around 24,100 workers on a headcount basis during 2019.[9] Of these, by far the largest share was made up of airline employees, encompassing both ground-based staff as well as cabin crew, pilots, and engineers. GAL's share of employment is much lower than its share of the Airport's GVA contribution, reflecting the very capital intensive (and hence highly productive) nature of airport operations. Most of the employment comes from non-GAL activities; the full breakdown of employment by business type is set out in Figure 3.2.

[7] This includes all workers registered in GAL's payroll systems through 2019, including contractors alongside permanent employees.
[8] For details on how this estimate is generated, see the Annex A.
[9] Headcount basis means that all full- and part-time employees (and contractors) are counted as the employment of one person.

Figure 3.2: Direct employment by type of activity, Gatwick Airport, 2019

Workers



Source: GAL, Oxford Economics. Note: may not sum due to rounding.

3.2.6 This level of economic output at Gatwick Airport supported a large direct tax contribution. Considerable sums of labour taxes, in the form of income tax and National Insurance Contributions (NICs), are collected as a result of the tens of thousands of workers on the campus.[10] Moreover, the businesses trading at the Airport pay Corporation Tax on their profits, National Non-Domestic Rates (business rates) on their premises, and certain product taxes such as fuel duties, import taxes, Air Passenger Duty, Aggregates Levy, and others.[11]

3.2.7 The activities on the Gatwick campus directly generated £1.08 billion in taxes for the UK's public finances in 2019. The largest share of this contribution is an estimated £680 million raised through Air Passenger Duty (APD). In addition to APD, the Gatwick campus generated £228 million in labour taxes, around £50 million in corporation taxes, and a further £122 million in other taxes on products and production.

Indirect impact

3.2.8 To produce and provide the goods and services at the Airport, firms on the Gatwick campus purchased billions of pounds' worth of inputs. The Airport sits at the centre of a large and complex network of supply chains, stretching from the site throughout the Gatwick Diamond, Labour Market Area, Six Authorities, and further afield.

3.2.9 This assessment of the extent and distribution of these supply chains uses two main sources. First, GAL shared data with Oxford Economics detailing the sums it spent with its supplier businesses, along with the registered locations of these suppliers. In addition, estimates for the

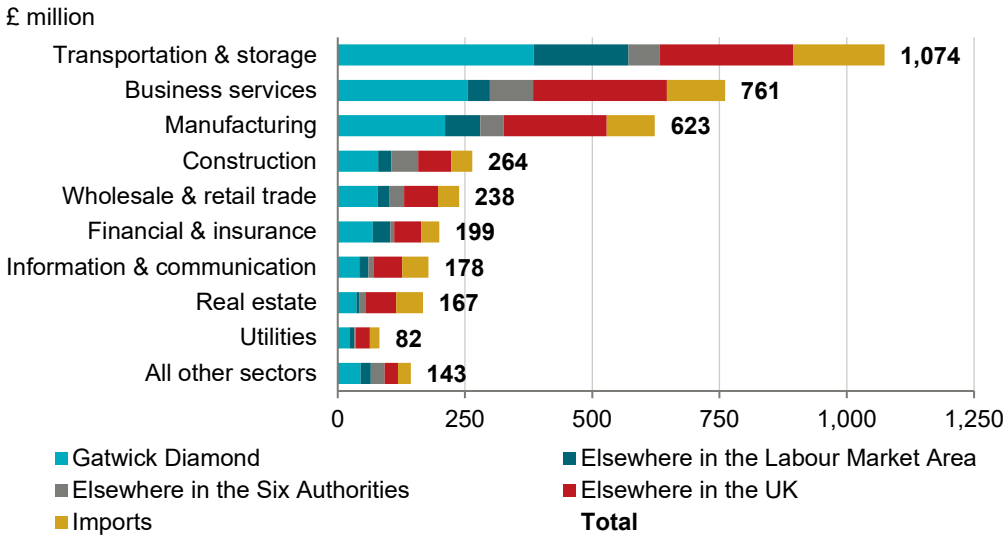
[10] Labour taxes are estimated using HMRC tax rates, and the distribution of salaries reported in Gatwick's Employer Survey 2016.
[11] These are quantified by applying average 'effective' tax rates experienced by businesses, to the estimated level of output they generate at the Gatwick site. These rates are applied on an industrial basis, disaggregated by 28 broad industry types at Gatwick Airport.

rest of the firms on the Gatwick campus draws on the UK's supply-use table to detail the locations and purchases of their supply chain spending, respectively.[12]

3.2.10 In total, £3.73 billion was spent on intermediate inputs by businesses operating at Gatwick Airport in 2019.[13] Approximately £1.23 billion flowed to firms based within the Gatwick Diamond, with a further £767 million flowing to suppliers based elsewhere in the Labour Market and Six Authorities areas. Additionally, suppliers in the rest of the UK provided another £1.08 billion worth of goods and services to the Airport. Finally, imports accounted for around £654 million of the total.

3.2.11 The transportation & storage sector was the largest beneficiary of procurement spending from Gatwick Airport, amounting to £1.07 billion, or over a quarter of all purchases made by firms operating across the Airport (Figure 3.3). This is followed by business services (£761 million) and manufacturing (£623 million).

Figure 3.3: Procurement spending of on-site firms by location and sector of supplier, Gatwick Airport, 2019



Source: GAL, Companies House, Oxford Economics. Note: may not sum due to rounding.

3.2.12 These purchases represent the first stage in Gatwick Airport's supply chain network, and the initial link to understanding its wider economic impact. The companies supplying goods to businesses at the Airport will make their own purchases, stimulating activity along the entire length of the Airport's UK-based supply chains. Using Oxford Economics' suite of local and regional input-output models enables an assessment of how the various rounds of supply chain spending impact the geographies in our study.

3.2.13 The supply chains stimulated by activity at Gatwick Airport contributed a further estimated £2.54 billion to UK GDP through 2019. This figure encompasses all UK supply chain activity linked to the procurement of businesses at the Airport.

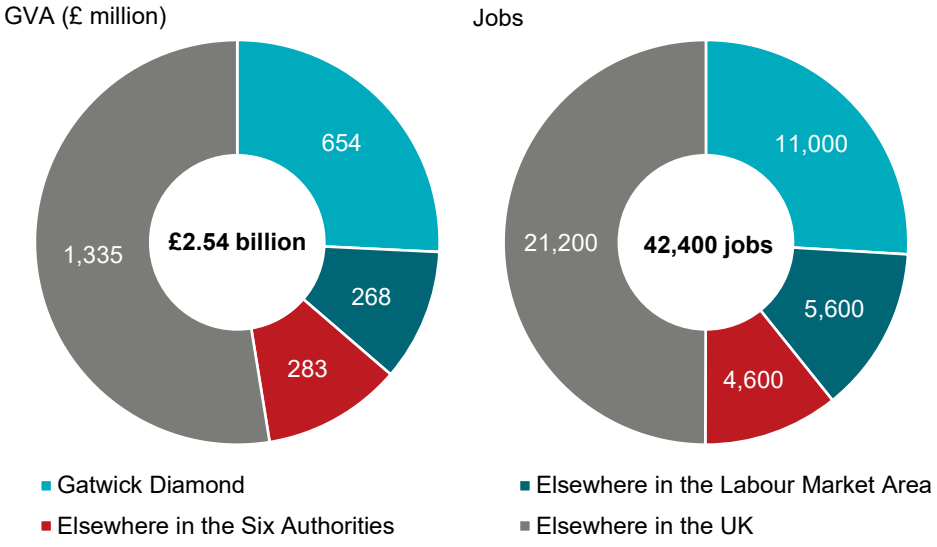
[12] The industrial breakdown of GAL's supply chain purchases was measured using Companies House information on the industrial codes of its supplier businesses. The equivalent breakdown of non-GAL supply chain purchases was estimated using the UK's supply-use tables.
[13] This sum excludes the money that firms on the Gatwick site spent with other firms on the campus. This is to avoid double-counting, as those revenues form part of the direct impact.

3.2.14 Around one-quarter of this indirect GDP contribution was estimated to fall within the Gatwick Diamond area. This value-added figure amounted to around £654 million in 2019, with around half of this contribution concentrated in the transportation & storage and business services sectors. A further £551 million was supported elsewhere within the wider Labour Market Area and Six Authorities.

3.2.15 In generating this degree of economic activity from its supply chains, GAL and the other businesses based on the Gatwick campus also support tens of thousands of jobs across the UK. Using average rates of labour productivity observed within the UK's regions and sectors, it is possible to quantify the supply chain employment that depends upon demand from Airport-located businesses.

3.2.16 Our modelling suggests that 42,400 jobs were supported across the length of the UK supply chains. This included 11,000 jobs within the Gatwick Diamond area, alongside a further 10,200 jobs elsewhere in the Labour Market Area and Six Authorities. Outside of these areas, a further 21,200 jobs were estimated to have been supported across the rest of UK. This distribution is illustrated in Figure 3.4.

Figure 3.4: Indirect GVA and employment by location, Gatwick Airport, 2019



Source: Oxford Economics. Note: may not sum due to rounding.

3.2.17 The output and employment supported along the Airport's supply chain network also give rise to a further tax impact. By purchasing supplies, employing workers, and accruing profits, Gatwick Airport's supply chains generated around £635 million in revenues for the Exchequer.

Induced impact

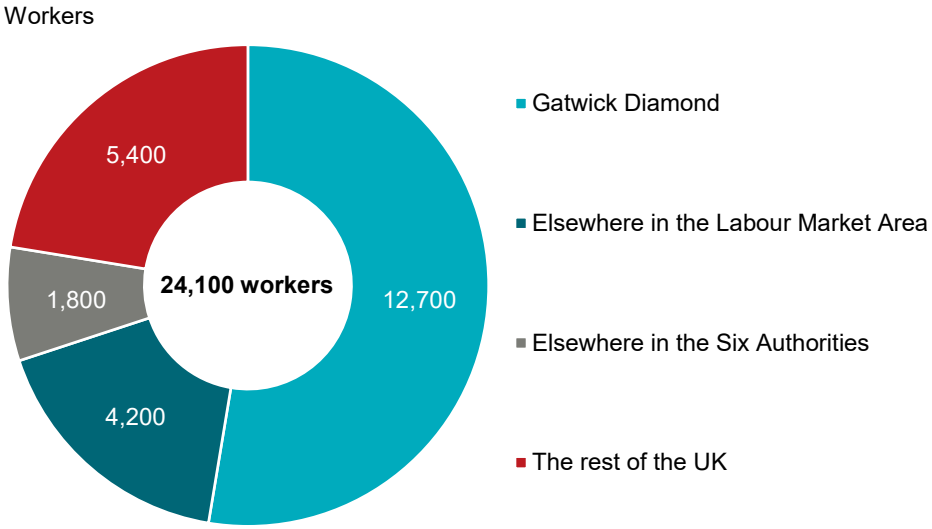
3.2.18 The direct and indirect activity linked to Gatwick Airport's operation sustains tens of thousands of jobs, and the spending of wages by those employed at the Airport (and in its supply chains) represents a further channel of economic impact. To understand the extent to which this impact is

felt within the local economies in our analysis, this assessment sourced data on where workers at Gatwick Airport live.[14]

3.2.19 Information extracted from GAL's ID passholder database details the anonymised locations of residence by postcodes of all those working at the Airport. This information provides an understanding of which local economies were stimulated through the wage-financed consumption of Gatwick Airport workers.

3.2.20 Figure 3.5 below presents the distribution of residence-based employment at the Airport in 2019. Without access to salary payments on the same basis, the induced impact assumes an equivalent distribution for the gross wages paid by the Airport businesses. Approximately 12,700 workers, or 53% of the total, reside in the Gatwick Diamond, with Crawley (6,700 workers) providing the most workers of any single local authority area. A further 6,000 workers (25%) live elsewhere in the Labour Market and Six Authorities areas. The remaining 5,400 workers (22%) live elsewhere in the UK.

Figure 3.5: Location of residence of workers, Gatwick Airport, 2019

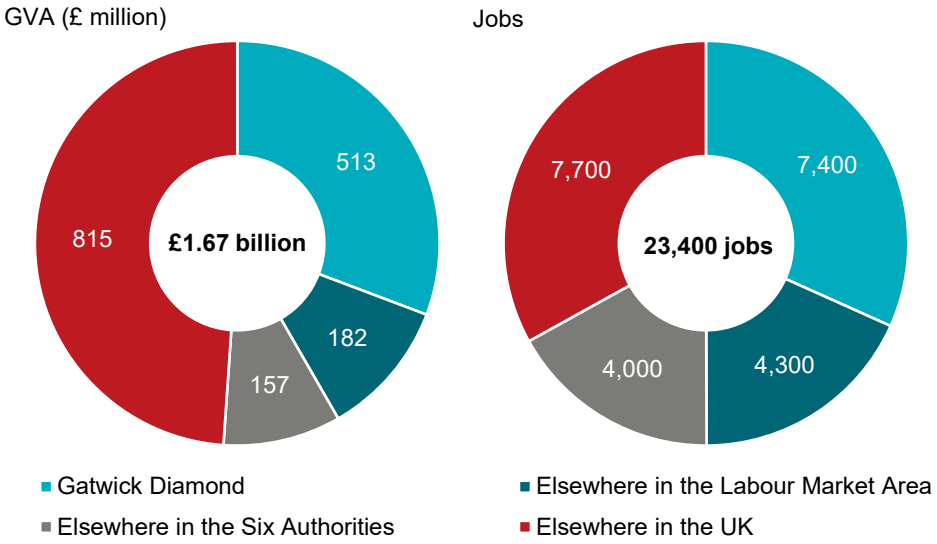


Source: GAL, Oxford Economics. Note: may not sum due to rounding.

3.2.21 Approximately £848 million in wages was paid out to those working at Gatwick Airport during calendar year 2019. These salary payments, as well as those along the Airport's supply chains, support a sizeable consumption impact in the local and national economy. Mapping these sums to the goods and services typically purchased by households enables an estimate of the Airport's induced impact on the economy. The assessment of this induced contribution to GDP and employment is illustrated in Figure 3.6.

[14] The implicit assumption here is that wage-financed consumption takes place in the region of a worker's residence. This is a simplistic assumption, as some degree of consumption spending from wages undoubtedly takes place at, for instance, local retail and leisure establishments close to the Airport. However, since the extent of this is subject to great uncertainty, for consistency's sake this calculation allocates spending according to residence.

Figure 3.6: Induced GVA and employment by location, Gatwick Airport, 2019



Source: Oxford Economics. Note: may not sum due to rounding.

3.2.22 In 2019, the Gatwick Diamond area saw a £513 million GVA contribution to GDP, and 7,400 jobs supported through the wage-financed consumption of Gatwick Airport workers, and those of its supplier firms located in the area. This amounts to just under a third of the entire induced impact. A further £339 million in GVA and 8,300 jobs are estimated to have been supported elsewhere in the Labour Market Area and Six Authorities. The remainder of the Airport's induced impact was distributed throughout the rest of the UK.

3.2.23 In supporting this consumption effect, the Airport is estimated to contribute a further £314 million in tax revenues to the UK Government.

The core economic impact of Gatwick Airport in 2019

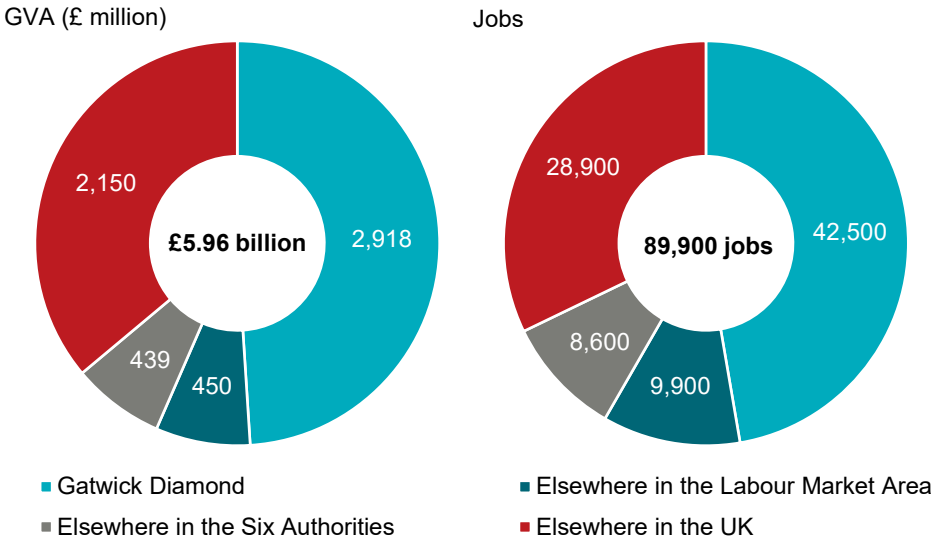
3.2.24 Combining the direct, indirect, and induced impacts provides the core economic contribution that Gatwick Airport makes to the local and UK economies. In 2019, Gatwick Airport contributed £5.96 billion in GVA contributions to UK GDP through the direct, indirect, and induced channels, and 89,900 jobs. The Airport's core economic footprint also generated £2.03 billion in tax revenues.

3.2.25 Gatwick Airport's core economic impact is concentrated across the study areas. The Airport supported £2.92 billion of GVA and 42,500 jobs across the Gatwick Diamond economy in 2019, through the operations at the Airport, supply chain activity among local suppliers, and the wage consumption of workers. This is equivalent to just under half of Gatwick's economic footprint across the UK. It also amounts to approximately 11% of total GVA generated by the Gatwick Diamond economy, and 9% of its entire workforce.

3.2.26 In total, Gatwick Airport also supported £3.37 billion of GVA and 52,400 jobs across the Labour Market Area, accounting for 6% of all GVA generated across the Labour Market Area, and 5% of all employment. Almost half of all economic activity that Gatwick contributes across the Labour Market Area is generated outside of the Airport, through supply chain and household wage consumption effects.

3.2.27 Gatwick Airport also supported £3.81 billion of GVA and 61,000 jobs across the Six Authorities, equivalent to 3% of GVA and jobs across this area. Around two-thirds of all GVA and employment supported across Gatwick's core economic footprint is retained in the Six Authorities.

Figure 3.7: Core economic impact by location, Gatwick Airport, 2019



Source: Oxford Economics. Note: may not sum due to rounding.

3.3. The catalytic economic impact of Gatwick Airport

3.3.1 The economic contribution Gatwick makes to the UK through its operations is substantial, but its impact on the country extends far beyond this. The catalytic impact of Gatwick Airport represents the wider benefits that the government, consumers, society, and other industries gain from the services the airport provides. This section looks at these so-called catalytic impacts. The Airport provides vital links that connect UK residents and firms to destinations and markets around the world, enabling business interaction, facilitating foreign investment, and encouraging tourism and trade. Together, these interlocking benefits reflect how the Airport catalyses activity in the UK economy, boosting productivity and ultimately increasing GDP.

3.3.2 This report considers three forms of catalytic impact:

- The long-term boost to UK productivity enabled by **connectivity** from Gatwick Airport;
- The boost to the UK economy of **tourism** from international visitors facilitated by Gatwick Airport; and
- The boost to the UK economy through import goods **trade** facilitated by Gatwick Airport.

Connectivity

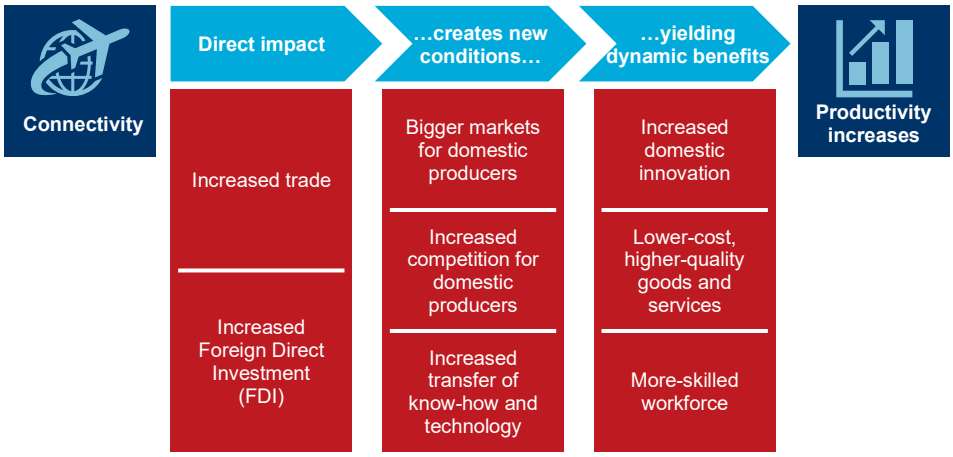
3.3.3 In addition to Gatwick's core economic footprint, the flights the Airport provides boosts the UK's long-term economic potential. When people fly, they meet business partners, attend conferences, gain qualifications, invest, and foster long-term connections. Generally, people exchange information and know-how when they travel, and this sharing boosts their productive potential.

3.3.4 Over the long run, these benefits combine to create new conditions within the UK. Producers can reach more customers in larger markets, and they benefit from increased knowledge and

technology sharing—whether directly from trading partners, or indirectly through viewing other products that are now available, or by the movement of skilled staff between companies. Firms are also forced to innovate as they are exposed to greater levels of competition. The ultimate outcome from the connectivity provided is an increase in productivity within the economy, which raises the UK's productive potential (see Figure 3.8).

3.3.5 There are many ways to measure the extent and importance of an aviation network, but the degree to which it connects a country with the rest of the world economy is among the most important. This concept of connectivity is quantified by measuring how easy it is for passengers to reach other economic centres from a particular airport, city, or country. This study measures Gatwick's connectivity with an Air Connectivity Index. This approach is based on a methodology developed by the World Bank (Arvis & Shepherd, The Air Connectivity Index: Measuring Integration in the Global Air Transport Network, 2011), for which further details are provided in the Annex A. The method is grounded in network analysis and gravity modelling that are frequently used in international trade studies.

Figure 3.8: How air connectivity increases productivity



3.3.6 The advantage of this approach is that it accounts for the hub-and-spoke nature of global air transport in a way that aggregating flights or seats data would not. This measure of connectivity is global and aims to capture relationships between all network nodes even when there is no direct flight connection between them. Further, using GDP as one of the factors in the model accounts for changes in connectivity due to changes in the economic strength of the origin or destination.

3.3.7 Within our Air Connectivity Index, countries score highly when they are connected to other highly connected or economically larger countries. However, other countries with the same number of flights but to less-connected or economically smaller countries will record lower scores. This means, for example, a flight from Gatwick to a hub like Frankfurt will add more to connectivity than a flight to a smaller, less well-connected airport in a smaller economy.

3.3.8 There are short-run and long-run impacts on labour productivity as a result of changes in connectivity. This study conducts a novel econometric modelling exercise to investigate how each country's air connectivity index interacts with its labour productivity, controlling for other factors such as each country's level of openness, corruption, investment, and educational attainment. It finds that a one standard deviation increase in air connectivity is associated with a 0.9% increase in labour productivity in the short run and an approximate 11% increase in the long run.

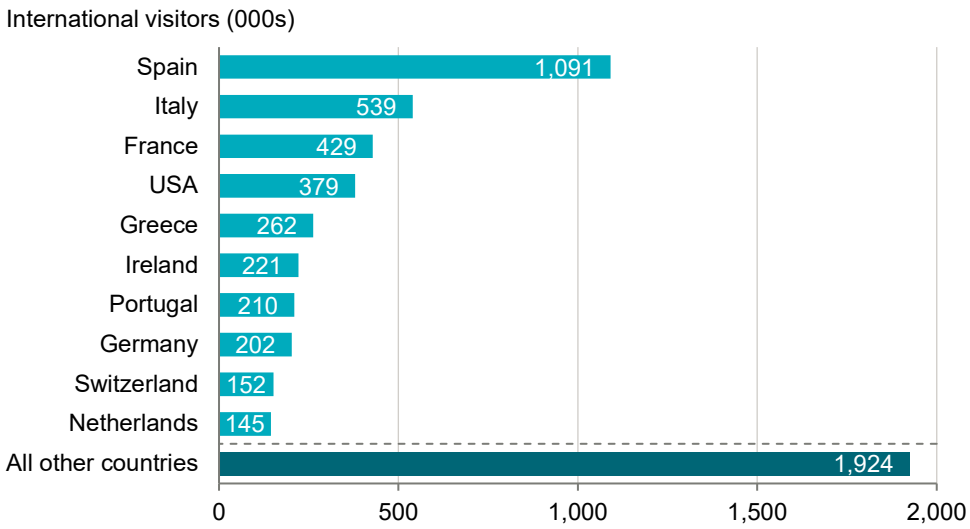
3.3.9 Based on this relationship, this study estimates that the level of connectivity provided by Gatwick Airport in 2019 will boost the UK's long term productivity by 0.82%.

Tourism

3.3.10 While connectivity benefits are estimated using conceptual models of the economy, the impact of spending by international visitors arriving in the UK at Gatwick is one aspect of the Airport's catalytic impact that can be more directly measured. By handling millions of passengers each year Gatwick plays an enabling role for the UK tourism sector, providing it with consumers, and facilitating export earnings as overseas visitors spend their money in the UK.[15]

3.3.11 GAL estimates approximately 5.6 million international inbound passengers arrived on flights to Gatwick Airport in 2019. An analysis which draws from data on passenger origins on routes served by Gatwick indicates that ten countries accounted for almost two-thirds of these visitors.[16] Approximately one fifth are estimated to come from Spain, with a further 10% originating in Italy. European countries form nine of the top-10 origin countries, with the USA the only exception (see Figure 3.9Figure 3.9: Origin of international visitor arrivals, Gatwick Airport, 2019).

Figure 3.9: Origin of international visitor arrivals, Gatwick Airport, 2019



Source: GAL, OAG, Oxford Economics. Note: may not sum due to rounding.

3.3.12 These international tourists contribute billions of pounds' worth of spending to the UK economy. And this spending also has a subsequent, wider economic impact, as further GDP and additional jobs are sustained in the tourism sector's supply chains. Gatwick Airport makes a valuable contribution to the UK's tourism sector by facilitating the economic footprint of these visitors. Mapping the spending of these visitors to the products and services that inbound tourists to the

[15] Our analysis of the tourism impact facilitated by Gatwick Airport considers only inbound visitors to the UK. However, it is noted that a sizeable degree of spending is associated with outbound tourism in the UK. A recent ABTA estimate suggests that outbound tourism contributes £49 billion to UK GDP. ABTA, [redacted]", 2019, accessed 2023.

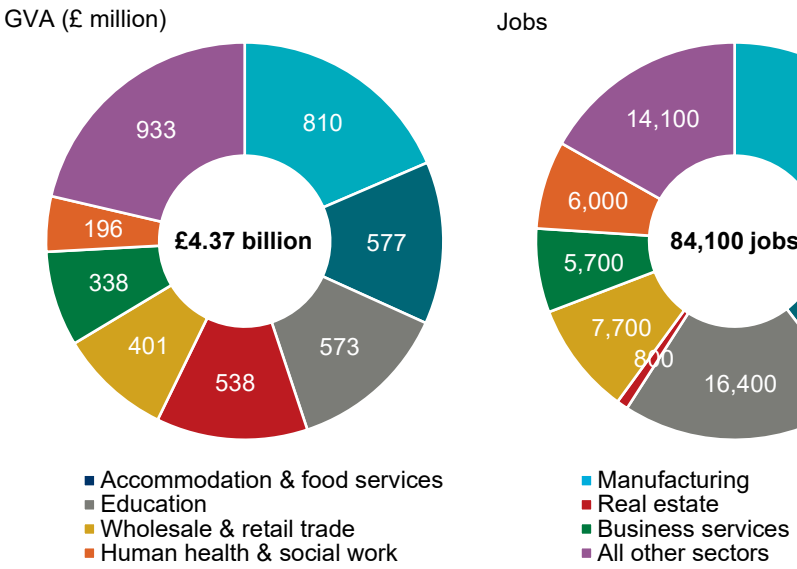
[16] GAL provided data on international inbound arrivals by aggregates, then OAG country level data ("[redacted] 2023, accessed 2023) on passenger origins was applied to the GAL data. OAG data measures passenger arrivals by origin airport, but also disaggregate the countries in which these tickets are purchased. This point-of-sale nation (which is not necessarily the country of the departure port) is assumed to reflect the usual place of residence–and spending tendencies–of the arriving traveller. Please see Annex A for comparison of methodologies used to estimate international inbound arrivals in previous Oxford Economics' reports for Gatwick.

UK typically purchase allows an estimate of the associated indirect and induced impact, through tracing the associated spend through Oxford Economics' input-output models.[17]

3.3.13 Gatwick-facilitated tourism contributed an estimated £4.37 billion to UK GDP in 2019. This is made up of a £1.96 billion direct impact, within businesses that received tourists' expenditure, such as hotels, restaurants, retail outlets, and cultural venues. A further £1.05 billion contribution emerged across the tourism supply chain, with £1.36 billion resulting from wage-financed consumption of workers in the tourism and related sectors.[18]

3.3.14 In addition, 84,100 jobs are estimated to be supported by inbound tourists passing through Gatwick Airport. Over half (56%) of these jobs are estimated to be direct employment within tourism businesses, reflecting the relatively labour-intensive nature of tourism employment. But through the indirect and induced channels this employment and GDP contribution is spread across a very broad range of industries, as illustrated by Figure 3.10.

Figure 3.10: The economic contribution of Gatwick-facilitated tourism by sector, Gatwick Airport, 2019



Source: Oxford Economics. Note: may not sum due to rounding.

Trade

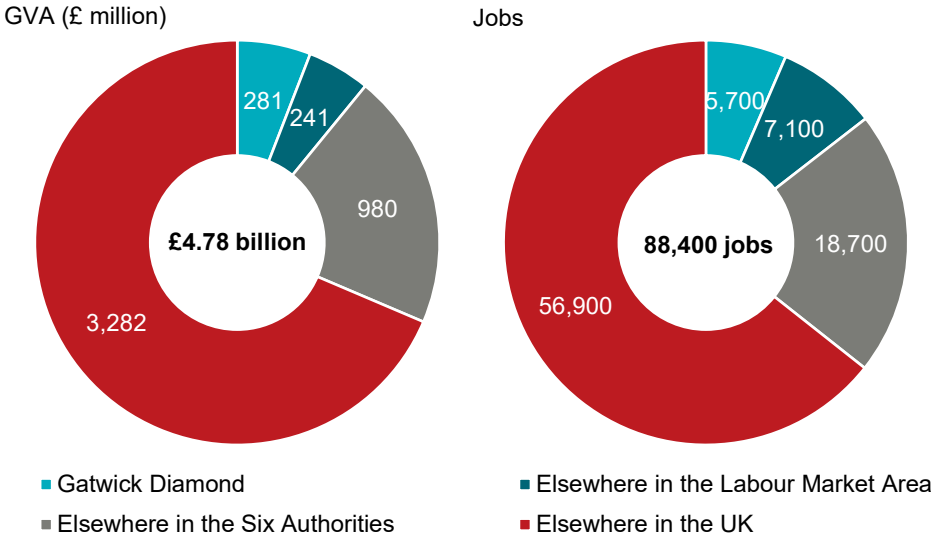
3.3.15 Flights to Gatwick Airport brought 75,000 tonnes of imports into the UK in 2019, with an estimated combined worth of £7.49 billion. These imports arrived at the UK in the belly holds of passenger flights arriving at the Airport. Once these imports arrive at Gatwick, a logistics effort begins which brings the imports to the final consumer. The goods imported via Gatwick facilitate economic activity across a broad network of wholesalers, distributors, and logistics providers. These firms

[17] Tourism spending breakdowns were estimated using various ONS sources, including the UK's Tourism Satellite Accounts (TSAs) and the UK supply-use tables.
[18] The scope of this study is to consider tourism impacts across the national economy. However, Oxford Economics previously estimated that approximately a sixth of the economic impact of Gatwick-facilitated tourism on the UK economy was retained in the Gatwick Diamond economy, while around three-quarters of activity occurred across London and the South East. Oxford Economics, "[redacted]", 2018, accessed 2023.

generate their own GDP and employment contributions, stimulating their own supply chains and multiplier effects.

3.3.16 The imports which passed through Gatwick Airport in 2019 facilitated a £4.78 billion contribution to UK GDP, along with 88,400 jobs, when including multiplier effects (Figure 3.11).[19] Around 31.4% of this impact is realised in the Six Authorities, including £281 million of GVA and 5,700 jobs in the Gatwick Diamond, underlining the contributions to the local economy that are made by the shipments of imported goods through the Airport.

Figure 3.11: The economic contribution of Gatwick-facilitated imports, UK, 2019



Source: Oxford Economics. Note: may not sum due to rounding.

3.3.17 Exports enabled by the aviation sector play a crucial role in contributing to the trade catalytic benefits, too. Exporting goods allows companies to diversify their customer base and reduce their reliance on domestic sales by expanding beyond their domestic market and into the global market. This, in turn, can lead to increased competitiveness and innovation, as firms strive to improve their products to meet the needs of overseas customers. The increased trade flows resulting from exports can also lead to improvements in infrastructure and logistics, which can benefit a range of industries and support economic growth.

3.4. Summary

3.3.18 **Gatwick Airport's core economic footprint creates a sizeable contribution to the UK economy.** In 2019, the combination of the Airport's direct activities, its supply chain, and activity stimulated through household consumption, contributed **£5.96 billion** to UK GDP and almost **90,000 jobs**, in addition to £2.03 billion in tax revenues. Gatwick's contribution is concentrated among the local economy within which it operates: just under half of the economic impact—£2.92 billion of GVA and 42,500 jobs—are in the Gatwick Diamond. Across the Six Authorities, an additional £890 million of GVA and 18,500 jobs are generated.

[19] The spatial distribution of this activity assumes that it is delivered by distributors and logistics providers in London and the South East region. The 'direct' impact is allocated to the Gatwick Diamond, Labour Market Area, and Six Authorities, in line with the relative size and degree of sectoral specialisation across these subnational economies.

3.3.19 **The economic benefits of Gatwick Airport to the UK economy extend beyond this core impact.** The Airport also facilitates a range of catalytic impacts across the UK economy. The connectivity offered by Gatwick boosts the UK's long-term economic potential. Gatwick's air connectivity in 2019 is estimated to have boosted the UK's long-term productivity by 0.82%.

3.3.20 Gatwick also facilitates economic activity across the UK through facilitating international visitors and importing goods to the UK. The 5.6 million international visitors to the UK through Gatwick Airport generated a £4.37 billion GVA contribution to UK GDP and 84,100 jobs in 2019. Trade facilitated through the import of goods at Gatwick Airport added an estimated £4.78 billion of GVA and 88,400 jobs across the UK.

3.5. Glossary of terms

Table 3-1: Glossary of Terms

Term	Description
Compensation of employees	Gross wages of employees in employment (excluding the self-employed), including the value of employees' and employers' social contributions
Gross operating surplus	Profits, defined as earnings before interest, taxes, depreciation, and amortisation (EBITDA).

4 The economic impact of the Northern Runway Project

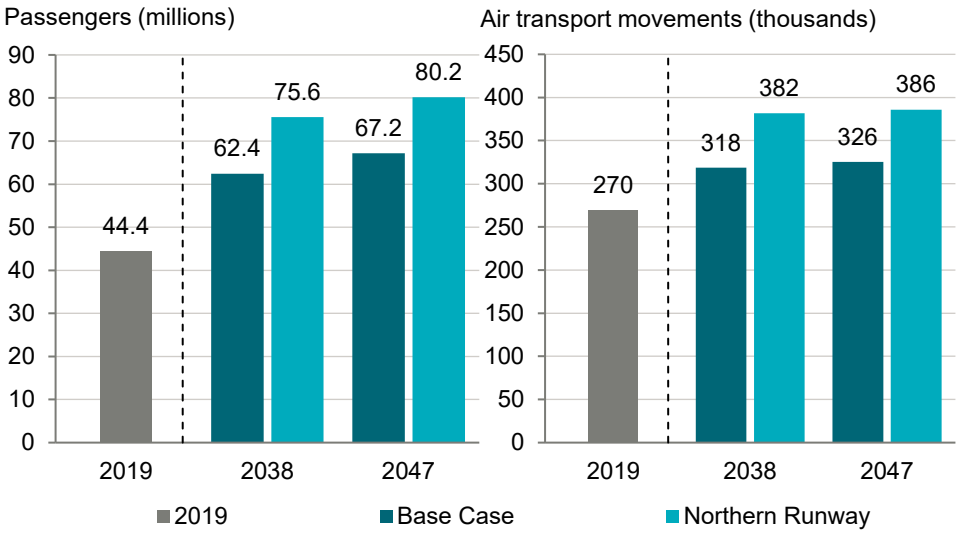
4.1. Introduction

4.1.1 This chapter focuses on the future economic contribution that Gatwick Airport can make to the UK economy.

4.1.2 To do so, it considers two scenarios. The first assumes that the airport's existing Northern Runway, which is currently restricted to use as a standby/emergency runway, is brought into routine operation alongside continued use of the main runway, thereby enabling dual runway operations. This would bring new connections and allow the Airport to grow. This report also considers a Base Case scenario, which assumes continuation of Gatwick's current single runway operations as prescribed by GAL (Gatwick Airport Limited, "Our future plans", 2023).[20]

4.1.3 By bringing the Northern Runway into routine use, Gatwick could expand its capacity to 75.6 million passengers in 2038, and 80.2 million passengers in 2047. By contrast, the Base Case without this project would lead to 67.2 million passengers by 2047, 13 million fewer than with the Northern Runway (Figure 4.1).

Figure 4.1: Passengers and Air Transport Movements, Northern Runway and Base Case, Gatwick Airport, 2019 to 2047



Source: GAL

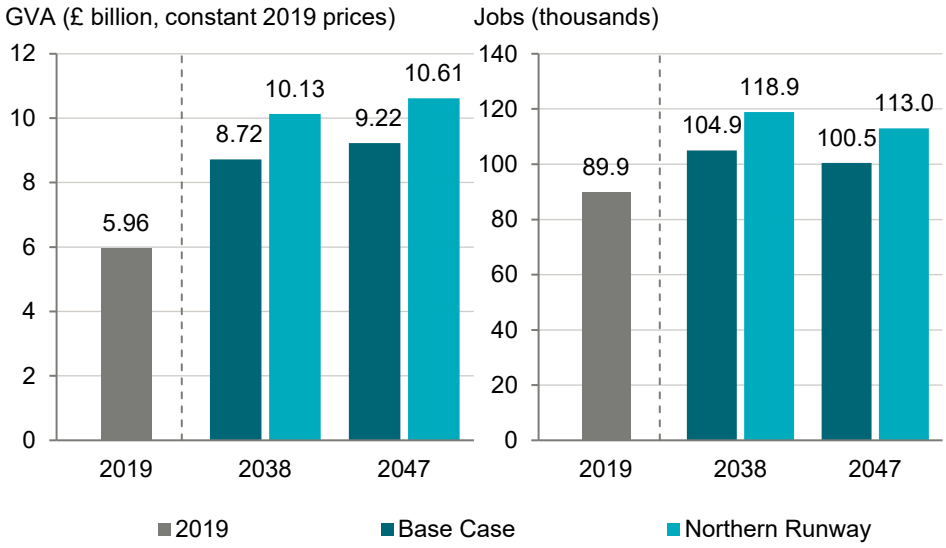
4.2. The future economic impact of Gatwick Airport

4.2.1 An expansion in activity at the Airport would lead to an increase in its core economic contribution to the local and UK economies. Drawing on forecasts for direct employment at the Airport provided by ICF and expanding turnover across both GAL and businesses operating at the Airport in line with the growth in passengers and air transport movements, allows an estimate of the economic contribution of the Airport into the future.

[20] The key metrics for both scenarios, in terms of passengers, air transport movements, and on-airport (direct) employment, have been provided to Oxford Economics by Gatwick Airport Limited. Both scenarios assume that a third runway at Heathrow Airport is not developed.

4.2.2 The Northern Runway project would also boost the Airport's contribution to UK GDP. The Airport's core economic footprint would increase to an estimated £10.13 billion in 2038, and £10.61 billion in 2047 (Figure 4.2). This equates to a 78% increase on the Airport's core economic contribution in 2019 (£5.96 billion), In 2047 this is estimated at £1.39 billion or 15% higher than the Base Case scenario (£9.22 billion).

Figure 4.2: Core economic impact, Northern Runway and Base Case, UK, 2019 to 2047



Source: Oxford Economics

4.2.3 Gatwick's expansion plans would also result in an increase in the number of jobs supported across the UK workforce. An expansion in both the direct workforce, and across the wider economy through business and household spending stimulated by the Airport's activity, would lead to an increase in employment. At a national level, the Northern Runway project would enable employment across the core economic footprint to increase to 118,900 jobs in 2038, 14,000 more than in the Base Case (104,900 jobs in 2038).

4.2.4 However, while increasing passenger numbers and air transport movements will see the Airport continue to grow in GVA terms, this would be more than offset by increases in labour productivity—the average output produced per worker, measured in GVA terms. Labour productivity growth is reflected in both the estimates of direct employment provided by GAL and Oxford Economics' economic impact models. As firms across the economy become more efficient over time, they require fewer employees to produce each unit of output.

4.2.5 As a consequence, employment across Gatwick's core economic footprint would fall slightly after 2038 in both scenarios. In 2047, the core economic footprint of the Airport under the Northern Runway scenario would support 113,000 jobs across the UK, 12,500 more than in the Base Case (100,500 jobs in 2047).

4.2.6 An increase in the number of passengers and air transport movements facilitated by Gatwick Airport in the future would increase the direct, indirect, and induced contribution to the study area economies.

4.2.7 Overall, the subnational areas would tend to benefit from a slight increase in the share of UK activity, relative to 2019. The Gatwick Diamond would account for half of all employment supported by the Airport in 2047 under both scenarios. In 2047, the Airport would generate £5.22 billion of GVA across the Gatwick Diamond in the Northern Runway scenario, with employment peaking at 57,000 jobs in 2038, approximately £750 million and 6,200 more jobs than in the equivalent contribution in the Base Case scenario, respectively.

4.2.8 Activity associated with the Airport would also grow faster than the overall study area economies, according to our baseline forecast. For instance, Gatwick's core economic footprint would increase to 15% of total GVA generated across the Gatwick Diamond in 2038 in the Northern Runway scenario, and 12% of employment. This compares favourably to 11% of GVA and 9% of employment in 2019, and indicates that Gatwick's expansion plans can make a positive contribution to growth across the local economy.

Table 4-1 GVA impact by location and channel, Northern Runway and Base Case, Gatwick Airport, UK, 2019 to 2047

		Base Case		Northern Runway (Difference to the Base Case)	
	2019	2038	2047	2038	2047
Direct GVA (£ million, constant 2019 prices)					
Gatwick Diamond	1,752	2,453	2,636	2,969 (+516)	3,146 (+509)
Labour Market Area	1,752	2,453	2,636	2,969 (+516)	3,146 (+509)
Six Authorities Area	1,752	2,453	2,636	2,969 (+516)	3,146 (+509)
UK	**1,752**	**2,453**	**2,636**	**2,969 (+516)**	**3,146 (+509)**
Indirect GVA (£ million, constant 2019 prices)					
Gatwick Diamond	654	990	1,035	1,114 (+124)	1,157 (+122)
Labour Market Area	922	1,397	1,460	1,570 (+173)	1,631 (+171)
Six Authorities Area	1,205	1,821	1,905	2,052 (+230)	2,132 (+227)
UK	**2,540**	**3,823**	**4,004**	**4,324 (+501)**	**4,499 (+495)**
Induced GVA (£ million, constant 2019 prices)					
Gatwick Diamond	513	704	794	816 (+112)	913 (+118)
Labour Market Area	695	923	1,077	1,070 (+147)	1,238 (+161)
Six Authorities Area	852	1,025	1,320	1,188 (+164)	1,517 (+197)
UK	**1,667**	**2,444**	**2,584**	**2,834 (+390)**	**2,969 (+385)**

Source: Oxford Economics. Note that values may not sum due to rounding, and that the geographies included in the table are not mutually exclusive, and the columns will therefore not sum to the UK total.

4.3. The future catalytic economic impact of Gatwick Airport

Connectivity

4.3.1 In addition to the core footprints, the forecast changes to the scale of aviation activity at Gatwick and across the aviation network will result in changes in the connectivity the sector provides the

UK. Consequently, the benefits that the UK enjoys from this network—through boosts to long-term productivity—would also evolve.

4.3.2 Gatwick Airport's plans indicate an increase in connectivity compared to 2019 levels. The Northern Runway Project would contribute to the UK aviation network, delivering connectivity benefits that will result in an estimated long-term productivity boost of 0.88% to UK GDP in 2038. However, the long-term connectivity benefit would fall slightly, to 0.80% in 2047, as a reflection of the UK's declining future share of global connectivity, which more than offsets the increase in passenger numbers at the Airport in this scenario. In the Base Case, the long-term productivity boost would fall to 0.73% in 2038 and 0.67% in 2047.

Table 4-2: Connectivity boost to long-term productivity, Northern Runway and Base Case, UK, 2019 to 2047

Year	Connectivity boost to long-term productivity (%)
2019	0.82%
Northern Runway Scenario	
2038	0.88%
2047	0.80%
Base Case Scenario	
2038	0.73%
2047	0.67%

Source: Oxford Economics.

Tourism

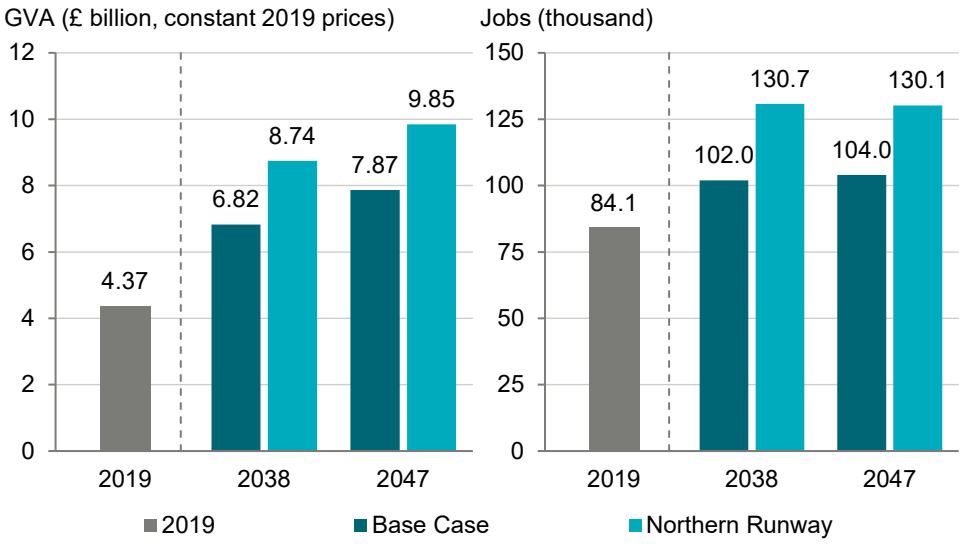
4.3.3 Growing capacity at Gatwick Airport will increase the economic contribution of Gatwick-facilitated tourists to the UK economy. Drawing on forecasts of passenger numbers by origin and destination indicates that international arrivals could increase to 9.0 million in 2038 and 9.6 million in 2047—a more than 70% increase on international visitors in 2019. Fewer passengers in the Base Case scenario would lead to a lower inflow of international visitors, which increase to 7.4 million in 2038 and 8.0 million in 2047, approximately 43% higher than 2019.

4.3.4 Combining the international arrivals with forecasts for average visitor spend by origin country, provided by Tourism Economics, Oxford Economics' sister company, allows an estimate of the economic contribution that Gatwick-facilitated tourism could make to the UK economy.

4.3.5 The Northern Runway project would lead to a substantial increase in the economic contribution of Gatwick-facilitated tourism to the UK economy. With the Northern Runway project, Gatwick-facilitated tourism could contribute £8.74 billion to UK GDP in 2038, and £9.85 billion in 2047—equivalent to £1.92 billion and £1.98 billion higher than the Base Case, respectively.

4.3.6 Gatwick-facilitated tourism would see an increase in employment. With the Northern Runway project, employment would increase to 130,700 jobs in 2038—28,700 more jobs than in the Base Case scenario (102,000 jobs). However, as a consequence of improving labour productivity, employment with the Northern Runway project would fall slightly to 130,100 jobs in 2047, 26,100 more jobs than in the Base Case (104,000 jobs).

Figure 4.3 The economic contribution of Gatwick-facilitated tourism, Northern Runway and Base Case, UK, 2019 to 2047

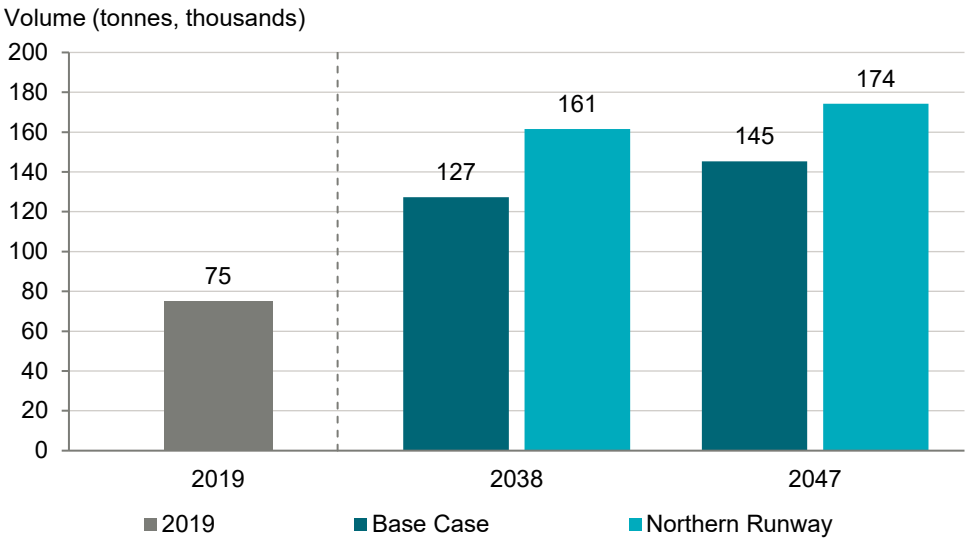


Source: Oxford Economics

Trade

4.3.7 The volume of imports arriving at Gatwick Airport is forecast to increase. According to estimates provided to Oxford Economics, the expansion of capacity arising from additional air transport movements owing to the Northern Runway project would see the volume of imports increase over time. The volume of imported goods would increase to 161,500 tonnes in 2038 and 174,200 tonnes in 2047. This is around 27% higher than the equivalent 2038 import volume in the Base Case and 20% higher than the Base Case in 2047 (127,200 tonnes in 2038 and 145,200 tonnes in 2047).

Figure 4.4: Volume of imports, Northern Runway and Base Case, UK, 2019 to 2047

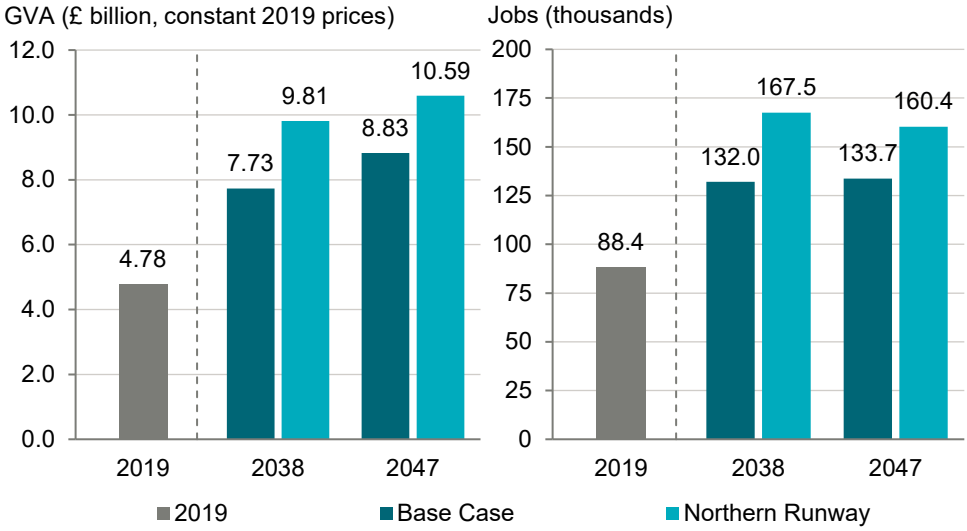


Source: GAL, Oxford Economics

4.3.8 An increase in the volume of trade will lead to an increase in the economic activity facilitated by imports across the UK.[21] With the Northern Runway project, the GVA contribution facilitated by imports would increase to £9.81 billion in 2038, more than twice the value in 2019, and £2.08 billion higher than in the Base Case (£7.73 billion). The contribution of Gatwick-facilitated trade would continue to increase in line with trade volumes and values to £10.59 billion in 2047, £1.76 billion higher than in the Base Case (£8.83 billion in 2047).[22]

4.3.9 An increase in the volume of imports will also see a rise in trade-facilitated employment across the UK. With the Northern Runway project employment would increase to 167,500 jobs in 2038, 35,500 more jobs than in the Base Case (132,000 jobs). However, increasing trade volumes and values would be more than offset by increasing labour productivity in the Northern Runway case, leading to a slight fall in employment after 2038 to 160,400 jobs in 2047. Increasing trade volumes and values will lead to a slight increase in employment in the Base Case, to 133,700 jobs in 2047, although it would support 26,700 fewer jobs than would be the case with the Northern Runway.

Figure 4.5: The economic contribution of Gatwick-facilitated trade, Northern Runway and Base Case, UK, 2019 to 2047



Source: Oxford Economics

4.4. Summary

4.4.1 The Northern Runway project has the potential to substantially increase the economic contribution that Gatwick Airport makes to the UK economy. Through expanding capacity at the Airport, the Northern Runway project would lead to an increase in economic activity across the Gatwick Diamond, the Labour Market Area, the Six Authorities, and the UK.

4.4.2 The increasing scale of direct activity at the Airport would increase Gatwick's core economic footprint across the UK and local economies. With the Northern Runway project, Gatwick Airport

[21] This calculation assumes that the value of imports per tonne remains constant in real terms. See the Annex A for further detail on our approach.
[22] The spatial composition of trade-facilitated activity will be broadly unchanged from 2019. In 2047, trade--facilitated activity would support £627 million of GVA and 10,300 jobs across the Gatwick Diamond with the Northern Runway project. See the Annex A for a further breakdown of these results.

would support £5.22 billion in 2047 across the Gatwick Diamond area's economy; 17% higher than in the Base Case (£4.47 billion). Across the Six Authorities, the project would contribute £6.79 billion to GVA, 18% higher than in the Base Case (£5.87 billion).

4.4.3 The project would add £10.61 billion of GVA to the UK through the core channels of impact in 2047. These effects are more than three-quarters greater than the core impact in 2019, and 15% higher than the equivalent contribution in the Base Case (£9.22 billion). Employment would increase to 118,900 jobs in the Northern Runway in 2038, and 104,900 jobs in the Base Case, before falling slightly thereafter, as expanding activity at the Airport is more than offset by productivity improvements across the economy.

4.4.4 In addition to the core economic footprint, Gatwick's Northern Runway project will improve Gatwick's connectivity. The Northern Runway project would see the long-run productivity boost increase to 0.88% of UK GDP in 2038, before falling to 0.80% in 2047, reflecting the UK's declining future share of global connectivity. By contrast, the Base Case would see the long-term productivity boost fall from 0.82% in 2019 to 0.73% in 2038 and 0.67% in 2047.

4.4.5 Boosting international visitors would increase the tourism impact facilitated by Gatwick Airport into the future. In the Northern Runway project scenario, international visitors to the UK via Gatwick would increase from 5.6 million in 2019 to an estimated 9.6 million in 2047. The increased spending of these international visitors would generate £9.85 billion of GVA and 130,100 jobs in 2047. Fewer international visitors in the Base Case would facilitate a lesser economic impact, of £7.87 billion of GVA and 104,000 jobs in 2047.

4.4.6 Expanding air transport movements will boost import volumes, increasing the trade-facilitated impact on the UK economy. With the Northern Runway project, imports would increase to more than double their 2019 volume by 2047, to 174,200 tonnes. Facilitating these imports would generate £10.59 billion of GVA and 160,400 jobs in 2047, around 20% higher than the equivalent activity facilitated in the Base Case.

5 Conclusion

5.1.1 This report has assessed the economic contribution made by Gatwick Airport in 2019, as well as how Gatwick Airport's economic impact may develop through 2038 and 2047, both with and without the Northern Runway project.

5.1.2 Gatwick Airport's core economic footprint creates a sizeable contribution to neighbouring local economies, as well as to the wider UK economy. In 2019, the combination of the Airport's direct activities, its supply chain, and activity stimulated through household consumption, contributed £5.96 billion to UK GDP. Under half of the economic impact—£2.92 billion of GVA and 42,500 jobs—were in the Gatwick Diamond area, with the rest distributed across the country. Across the Six Authorities, an additional £890 million of GVA and 18,500 jobs are generated. The report finds that the airport also stimulates a range of catalytic impacts: owing to the connectivity offered by Gatwick, the UK's long-term economic potential and productivity are boosted.

5.1.3 Due to expanded capacity, the Northern Runway project has the potential to substantially increase the economic contribution that Gatwick Airport makes to the UK economy. With the project, the contribution of Gatwick Airport to the UK would be £10.61 billion of GVA through the core channels of impact in 2047. These effects are more than three-quarters greater than the core impact in 2019, and 15% higher than the equivalent contribution in the Base Case (£9.22 billion). The Northern Runway project would also boost productivity, increase the tourism impact facilitated by Gatwick Airport, and raise import volumes. The increased spending of these international visitors would generate £9.85 billion of GVA with the project; by contrast, fewer international visitors in the Base Case would facilitate a lesser economic impact, of £7.87 billion of GVA. Meanwhile, in the Northern Runway scenario, imports would increase to more than double their 2019 volume by 2047, around 20% higher than the equivalent activity facilitated in the Base Case scenario.

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A Annex A

A.1. Method

Core impact: Direct

A.1.1 To assess the direct economic impact of Gatwick Airport, this study utilises separate methods for both Gatwick Airport Limited (GAL) and non-GAL businesses.

A.1.2 For GAL, the estimate of GVA is the sum of its gross profit (EBITDA) and gross staff costs. This is a standard method consistent with the principles of national accounting according to the UN (United Nations Department of Economics and Social Affairs, "Links between Business Accounting and National Accounting", 2000). Direct employment at the Airport is provided by passholder data for the airport, which provided information on both the employer and location of employee residence.

A.1.3 For the non-GAL businesses, the starting point for estimating GVA was to draw on an Oxford Economics study (Oxford Economics, "The economic impact of Gatwick Airport", 2017), which in turn drew on data provided by the Gatwick Employer and Travel to Work Survey 2016 (hereinafter "Gatwick Employer Survey"). The 2016 study calculated the economic contribution of each non-GAL business through translating the gross salary payments for Gatwick-related staff into a direct GVA impact. Deducting GAL headcount from the Airport passholder data allows us to infer the non-GAL workforce in 2019.

A.1.4 However, in the absence of a revised Employer Survey, or other source of data on the types of activities present at the Airport, this study draws on employment estimates for future direct employment at the Airport, which provide an indicator of the main driver of employment by type of role, and an elasticity to reflect the sensitivity of employment to changes in these drivers.[23] Drawing on both the change in activity at the Airport since 2016 and employment elasticities, the study infers the likely mix of non-GAL employment by business type.[24] Drawing on Oxford Economics' estimates of nominal productivity growth in the period 2016 to 2019 for representative sectors allows an estimate of direct GVA.

Core impact: Indirect

A.1.5 The first stage of the indirect impact calculation involved obtaining detailed information from GAL regarding the registered names and locations of their suppliers, and the sums spent with them. This was converted into an industrial breakdown, using Companies House data detailing the registered Standard Industrial Classification (SIC 2007) code of the relevant businesses. This

[23] For instance, an elasticity of 1 suggests that a 1% increase in the main driver will lead to a 1% increase in employment.
[24] Data on the direct economic contribution of non-GAL firms from the Gatwick Employer Survey considers business types, rather than job types. To estimate the direct impact in 2019, business types are mapped to representative job types. For instance, airlines are assumed to be reflective of the change in employment of air cabin crew.

was done in order to put the procurement data into a form consistent with Oxford Economics' input-output (I-O) models.

A.1.6 For non-GAL businesses, this study draws on the results of the Gatwick Employer Survey, which provides more detailed information on the characteristics of firms operating at the Airport than could be inferred from using representative industry averages. As insufficient data is available to map activity in 2019 to specific businesses, it is assumed that the change in the amount of goods and services procured ("intermediate consumption") by business type is in proportion to the change in GVA between 2016 and 2019. This study also considers the location of spending: although the study area differs from the 2017 study, the economic impact framework draws on the characteristics of local economies—in terms of their relative size and the degree of specialisation by sector—to allocate non-GAL intermediate consumption across subnational geographies.

A.1.7 To estimate the indirect impact of Gatwick Airport, this study draws on two input-output models. An input-output model is a detailed representation of an economy, that shows the major interactions and spending flows between different industries, households, government, and the external sector. In essence an input-output model is a table which shows who buys what, and from whom, in the economy.

A.1.8 It is important to capture the full range of transactions that might happen both within the UK and outside of the UK (some of which may feed back into the UK economy). For example, a goods manufacturer in the UK may use components sourced from Germany, that in turn may draw on goods and services provided by UK firms. Demand for the UK manufacturer's output supports an economic footprint that flows into Germany, and back into the UK. But in a single-country input-output model considering (in this example) the impact of the UK manufacturer, the purchase of imports from Germany is a 'leakage' and lost from the model. The subsequent supply chain will not be captured, even though it re-enters the UK at a subsequent stage. Consequently, such an impact assessment would fail to measure the activity supported in the UK manufacturing sector.

A.1.9 To capture these spending flows, this study draws on Oxford Economics' Global Sustainability Model. This model covers 96 countries and accounts for 97% of global GDP, and also includes a "rest of the world" category. Each country's economy is split into 36 industries that are defined by the ISIC Revision 4 classification, according to the UN (United Nations, "International Standard Industrial Classification of All Economic Activities (ISIC) Rev 4", 2008).

A.1.10 The model takes advantage of techniques originally developed by the Nobel Laureate economist Wassily Leontief. These techniques allow us to trace supply chain and consumer spending within countries and across their borders. Because money cycles through the economy via multiple levels of supply chain relationships, our model reveals what is commonly called a 'multiplier effect' for a given spend impetus, according to Oxford University Press (Wassily Leontief, "Input-Output Economics", 1986).

A.1.11 However, the Global Sustainability Model considers the economic impact of activity across national economies. To calculate the economic contribution that Gatwick Airport makes to our study area, this study also developed a bespoke subnational input-output model for the UK. This model utilises a sectoral breakdown of supply chains drawn from the ONS' published supply-use tables for the UK (ONS, "Input-output supply and use tables", 2022). Oxford Economics use subnational economic data from our proprietary databases to adjust these, in order to reflect the industrial structure and productive capacity in the local authority area and regional economies that form the study area. Our methodology utilises so-called 'Flegg-adjusted Location Quotients (FLQs)', which are consistent with the latest approaches and evidence in regional input-output (I-O) modelling and regional science, according to the University of West England (Flegg & Tohmo, "Estimating Regional Input Coefficients and Multipliers", 2013). These I-O models quantify the impact of Gatwick's procurement demands over the entire length of its supply chain, including its suppliers' suppliers, and so on. The regional modules estimate the extent to which these demands can be met within the Gatwick Diamond, the Labour Market Area, the Six Authorities, or elsewhere in the UK as a whole.

Core impact: Induced

A.1.12 For induced impact, the starting point is to understand the wages and salaries paid to workers at Gatwick Airport, and those of its supply chain. For GAL employees, this study draws financial data to calculate the compensation of employees (wages & salaries, plus national insurance and pension contributions).

A.1.13 For non-GAL employees, this study draws on a similar exercise to determining intermediate consumption, drawing on detailed data from the Gatwick Employer Survey on the proportions of gross value added that compensation of employees forms, and assuming that this ratio remains the same through to 2019. These salaries are distributed according to the local authority areas within which workers on the Gatwick site reside. For workers in the Airport's supply chains, this study used the profiles of supply chain production as the starting point. To this, an average ratio of wage payments to overall output levels is applied, cut by industry and region. These purchases are then allocated to the industrial sectors providing goods and services to households (e.g., retail, restaurants, and leisure outlets), following the distribution of household spending in the UK's national accounts. This demand formed the input to the I-O based impact models, to calculate the total GDP and employment associated with this wage-financed consumption.

Catalytic impact: Connectivity

A.1.14 The approach for measuring the connectivity using an Air Connectivity Index is based on the approach followed by the World Bank (Arvis & Shepherd, "The Air Connectivity Index: Measuring Integration in the Global Air Transport Network", 2011) The approach is grounded in network

analysis methods and is based on a gravity-like model commonly used in international trade studies.[25]

A.1.15 The advantage of this approach is that it accounts for the hub-and-spoke nature of global air transport in a way that aggregating flights or seats data would not. Our The measure of connectivity is global and aims to capture the relationships between all network nodes even when there is no direct flight connection between them.

A.1.16 The main limitation of the air connectivity index produced by the World Bank (Arvis & Shepherd, "The Air Connectivity Index: Measuring Integration in the Global Air Transport Network", 2011) is that it is based on weekly data from June, a month where tourism flows in the early summer period in the northern hemisphere might bias the connectivity scores. Our measure updates the analysis by using annual data for the five-year period from 2015 to 2019. Using annual data avoids biases due to seasonality as well as any one-off events that may increase or decrease connectivity for a limited time period (such as special sporting events). Further, using GDP as one of the factors in the model allows for accounting of changes in connectivity due to changes in the economic strength of the origin/destination.

A.1.17 This study takes a two-step approach to creating an Air Connectivity Index:

A.1.18 **Step 1: Estimating the connectivity value of each country as an origin and as a destination**

A.1.19 Using econometric analysis, this study determines the connectivity value of each country as an origin and as a destination. Each country's connectivity value is a function of its economic size, distance from other countries, and special characteristics (e.g., historic links between commonwealth countries). This approach isolates any non-systematic factors that may have caused an increase in flights in some years (e.g., the Olympics).

A.1.20 The econometric model uses data between 191 origin and destination countries over a five-year period from 2015 to 2019. The model specification is set out below:

$$Seats_{i,j,t} = \beta_0 + \beta_1 * GDP_{i,t} + \beta_2 * GDP_{j,t} + \beta_3 * Distance_{i,j} + \varepsilon$$

A.1.21 In the equation above, $Seats_{i,j,t}$ is the number of seats between origin country i and destination country j at time t; $GDP_{i,t}$ and $GDP_{j,t}$ represent the GDP of the origin and destination country respectively in year t and $Distance_{i,j}$ is the distance between the two countries. The βs represent the econometric coefficients that indicate the weight of each of respective variables on the right-hand side of the equation in explaining the number of seats. The ε captures the non-systematic factors that may influence the number of seats in a particular year.

[25] The name "gravity" comes from the fact that in its nonlinear form, the model resembles Newton's law of gravity. The gravity model of trade considers exports to be directly proportional to the exporting and importing countries' economic "mass" (GDP), and inversely proportional to the distance between them. The gravity model predicts that larger country pairs would tend to trade more, and countries that are further apart would tend to trade less, perhaps because transport costs between them are higher.

A.1.22 The Poisson pseudo-likelihood regression (implemented using the ppmlhfe command in STATA) is used. The regression results are presented below.

Table A-1: Econometric regression outputs

Term	Description
GDP (origin)	1.0740***
	(0.2408)
GDP (destination)	1.0711***
	(0.2408)
Distance	-0.0007***
	(0.0000)
Constant	-5.6367**
	(2.3721)
Observations	24,085

Source: Oxford Economics. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

A.1.23 **Step 2: Combining the connectivity values into an Air Connectivity Index**

A.1.24 The estimated connectivity values are combined into an Air Connectivity Index for each country as an origin and a destination in a way that accounts for:

- The connectivity values of all other countries it is connected to; and
- The overall increase in connectivity between other countries.

A.1.25 Calculations to estimate the Air Connectivity Index are identical to those in Arvis & Shepherd (2011). The scores are then normalised across years using the five-year moments as the basis for normalisation.

A.1.26 **Results:**

A.1.27 The best-connected countries are the USA, UK, France, Canada, Germany, China, the Netherlands, Spain, the UAE, and Turkey. The connectivity score is highly correlated with economic size as well as the degree of connectivity. This is why, for example, the UAE scores highly despite having a relatively smaller economy.

A.1.28 The findings are largely consistent with those from the World Bank study (Arvis and Shepherd, "The Air Connectivity Index: Measuring Integration in the Global Air Transport Network", 2011) after accounting for changes over time (which sees emerging economies such as China and India rising in the rankings) and controlling for seasonality. For example, a number of European countries score very highly in the World Bank study (Arvis and Shepherd, "The Air Connectivity Index: Measuring Integration in the Global Air Transport Network", 2011) due to increased travel during the summer months, especially in June, which is the month used as the basis for their calculations.

Table A-2: Normalised Air Connectivity Index scores

Country	2015	2016	2017	2018	2019
USA	4.47	4.95	4.96	5.05	5.20
UK	3.08	3.30	3.64	4.04	4.03
France	3.57	3.61	3.42	3.47	3.59
Canada	3.31	3.24	3.22	3.61	3.40
Germany	2.88	2.99	2.72	3.06	3.02
China	2.65	2.96	3.16	3.02	2.99
Netherlands	2.61	2.64	2.76	2.79	2.79
Spain	2.08	2.51	2.63	2.55	2.63
United Arab Emirates	2.28	2.57	2.61	2.59	2.60
Turkey	1.99	2.13	2.16	2.22	2.48
Italy	1.86	2.11	2.15	2.31	2.33
Japan	1.70	2.04	1.94	2.09	2.21
Qatar	1.52	1.70	2.06	2.05	2.11
South Korea	1.45	1.60	1.65	1.87	2.11
Singapore	1.53	1.84	1.99	2.06	2.07

Source: Oxford Economics

Estimating connectivity's impact on productivity

A.1.29 Several econometric approaches are used to estimate the impact of air connectivity on productivity. These are: pooled Ordinary Least Squares (OLS), Random Effect (RE), Fixed Effect (FE) and System/Difference Generalized Method of Moment (GMM).

A.1.30 The simple pooled OLS estimate of the coefficient on the lagged dependent variable is likely to be inconsistent and biased upward owing to the positive correlation between the lagged dependent variable and country fixed effects (Hsiao, "Estimating fixed effects", 2003). The FE estimator, although the within group transformation gets rid of the country fixed effect element, the FE estimator produces the opposite, a downward bias with the extent of attenuation increasing when exogenous covariates are added (Nickell, "Biases in dynamic models with fixed effects", 1981).

A.1.31 The system or difference GMM appear to be the best estimators available as they deal with the joint problem of serial and spatial endogeneity and corrects for the potential endogeneity of other explanatory variables. The basic idea of the system GMM is to estimate each of theour equations as a system of two equations. One is in first differences, which removes the fixed effects, and the other is in levels, which brings in the technical gains of additional level moment conditions and increased efficiency. Lagged first differences and lagged levels are used as instruments for equations in levels and for equations in first differences, respectively. The use of instrumental variables allows consistent estimation of parameters even in the presence of measurement error and endogenous right-hand-side variables. On practical grounds, the system GMM avoids the inversion of high dimension spatial weights matrix W and the computation of its eigenvalues as in the case of ML and QML, which involves accuracy problems when W is large. Furthermore, the

Monte Carlo investigation in a previous study (Kukenova & Monteiro, "Spatial Dynamic Panel Model and System GMM: A Monte Carlo Investigation", 2008) also recommends the application of system GMM to the joint problem of serial and spatial endogeneity.

A.1.32 Considering that the consistency of the system GMM estimator depends on whether a selected set of lagged level and first-differenced values of the explanatory variables are valid instruments in the regression, three sets of specification tests are employed. First, the overall validity of the instruments is tested by the standard Hansen's J-test of overidentifying restrictions, which analyses the sample analogue of the moment conditions used in the estimation process. Second, following the recommendations in a previous study (Roodman, "A note on the theme of too many instruments", 2009), Difference-in-Hansen tests for the full set of instruments for the levels equation as well as for the subset based on the dependent variable are conducted. The number of instruments generated for the regressions is reported. Third, because significant second-order serial correlation of the first-differenced residuals indicates serial correlation in the original error terms and therefore misspecification of the instruments, this analysis also tests for first-order and second-order serial correlation in the first-differenced residuals. If the original error terms are not serially correlated, there should be evidence of a significant negative first-order serial correlation in differenced residuals and no evidence of second-order serial correlation in the first-differenced residuals. In addition to the validity tests, a finite-sample correction to the two-step covariance matrix as suggested in a previous study (Windmeijer, "A finite sample correction for the variance of linear efficient two-step GMM estimators", 2005) is implemented. Based on our tests, the System-GMM is preferred to the Difference-GMM.

A.1.33 Model specification:

$$Labour\ productivity_{it} = constant + Labour\ productivity_{it_{it-1}} + Log\ wage\ proxy_{it} + Investment\ per\ worker_{it} + Openness_{it} + Corruption_{it} + Years\ of\ schooling_{it} + Air\ connectivity\ index_{it} + error\ term$$

Table A-3: Economic regression outputs

Labour productivity	
Constant	0.48594754***
Labour productivity lagged	0.90980659***
Log wage proxy	0.06981388***
Investment per worker	0.00280399***
Openness	0.00009417*
Corruption	0.00139421***
Years of schooling	0.00385308**
Air connectivity index	0.00979195***
Tests	
Nickel bias	Passed
Hanset test	Passed

Source: Oxford Economics. * Significant at 10% level, ** significant at 5% level, *** significant at 1% level

Catalytic impact: tourism

A.1.34 The approach employed to estimate the impact of Gatwick-facilitated tourism involved three main steps. First, international arrivals carried on inbound services were estimated, split by true origin. 'True origin' is the country in which the passenger is resident, and is not necessarily the same as the departure point of the flight. GAL provided data on international inbound arrivals split by aggregate geographies. We then derived country level true origins using OAG data, detailing bookings by their points of sale (i.e. the nations in which passengers purchased their flights to Gatwick). Oxford Economics have estimated international inbound arrivals to Gatwick in two previous reports. In "The economic impact of Gatwick Airport" report published January 2017, international inbound arrivals were estimated by firstly taking CAA data on total passengers to and from Gatwick, then applying OAG data on true origin to the total to find international inbound arrivals. In the "Gatwick Airport's impact on the visitor economy" report published February 2018, international inbound arrivals were estimated by firstly taking CAA data on inbound passengers to Gatwick, then IPS data on the purpose of trips by inbound passengers to Gatwick was applied to get the number of international inbound arrival passengers (both CAA and IPS data sources contained data on country of residence of passengers). Passengers who are residents in the UK, who by definition do not contribute to tourism impacts, are excluded from the subsequent spending analysis.

A.1.35 The second step involved applying Tourism Economics data on inbound spending per international arrival in the UK, by origin country.

A.1.36 The final step was then to convert the tourism spend into GDP, employment, and tax impacts. This was achieved by breaking down total tourism spending into specific tourism products (e.g. hotels, restaurants, transport, cultural attractions, etc.) using data from the ONS' Tourism Satellite Accounts and ONS's UK supply-use tables. The products were then allocated to industry sectors, consistent with Oxford Economics' Global Sustainability Model. The Global Sustainability Model then produced direct, indirect, and induced GDP and employment impacts, resulting from tourism spending. This approach is akin to the methodology adopted in the core impact analysis.

Catalytic impact: Trade

A.1.37 The volume of trade which passed through Gatwick Airport during 2019, split by imports and exports, was provided directly to Oxford Economics by GAL. Our assessment draws on Civil Aviation Authority (CAA) data, which provides the EU and non-EU split of imports through Gatwick Airport. HMRC data provided the value per tonne for both EU and non-EU imports. HMRC data does not split EU imports by port, therefore the average value of all EU imports into all UK ports was applied to EU imports through Gatwick. For non-EU imports, the average value per tonne to Gatwick of non-EU trade through all London area airports (Gatwick, Heathrow, City, Stansted, and Luton) is applied. This accounts for data issues relating to some imports being brought into one London airport but being cleared through a different London airport for customs and taxation purposes.

A.1.38 Assessing the GVA and employment facilitated and catalysed by the imports through Gatwick required first quantifying the typical margin received by each stage of the value chain. Margins received by logistics were found in the ONS's UK supply-use table and UK input-output tables. The product mix of imports from HMRC data was used to assess which sub sectors of wholesalers and retailers handled the imports. The margins were then allocated to industry sectors, consistent with Oxford Economics' Global Sustainability Model. The Global Sustainability Model then produced direct, indirect, and induced GDP and employment impacts, resulting from the trade-induced activity. Oxford Economics' subnational economic data and modelling approaches described earlier were used to estimate results at the sub national level. This approach is akin to the methodology adopted in the core impact analysis.

Scenarios

A.1.39 This study draws on data provided to Oxford Economics on the scale of activity supported by the Airport through two scenarios: the development of the Northern Runway, and a Base Case scenario. Data were provided on the scale of activity at the Airport, in terms of passengers and air transport movements by market (domestic, short-haul, and long-haul), and future employment by type of role, for each year of our analysis (2038 and 2047).

A.1.40 The assessment of the **core impact** across each scenario sought to revise the inputs to the input-output models that form the assessment of the Airport's economic activity in 2019. Data are provided on employment by job type. Drawing on a similar exercise to estimating the economic impacts in 2019, this study maps these job types to representative business types, and allows employment by business type to grow in line with job roles, while constraining to the future total. The elasticities that underpin these future employment estimates explicitly account for ongoing efficiency improvements, suggesting that some degree of improvement in productivity has been accounted for.

A.1.41 To estimate the future direct GVA supported by the Airport, this study therefore allows the turnover of each business type to grow in line with the main driver of its performance—passengers, or air transport movements. In effect, this assumes that a doubling of aviation activity would lead to a doubling of turnover across firms operating at the Airport.[26] On the basis of future turnover, the proportion of intermediate consumption (producers' spend on goods and services) are assumed to remain fixed, allowing determination of both future gross value added and intermediate consumption. The share of value attributed to labour, through compensation of employees, is also assumed to remain in proportion to gross value added, and that the spatial composition of both procurement and wage spending remains as in 2019.

A.1.42 Measurement of **future catalytic impacts** draws on the changes to passengers and air transport movements at the Airport.

[26] An alternative approach, drawing on Oxford Economics' regional economic forecasts and applying estimates of future productivity growth to the change in employment, yields a similar result.

A.1.43 For connectivity, this study develops a time-series estimate, drawing on forecasts for both Gatwick's share of the UK market, and forecasts for UK and global passenger numbers developed by Tourism Economics, Oxford Economics' sister company. Estimates of the future connectivity impact therefore reflects changes to the benefits that the UK enjoys from the global aviation network—through boosts to long-term productivity—and Gatwick's contribution. In the Base Case, it is assumed that the difference in passenger numbers, relative to the Northern Runway scenario, are lost to the UK, rather than displaced to other London airports or elsewhere.

A.1.44 Estimates of the future tourism impact draw on forecasts of passenger numbers and the changing composition of Gatwick's markets, in terms of domestic, short-haul, and long-haul destinations, provided by the Airport. Drawing on detailed passenger arrivals data from 2019, and Tourism Economics' forecast of spend per visitor, allows a prediction of the future growth in international visitor numbers and total visitor spend. As in 2019, tourism spending is converted into a GVA and employment impact, with multiplier effects captured through our economic impact models.

A.1.45 Finally, estimates of the future trade impact draw on forecasts for the volume of trade, split by imports and exports. Assuming that the value per unit of imported goods remains constant in real terms, this study calculates the future trade margins associated with growing volumes of trade. As in 2019, trade margins are run through the economic impact models to estimate the associated multiplier effects.

A.2. Summary of results

Table A-4: Core economic impact by location, Northern Runway and Base Case, Gatwick Airport, UK, 2019 to 2047

		Base Case		Northern Runway (Difference to the Base Case)	
	2019	2038	2047	2038	2047
GVA (£ million, constant 2019 prices)					
Gatwick Diamond	2,918	4,147	4,466	4,899 (+752)	5,216 (+750)
Labour Market Area	3,369	4,772	5,173	5,609 (+837)	6,014 (+841)
Six Authorities Area	3,808	5,299	5,861	6,208 (+910)	6,794 (+933)
UK	**5,958**	**8,720**	**9,224**	**10,127 (+1,407)**	**10,614 (+1,389)**
Jobs					
Gatwick Diamond	42,500	50,800	50,300	57,000 (+6,200)	56,000 (+5,700)
Labour Market Area	52,400	61,800	60,400	69,400 (+7,600)	67,300 (+6,900)
Six Authorities Area	61,000	71,700	69,600	80,800 (+9,100)	77,800 (+8,200)
UK	**89,900**	**104,900**	**100,500**	**118,900 (+14,000)**	**113,000 (+12,500)**

Source: Oxford Economics. Note that values may not sum due to rounding, and that the geographies included in the table are not mutually exclusive, and the columns will therefore not sum to the UK total.

Table A-5: GVA impact by location and channel, Northern Runway and Base Case, Gatwick Airport, UK, 2019 to 2047

		Base Case		Northern Runway (Difference to the Base Case)	
	2019	2038	2047	2038	2047
Direct GVA (£ million, constant 2019 prices)					
Gatwick Diamond	1,752	2,453	2,636	2,969 (+516)	3,146 (+509)
Labour Market Area	1,752	2,453	2,636	2,969 (+516)	3,146 (+509)
Six Authorities Area	1,752	2,453	2,636	2,969 (+516)	3,146 (+509)
UK	**1,752**	**2,453**	**2,636**	**2,969 (+516)**	**3,146 (+509)**
Indirect GVA (£ million, constant 2019 prices)					
Gatwick Diamond	654	990	1,035	1,114 (+124)	1,157 (+122)
Labour Market Area	922	1,397	1,460	1,570 (+173)	1,631 (+171)
Six Authorities Area	1,205	1,821	1,905	2,052 (+230)	2,132 (+227)
UK	**2,540**	**3,823**	**4,004**	**4,324 (+501)**	**4,499 (+495)**
Induced GVA (£ million, constant 2019 prices)					
Gatwick Diamond	513	704	794	816 (+112)	913 (+118)
Labour Market Area	695	923	1,077	1,070 (+147)	1,238 (+161)
Six Authorities Area	852	1,025	1,320	1,188 (+164)	1,517 (+197)
UK	**1,667**	**2,444**	**2,584**	**2,834 (+390)**	**2,969 (+385)**

Source: Oxford Economics. Note that values may not sum due to rounding, and that the geographies included in the table are not mutually exclusive, and the columns will therefore not sum to the UK total.

Table A-6: Jobs impact by location and channel, Northern Runway and Base Case, Gatwick Airport, UK, 2019 to 2047

	2019	Base Case		Northern Runway (Difference to the Base Case)	
		2038	2047	2038	2047
Direct jobs					
Gatwick Diamond	24,100	28,800	29,700	32,000 (+3,200)	32,800 (+3,100)
Labour Market Area	24,100	28,800	29,700	32,000 (+3,200)	32,800 (+3,100)
Six Authorities Area	24,100	28,800	29,700	32,000 (+3,200)	32,800 (+3,100)
UK	**24,100**	**28,800**	**29,700**	**32,000 (+3,200)**	**32,800 (+3,100)**
Indirect jobs					
Gatwick Diamond	11,000	13,500	12,500	15,200 (+1,700)	14,000 (+1,500)
Labour Market Area	16,600	19,800	18,400	22,300 (+2,500)	20,500 (+2,100)
Six Authorities Area	21,200	25,200	23,400	28,400 (+3,200)	26,200 (+2,800)
UK	42,400	**49,500**	**45,800**	**56,100 (+6,600)**	**51,600 (+5,800)**
Induced jobs					
Gatwick Diamond	7,400	8,600	8,000	9,900 (+1,300)	9,100 (+1,100)
Labour Market Area	11,700	13,200	12,300	15,100 (+1,900)	14,000 (+1,700)
Six Authorities Area	15,700	17,700	16,500	20,400 (+2,700)	18,800 (+2,300)
UK	23,400	**26,700**	**24,900**	**30,900 (+4,200)**	**28,600 (+3,700)**

Source: Oxford Economics. Note that values may not sum due to rounding, and that the geographies included in the table are not mutually exclusive, and the columns will therefore not sum to the UK total.

Table A-7: Connectivity boost to long-term productivity, Northern Runway and Base Case scenarios, Gatwick Airport, UK, 2019 to 2047

Year	Connectivity boost to long-term productivity (%)
2019	0.82%
Northern Runway Scenario	
2038	0.88%
2047	0.80%
Base Case Scenario	
2038	0.73%
2047	0.67%

Source: Oxford Economics. Note: may not sum due to rounding

Table A-8: The economic contribution of Gatwick-facilitated tourism, Northern Runway and Base Case scenarios, Gatwick Airport, UK, 2019 to 2047

		Base Case		Northern Runway (Difference to the Base Case)	
	2019	2038	2047	2038	2047
GVA (£ million, constant 2019 prices)					
UK	4,366	6,822	7,870	8,743 (+1,921)	9,849 (+1,979)
Jobs					
UK	84,100	102,000	104,000	130,700 (+28,700)	130,100 (+26,100)

Source: Oxford Economics. Note: may not sum due to rounding.

Table A-9: The economic contribution of Gatwick-facilitated import trade, Northern Runway and Base Case scenarios, Gatwick Airport, UK, 2019 to 2047

		Base Case		Northern Runway (Difference to the Base Case)	
	2019	2038	2047	2038	2047
GVA (£ million, constant 2019 prices)					
Gatwick Diamond	281	458	523	582 (+123)	627 (+104)
Labour Market Area	522	852	972	1,081 (+229)	1,166 (+194)
Six Authorities Area	1,503	2,455	2,802	3,116 (+660)	3,361 (+559)
UK	**4,784**	**7,734**	**8,828**	**9,814 (+2,080)**	**10,589 (+1,761)**
Jobs					
Gatwick Diamond	5,700	8,500	8,500	10,800 (+2,300)	10,300 (+1,700)
Labour Market Area	12,800	19.200	19,300	24,400 (+5,200)	23,100 (+3,800)
Six Authorities Area	31,500	48,300	48,400	61,300 (+13,000)	58,100 (+9,700)
UK	**88,400**	**132,000**	**133,700**	**167,500 (+35,500)**	**160,400 (+26,700)**

Source: Oxford Economics. Note that values may not sum due to rounding and that the geographies included in the table are not mutually exclusive, and the columns will therefore not sum to the UK total.