Evaluation Methodology 2018

LONDON & PARTNERS

GLAECONOMICS

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Foreword

Ongoing monitoring and evaluation of public policies and programmes is essential for improving policy design and delivery and for public accountability. The activities of promotional agencies should be no exception - international organisations such as the United Nation Conference on Trade and Development (UNCTAD) and the Organisation for Economic Co-operation and Development (OECD) have long recognised the importance of properly evaluating the activities of investment promotion agencies.

The importance of evaluation has also been recognised by London & Partners since it was first established as the Mayor of London's official promotional agency. Over the years London & Partners has invested considerable effort in developing and refining robust evaluation tools and methodologies to capture its performance and its impact on London's economy.

This report describes the extensive work undertaken by London & Partners (with support from GLA Economics) over the past year to review and update performance evaluation approaches across the full range of its activities, including business-focussed and consumer-focussed activities. These approaches address issues such as additionality, decay, displacement and optimism bias, thereby aiming to estimate the incremental contribution of London & Partners' activities compared to what would have happened anyway. It has been an aim to present the methodology in a way which is intuitive to understand so that a wider range of stakeholders can hold us to account.

The report builds on the approaches and methodologies described in the previous GLA Economics Working Paper 61 (2014) but expands them in several important ways.

On the business side, the report sets out improvements to the evaluation approach for Foreign Direct Investments (FDI) activities, including the introduction of a clear definition of contestable projects. It also sets out the evaluation approaches for a number of new London & Partners' programmes, including the Business Retention programme, the Business Export Programme (as the Mayor's International Business Programme) and the Business Growth Programme (the London Growth Network).

On the consumer side (covering visitors and students) the report presents an updated and improved methodology, which for the first time evaluates impacts across all channels of London & Partners' activities (including social media) as opposed to just their own websites.

In the context of an updated and improved methodology there remain a number of opportunities for further development of the evaluation of London & Partners' activities.

The relevant activities are typically still ongoing. The context is one of interim evaluation, which requires a number of forward-looking assumptions (e.g. on impacts persistency) and which do not cover some important categories of long-term impacts (e.g., the relationship between FDI and productivity).

For pragmatic reasons, across most activities the approach to establish counterfactuals continues to rely on carefully constructed beneficiary surveys as opposed to using a more robust comparator/control group approach. There is an important exception to this which is one of the most notable features of the revised methodology. The proposed approach for the evaluation of leisure tourism activities will use data on internet to establish a robust control group of internet users who have not been exposed to London & Partners' campaigns but who otherwise have the same demographic profile of those who have.

Looking for further opportunities to expand the use of quasi-experimental evaluation approaches (supported where possible by availability of "new data") should ideally be part of the future research agenda for London & Partners. More broadly, GLA economics remains committed to support London & Partners colleagues in their effort to continually improve their evaluation methodology.

For the time being we believe that this methodology report is a welcome, further step forward to ensure that high quality performance and impact evaluation information can inform London & Partners and all its key stakeholders (the Mayor of London, the Greater London Assembly, business funders and partners) on the effectiveness, efficiency and value for money of London's promotional activities.

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1. Executive Summary

London & Partners is the Mayor of London's official promotional agency. The organisation exists to support the Mayor's priorities by promoting London internationally as a leading world city in which to invest, work, study and visit.

This paper outlines the methodology applied by London & Partners to evaluate the economic impact on London of the organisation's activities. The paper aims to do this in a way which is intuitive to understand so that a wider range of stakeholders can hold us to account. The activities undertaken by London & Partners are:

This paper outlines the methodology applied by London & Partners to evaluate the economic impact on London of the organisation's business-to-business (B2B) and business-to-consumer (B2C) activities. The B2B activities undertaken by London & Partners are:

- Foreign Direct Investment
- Business Export (The Mayor's International Business Programme)
- Business Growth (London Growth Network)
- Business Retention
- Business Tourism
- Sporting/Cultural Events

The B2C activities undertaken by London & Partners are:

- Leisure Tourism
- Higher Education

The purpose of evaluation at London & Partners is to understand the organisation's corporate performance and how it contributes to economic growth in London. The focus is on immediately measurable outcomes such as businesses, events and tourists that London & Partners has supported in choosing to come to London. When last reviewed by Deloitte, this methodology was considered best in class[1]. Based on a review from GLA Economics, the methodology has been improved since the previous paper in 2014. The paper now also includes London & Partners' new areas of activities (namely, trade, growth and retention).

For the purposes of this paper, economic impact is measured by gross-value added (GVA), which, in simplistic terms is the sum of the cost of employment and business profits. Evaluation of all business-to-business activities are based on project completion data, client surveys, leading academic research

[1] Deloitte (2014): Benchmarking the effectiveness of London's promotional system

and baseline government statistics and calculations. Ideally, evaluations should be based on revealed data, such as actual transactions between businesses, instead of surveys. However, given the complexity of obtaining such data, survey evaluation is a more feasible and practical solution.

The focus of the evaluation is primarily on corporate performance rather than assessing long term benefits of policy decisions. London & Partners also only measures the additional impacts on London which occur because of the organisation's efforts and does not claim the total impacts on London. London & Partners realises long-term impacts, such as increases in total factor productivity, e.g. clustering and networking effects, are present but are not currently measured. These benefits would be more suited to a detailed academic study. The evaluation methodology can therefore be considered a conservative assessment of economic impact. It must be noted, that while modelling longer-term impacts is not currently undertaken, as further research becomes available this may be an area of evaluation developed in the future. The Social Time Preference Rate is used to discount any effect that happens more than one year into the future, for example the value of FDI jobs that are expected to stay for three years. The Social Time Preference Rate captures the preference for value now rather than later, and that future consumption will have a lower utility due to an expected increase in per capita wealth[2].

Displacement elsewhere in the UK economy is also a possibility since London & Partners focuses on Greater London. However, London & Partners actively tries to avoid competing with other locations in the UK, which for example means that a project is not defined as contestable if the client organisation does not consider other international locations, even if it considers other UK locations (see chapter 3.3.1).

Comparable to the previous evaluation methodology paper published by London & Partners in 2014, multipliers, which estimate the indirect and induced effects (the result of additional demand throughout supply chains in the host economy) are not calculated. This is due to the considerable uncertainty and difficulty in estimating regional multipliers, and London & Partners' ambition to take a conservative approach. Depending on the availability of reliable multiplier estimates which become available and all intended use, multipliers could be applied to final additional GVA estimates. In any instance a suitable range will be given.

All final annual additional GVA estimates will be subject to sensitivity analysis, which models different scenarios from a change in key input variables. It allows a 'what if' review and assists in longer term risk mitigation and dealing with uncertainty.

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2 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/685903/The_Green_Book.pdf

The methodology was described as 'best in class' by Deloitte in 2014 (ibid. p. 1) and has been developed in line with the guidance from the HM Treasury Green Book, Magenta Book[3] and the BIS Impact Evaluation Framework[4]. It is now being evolved to consider new activity such as trade and retention of jobs. While this evaluation approach adheres to best practice and government guidelines it must be noted that the process of economic estimation is not a perfect science. This means that inherently all final GVA estimates are, in fact, best estimates rather than actual values. As part of ongoing process, London & Partners will continue to commit its evaluation practice to internal and external peer review to ensure constant improvement to best measure the economic value of business activities.

The following sections provides a summary of the evaluation methodology for each business-to-business activity. Subsequent chapters describe the background, the rationale for intervention and the evaluation methodology in detail for each of the activities.

Foreign Direct Investment (FDI)

London & Partners attracts foreign direct investment (FDI) and helps foreign-owned businesses to expand in London. The methodology aims to capture the additional economic impact of FDI created by London & Partners' interventions. The FDI methodology was presented at the Department for International Trade's Analytical Forum on Investment Promotion in 2018 and received positive feedback as a fit for purpose approach. This approach broadly represents the approach used for all B2B activities.

The economic impact measurement is based on new jobs created and expected, that is, the number of people the businesses expect to employ during their first three years in London. This is converted to GVA by using average GVA per job, which is sourced from the ONS and calculated by GLA Economics.

The resulting GVA estimate is then discounted to reflect investors' over-optimism and to account for displacement of jobs in other London businesses. Finally, the additional economic impact is assessed by applying an average percentage factor. This factor is based on previous investors' statements of London & Partner's influence on their decision to invest in London.

The main changes to the methodology compared with the previous methodology paper released in July 2014 are:

- The definition of a contestable project, known as 'contestability'
- Counting the number of jobs as an average between year one and over-optimism adjusted year three
- splitting additionality between contestable and non-contestable projects, respectively, and

[3] https://www.gov.uk/government/publications/the-magenta-book
[4] https://www.gov.uk/government/collections/monitoring-and-evaluation

- a new calculation method for GVA by the ONS, called balanced GVA also known as GVA(B), whereas previously the income approach GVA was used.

Business Retention

London & Partners is engaging with businesses that are at risk of relocating jobs from London. London & Partners helps them with resources, information and connections, helping them to navigate Brexit and access the opportunities for growth in London in the future.

The methodology aims to capture the number of retained jobs supported. This is measured by asking businesses engaged with if they have retained jobs and if London & Partners was a helpful resource in that decision.

As this is a new activity, this is the first time London & Partners has measured the impact in this area.

Business Export (The Mayor's International Business Programme)

The Mayor's International Business Programme aims to maximise London's economic competitiveness and prosperity through increased export by small and medium sized enterprises (SMEs). The economic impact measurement is based on actual and expected increases in export turnover as a result of participation in the Mayor's International Business Programme, which is run by London & Partners. This is converted to GVA by using GVA to turnover ratios derived from the Annual Business Survey[5].

The resulting GVA estimate is then discounted to reflect; investors' over-optimism, persistence of new exports and additionality of the services offered by London & Partners.

As this is a new programme, this is the first time London & Partners has measured the economic impact of this area.

Business Growth (London Growth Network)

The London Growth Network programme helps businesses in London to overcome barriers to growth by providing a tailored growth plan, events & workshops, access to experts and opportunities to collaborate with large corporates.

The methodology aims to capture the additional economic impact of the programme on London. Economic impact is measured in terms of GVA. The GVA is calculated based on the change in actual

5 https://www.ons.gov.uk/businessindustryandtrade/business/businessservices/methodologies/annualbusinesssurveyabs

and expected revenue. As this is a new programme, this is the first time London & Partners has measured the economic impact of this area.

Business Tourism

London & Partners is home to the city's official convention bureau and promotes the capital as a leading destination for conferences and corporate events. London & Partners offers a total event solution service for clients and event organisers, including free and impartial advice on planning meetings, conferences, events, exhibitions, incentives and launch parties in London.

The methodology aims to capture the additional economic impact of London & Partners' influence on business tourism events choosing to locate in London. The measurement of additional economic impact is based on event type, actual or expected size, duration and contestability. These are then inserted into an economic model that combines the data with historic spend data from business events.

There have been no major changes in the methodology to estimate Business Tourism in terms of GVA when compared with the previous London & Partners' methodology.

Sporting/Cultural Events

London & Partners acts as a central point of leadership and expertise to promote the capital as the world's most exciting destination for major sports and cultural events. The organisation leads on strategic planning, bid development, marketing, brand activation, and destination marketing of London as a major event city.

The methodology aims to capture the additional economic impact of London & Partners' influence on major sporting and cultural events choosing to locate in London. The economic impact measurement is based on event type and actual or expected size which are used in an economic model that combines the data with historic spend data from sporting/cultural events.

There have been no major changes in the methodology to estimate Sporting and Cultural events in terms of GVA when compared with the previous London & Partners' methodology[6]

Leisure Tourism

London & Partners attracts international leisure tourists to London by promoting the city as the leading destination in the world. Marketing activity is targeted at young, first time visitors to make trips to London they would not otherwise have made. Marketing channels include visitlondon.com, social media channels, third party websites, and partner and influencer channels.

[6] However previously both the business and sporting and cultural events were combined under 'Business tourism and major events', whereas this paper deals with these business audiences separately.

The evaluation methodology aims to capture the additional economic impact of the online marketing activities on London. Economic impact is measured in terms of GVA. The leisure tourism model is an experimental approach where a group of people exposed to London & Partners online marketing activity is surveyed and compared to a demographically similar control group.

The group of people exposed to London & Partners marketing is on average expected to have travelled or being planning to travel more to London than the people in the control group. The difference between the two groups is assumed to be a result of London & Partners marketing, and this difference is assumed to apply to the total population of people exposed. Finally, the economic impact from the people influenced to visit London is estimated by applying survey data on e.g. average length of stay and average tourism spend data from Visit Britain.

Higher Education

London & Partners attracts international students to London by promoting the city as the leading study destination. Marketing channels include studylondon.ac.uk, social media channels, third party websites and social media channels, including partners and influencers.

The evaluation methodology aims to capture the additional economic impact of international students attracted to London by London & Partners. Additional economic impact is estimated by surveying users who engage with London & Partners marketing activity to understand the proportion that have secured a place in a London university and the influence London & Partners marketing had on the choice to study in London. This information is combined with average spend figures for international students, which was estimated in London & Partners (2018), *The Economic Impact of London's International Students*.

2. Reader Guide

To understand how to best use this document, a short reader guide is provided here.

The following chapters are structured in the following way:

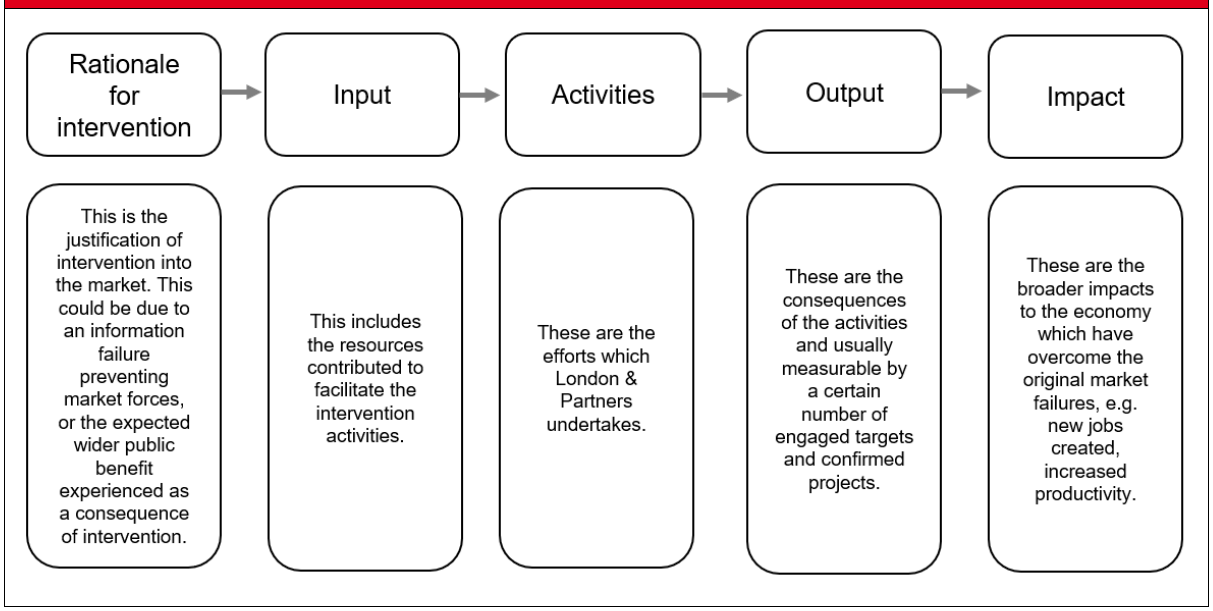
- *Background*
  This section explains what London & Partners is doing in this area.

- *Rationale for intervention*
  This section explains why London & Partners is intervening in this area.

- *Evaluation methodology*
  This is the main part of each section and explains how London & Partners measures its impact in this business area. This section will contain any definitions, description of the data collection approach and an outline of specific measures and modelling used to calculate additional GVA.

Each chapter includes a logic model that follows the generic example in Figure 1. The logic model is inspired by the ERDF Summative Assessment Guidance[7] and the GCS Evaluation Framework[8].

Figure 1. Generic logic model



[7]https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/705888/ESIF-GN-1-033_ERDF_Summative_Assessment_Guidance_v1.pdf
[8] https://gcs.civilservice.gov.uk/wp-content/uploads/2015/11/6.1395_CO_LL_GCS-user-guide.pdf

Definitions

Additionality: This is the estimated impact in percent that is attributable to the activities of London & Partners over and above what would have happened anyway. Mathematically it is defined as 1 minus the percentage of deadweight, where deadweight is the impact that would have happened in the absence of activity by London & Partners. London & Partners aims to deliver additional impacts.

Additional GVA: This the total economic impact of the activities of London & Partners after all adjustments have been made, measured in Gross Value Added.

3. Foreign Direct Investment

3.1. Background

London & Partners attracts foreign direct investment (FDI) and helps foreign-owned businesses expand in London. In the five financial years from 2013/14 to 2017/18, London & Partners has helped 1,420 companies to invest in London. In both the UK and overseas offices, the team focuses on generating project leads through a range of activities. This includes identifying potential investors through business and financial media networks, industry networking and events, referrals from the Department of International Trade and other commercial partners.

Alongside this the team is constantly working to build London's reputation as a place for business with prospective investors. Business Development Managers at London & Partners work with firms in target sectors, which are selected based on the Mayor of London's strategic priorities and economic development strategy. Services are bespoke depending on each client's needs with the aim of helping clients understand how London can play a role in their global operations. Some of the services provided include introductions to potential clients, understanding and navigating business culture differences and professional support.

London & Partners also plays an essential role in introducing investors to local companies who provide professional services in tax, legal, employment, immigration or commercial property advice. Businesses who have already decided to locate in London, without the influence of London & Partners' activities, are offered a service that focuses on bringing them to London sooner and encouraging them to invest on a larger scale.

In addition to services offered to new inward investors, London & Partners also provides similar services to foreign-owned businesses planning to expand their existing London operations where London is in competition for expansion with another site.

3.2. Rationale for intervention

London & Partners' intervention is justified based on the following market failures and is shown in the logic model diagram showing the progression from activities to outputs and impact.

Information failure

Firms expanding overseas require information on market opportunities, that is; access to customers, the business environment, and the availability of talent. Arguably, information asymmetries and the lack of complete information are often barriers preventing new inward investments, particularly for companies at the early stage. Private companies do not have an interest in promoting London as they

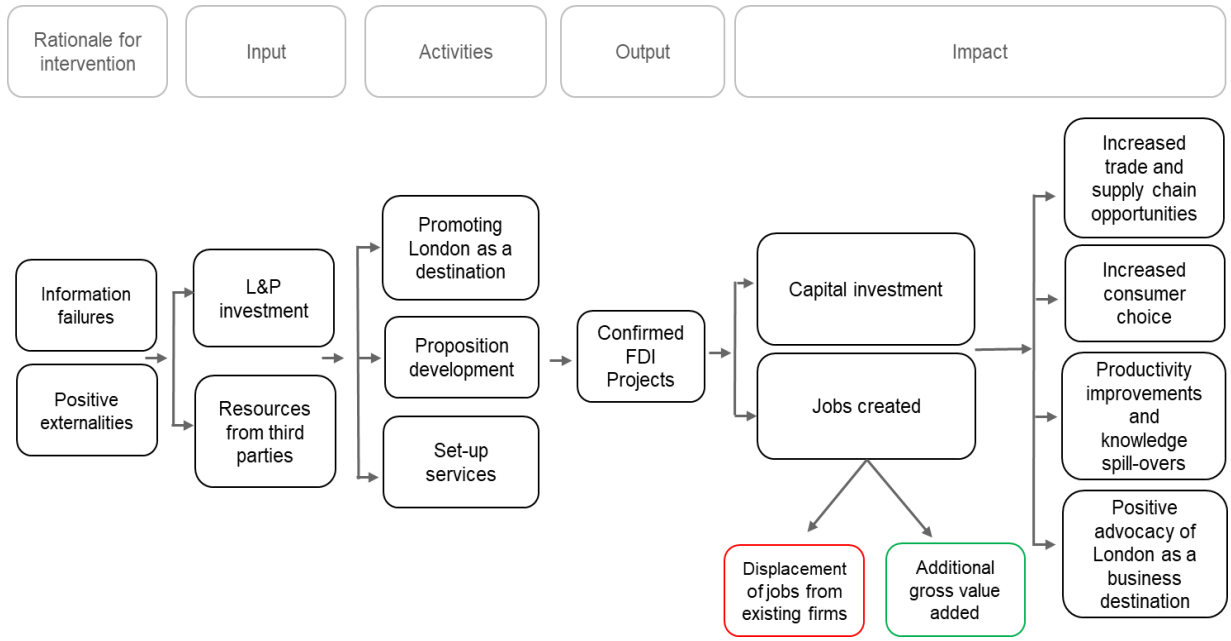
cannot fully internalise the benefits; the market tends to under-provide the range of information needed for a firm to invest or expand.

Positive externalities

High-quality FDIs benefit local economies via knowledge spill-overs to local firms. The acquisition of knowledge tends to increase local productivity and improve local economic outputs. Increased competition may lower prices and increase product variation to the benefit of consumers. It is in the public interest to ensure that investments from high quality foreign businesses are sustained and promoted.

The logic model diagram in Figure 2 shows the progression from activities to outputs and impact.

Figure 2. Logic model for FDI



3.3. Evaluation methodology

The recommendations from the HM Treasury Green Book[9], Magenta Book[10] and the BIS Impact Evaluation Framework[11][12] have been used as a foundation to measure additional GVA from FDI promotional activity. The FDI methodology was presented at the Department for International Trade's Analytical Forum on Investment Promotion in 2018, which saw participation by national investment promotion agencies from around the world and by multilateral organisations such as the World Bank and the OECD and received positive feedback as a fit for purpose approach.

London & Partners measures economic impacts in terms of short-term additional economic activity by way of Gross Value added (GVA), job creation, and inward capital expenditure. The GVA impact of FDI is based on estimated impacts to date and forecast effects on job creation reported in a survey among beneficiary businesses. This is used in combination with applying findings from leading academic research and calculations derived from government baseline statistics. GVA is, in simplistic terms, the sum of the cost of employment and business profits. Long-term impacts in terms of increases in total factor productivity, for example, clustering and networking effects are not counted. Evaluation of these impacts would be more suited to a detailed academic study. The evaluation methodology can therefore be considered a conservative assessment of economic impact.

A GLA review of the previous methodology suggested discussion of the treatment of contestable jobs. The main changes to the methodology compared with the previous methodology paper released in July 2014 are:

- The definition of a contestable project, known as 'contestability'
- Splitting additionality between contestable and non-contestable projects, respectively, and
- Counting the number of jobs as an average between year one and over-optimism adjusted year three
- A new calculation method for GVA by the ONS, called balanced GVA also known as GVA(B), whereas previously the income approach GVA was used.

9 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/685903/The_Green_Book.pdf

10 https://www.gov.uk/government/publications/the-magenta-book

11 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/681741/17.3253_Innovate_UK_Evaluation_Framework_RatherNiceDesign_V2_FINAL_WEB.pdf

12 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/32112/11-979-survey-questions-for-impact-evaluations-beneficiaries-self-assessment.pdf

3.3.1. Contestability

The organisation measures GVA for "contestable projects" and "non-contestable projects" differently. Projects are contestable if the foreign owned company:

1) is not considering investing anywhere before London & Partners engages with it; OR

2) is considering London against other international locations for a new operation or for an expansion[13]; OR

3) is considering London but faces significant and identifiable barriers to investment and has not already secured office space or hired permanent employees. Table 1 shows examples of barriers and how London & Partners addresses them.

Table 1. FDI barriers and how London & Partners addresses them

Barrier	How it is addressed
Regulatory questions	Introducing clients to London & Partners' extensive network in government and industry to directly address regulatory questions
Inability to find the right ecosystem to set up in	Applying local knowledge and London & Partners' extensive network to present relevant ecosystems in London's diverse economy to the client
Inability to find office space at an appropriate cost level	Providing bespoke and expert advice and data to inform

The reason for categorising projects as contestable and non-contestable is that the efforts should be focussed on potential investments where London & Partners can play a more important role in influencing the investor's decision. However, the organisation still plays a role in influencing the timing and scale of non-contestable projects, for example, bringing forward investment plans. For this reason, and based on empirical evidence, London & Partners only measures additional GVA from non-contestable projects when clients confirm in the completion form that the sales team had an influence on the timing and scale of the investment.

[13] Since London & Partners actively tries to avoid competing with other locations in the UK, a project is not contestable if the company is only considering other UK locations.

3.3.2. Data collection

All FDI clients complete a form after they have set up their business in London. This form collects the information required to assess the economic impact from London & Partners activity, for example, the expected number of employees. Data collected in the form is detailed further in the next section. Each form is sent out to the company upon completion of the investment project. A project is deemed 'complete' at slightly differing times depending on each business's needs. However, a project completion at a minimum requires; the registration of a UK subsidiary, a budget in place, and the employment of at least one person within Greater London. The response rate is effectively 100 percent as London & Partners only considers a company's project as 'complete' upon the collection of the final data required.

Further to the data collected within the completion form, additional information is collected via an annual survey of businesses who have been in London for three years. This is used to confirm the size of the company and collect information on their competitive environment to estimate the displacement of local economic activity. The most recent three surveys include data collected from 45 companies who began operating in London in 2012/13, 40 companies in 2013/14 and 42 companies in 2014/15, a total of 127 companies.

To overcome response bias, survey questions are designed by a team of experts and carried out by a third party. There are limitations to using survey data collected from the beneficiaries only, that being, there is no reference group. However, to overcome this limitation and any selection bias, the sample data is representative across the different sectors of all the companies serviced in the corresponding years. See Appendix A for further details of the representativeness of the sample. To overcome sampling bias, a sample is taken, with the most recent survey being 16 percent of the total client base in the corresponding year. In future years, the objective is to continue to increase the number of clients in this sample as a proportion to the entire client base. To overcome skewed data caused by outliers, a combination of both excluding extreme outliers and using a moving average across previous years of data is implemented. This is detailed further below.

3.3.3. Calculation of additional GVA for contestable FDI projects

London & Partners estimates additional GVA to measure the economic impact on London resulting from its activities. The following factors drive the impact from London & Partners' FDI promotional activity:

- The scale of the investment, in terms of number of jobs expected

- The persistence of the jobs created, which are likely to generate a stream of future economic benefits

• An over-optimism adjustment, based on extensive evidence that the number of jobs effectively generated in the first three years of an FDI operation tends to be lower than the forecasts provided by the businesses when arriving in London

• The estimated scale of displacement of existing London jobs by the inward investor;

• The estimated additionality of London & Partners' activities in terms of their influence on the number, scale and timing of the investment or growth project; and

• The sector of the economy in which the investment is made.

Figure 3 illustrates the steps in the calculation of GVA.

Figure 3. Illustration of steps in the GVA calculation

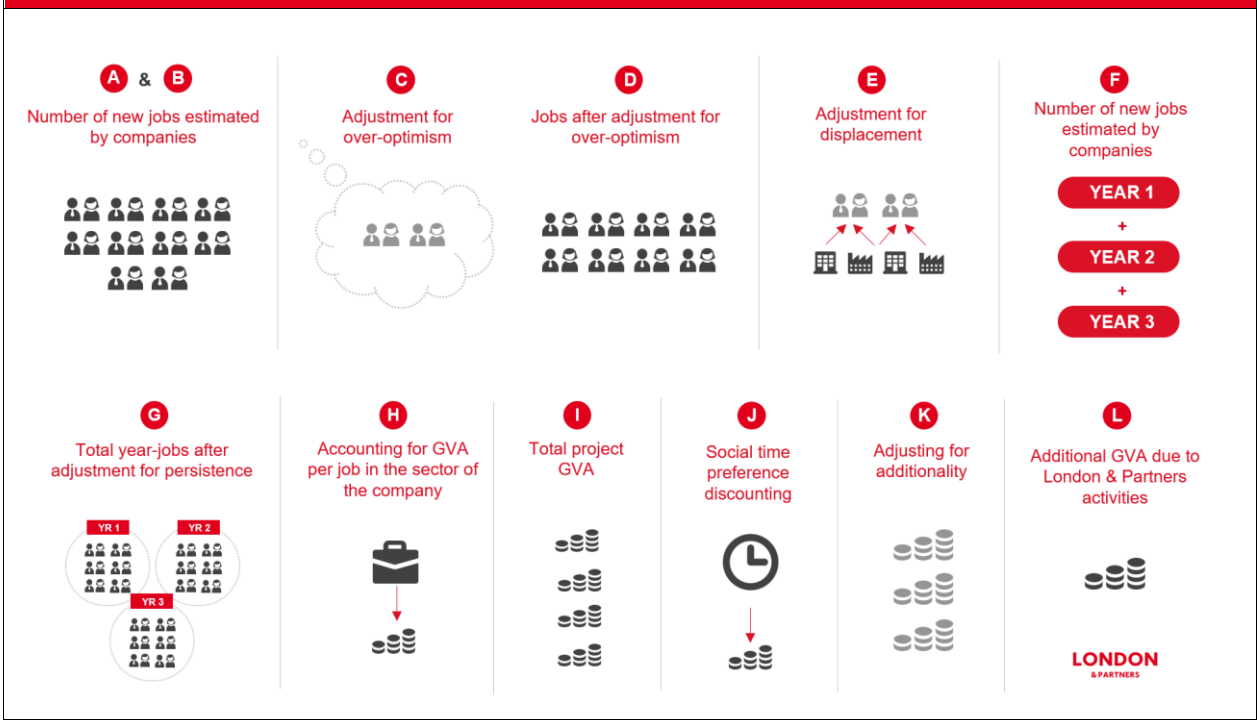


Table 2 describes each step with further details on the calculations and data sources.

Table 2. Summary of steps within the FDI economic impact model		
Steps	**Detail**	**Source/calculation**
A	Number of jobs in year 1	Completion survey
B	Number of jobs in year 3	Completion survey
C	Average over-optimism	Surveys with companies arrived 3 years ago
D	**Average number of jobs per year**	**(A + B*C)/2**
E	Average displacement	Surveys with companies arrived 3 years ago
F	Persistence	Assumption based on literature review
G	**Total job-years**	**D*E*F**
H	GVA(b)[14] per job per year by sector	GLA calculations based on ONS data
I	**Total GVA**	**G*H**
J	Social Time Preference Rate	HM Treasury Green Book
K	Additionality	Completion surveys from companies arrived in the previous two years
L	**Additional, time discounted GVA**	**I * (1-J) * K**

Each of the above factors are described in the next sections.

Number of jobs

The scale of investment is defined as the average number of jobs created in London by the investing company during the first three years after arrival. This is measured upon completion of the project by asking how many people the company expects to employ in one and three years after completion, respectively. A new job is likely to generate a stream of future economic benefits; hence the likely persistence must be considered.

Over-optimism

The value of an investment is based on the expected size of the business during its first three years of operation. This information is sourced from the surveys completed by companies upon arrival. To account for any over-optimism in the businesses' forecasts, their estimates are multiplied by a factor of $Z_i = Y/X$, where Z is the over-optimism factor, i is the year the factor is calculated, Y is the average number of jobs at companies when they are re-contacted, and X is the average number of jobs at the same companies when they arrived. The factor is generated by interviewing businesses supported by London & Partners three years after they started operating in London and comparing their current

[14] GVA(b) refers to "balanced GVA", which is the technical term for the method the ONS use to calculate GVA.

employment size with their forecast when they arrived. The calculation of over-optimism is outlined in table 3.

Table 3. Steps to calculate over-optimism		
Step	**Detail**	**Source/calculation**
X	Number of jobs estimated when company landed in London	Survey
Y	Actual number of jobs in company three years after arrival	Survey
Z_i	Over-optimism in year i	B/A
T	Rolling average of over-optimism	$(Z_i + Z_{i-1} + Z_{i-2} + Z_{i-3} + Z_{i-4})/5$

The factor used in 2018/19 is 0.78, and it is based on interviews with three groups of companies; those that answered the over-optimism question and started operating in London in 2012/13 (28), 2013/14 (34), and 2014/15 (42), in total 104 companies. Hence, for every five jobs expected by the investors, one job is discounted in the model.

The aim is to apply a 5-year moving average to ensure a larger sample size while allowing recent trends in the business environment that might affect companies' level of optimism to be considered.

Displacement

Displacement measures the extent to which new inward investors have diverted sales from London-based businesses. Displacement is measured in line with the RDA Impact Evaluation Framework recommendations by gathering survey evidence on the location of competitors and customers. The higher the local client base and the percentage of local competitors, the higher the rate of displacement. The displacement survey questions are outlined in appendix B.

The displacement factor M is calculated as M = 100-L*K, where L is the percentage of sales in London and K is the percentage of competitors in London, both calculated as the average across all companies surveyed. Table 4 shows the calculation of displacement:

Table 4. Steps to calculate displacement		
Step	**Detail**	**Source**
K	Percentage of sales to customers in London	Survey
L	Percentage of competitors in London	Survey
M_i	Displacement in year i	100-A*B
N	Rolling average of displacement	$(M_i + M_{i-1} + M_{i-2} + M_{i-3} + M_{i-4})/5$

The factor applied in 2018/19 is 79 percent, so for every five jobs created by the investors, one job is lost somewhere else in the economy as a result of increased competition. In the same way as for over-optimism, this factor is based on interviews with three groups of companies; those that answered the displacement question and started operating in London in 2012/13, 2013/14, and 2014/15, with a total of 111 companies[15].

The aim for displacement is to also apply a 5-year moving average to ensure a larger sample size while allowing recent trends in the business environment that might affect displacement.

Persistence effect

FDI businesses produce a stream of future economic benefits from on-going activity. The persistence of these benefits attached to new inward investments depends on the length of time for which the investor firm remains in London. Recommendations from Regeneris Consulting following a review of the business support evaluation literature[16] suggest a range of 3 – 5 years. Future benefits are in nominal terms, meaning that time value of money is not accounted for. London & Partners take a conservative position and assume persistence of three years.

GVA per sector job

The estimate of GVA depends on the number of jobs generated by an FDI business and the sector in which the FDI operates. GVA is, in simplistic terms, the sum of the cost of employment and business profits, and this tends to vary widely across sectors. There is not a perfect match between the sectors identified by London & Partners to define their FDI strategy, and the Standard Industrial Classification (SIC) codes used by the Office for National Statistics (ONS), with regard to published data. Several options were explored when deciding how to match the SIC codes with London & Partners' defined sectors.

[15] In total 111 companies answered two questions, one about the number of customers in London and the other about the number of competitors in London. The survey response rate for each question was respectively; 2012-13: (47, 37), 2013-14: (27, 20) and 2014-15: (37, 35).
[16] See http://webarchive.nationalarchives.gov.uk/20090609050004/http://www.berr.gov.uk/files/file50735.pdf

Appendix C summarises how the SIC codes match into sectors as defined by London & Partners.

For calculation of the GVA per sector job, London & Partners uses an approach developed by Regeneris Consulting. This approach is to divide the Gross Value Added at basic prices (Regional Gross Value Added (balanced GVA method), ONS) by the total employment – average during the year (Annual Business Survey, ONS). Both figures are calculated at a London level.

Social Time Preference Rate

Impacts that happen in the future are worth less than those happening at present time. Future impacts are therefore discounted with the Social Time Preference Rate (STPR), as described by the HM Treasury Green Book[17]. London & Partners take this into account by multiplying the total GVA with an average discount factor across the three years of impact. Calculation of the discount factor is described in table 5.

Table 5. Calculation of the average STPR discount factor

Time horizon	Discount rate
Within 1 year	1
Between 1 and 2 years	1/1.035
Between 2 and 3 years	1/1.035^2
Average STPR discount factor	0.967

Additionality

Additionality refers to the net economic activity from foreign direct investment that London & Partners' promotion and support generates over and above what would happen anyway. To measure the extent to which firms would have moved to London in the absence of London & Partners' support and whether the organisation had any influence in speeding up the investment or increasing its size, the survey asked the following questions, with weighting of responses in the right-hand column in table 6.

17 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/685903/The_Green_Book.pdf

Table 6. Additionality question	
Question: *What would you have done without the support from London & Partners?*	
Answer	Weight
Definitely NOT invested in London	100 %
Probably NOT invested in London	50 %
Probably invested in London anyway	20 %
Definitely invested in London anyway	0 %

Based on the business responses from financial years 2016/17 and 2017/18, and the weighting of responses, additionality was estimated at 28 per cent for contestable projects (199), and 16 percent for non-contestable projects (443). Hence, even if FDI projects are defined as contestable and they are helped to London by London & Partners, 72 percent of the decision to set up a business in the city is driven by other factors. Using the additionality factor, London & Partners only counts impact attributable to the organisation.

3.3.4. Calculation of additional GVA for non-contestable FDI projects

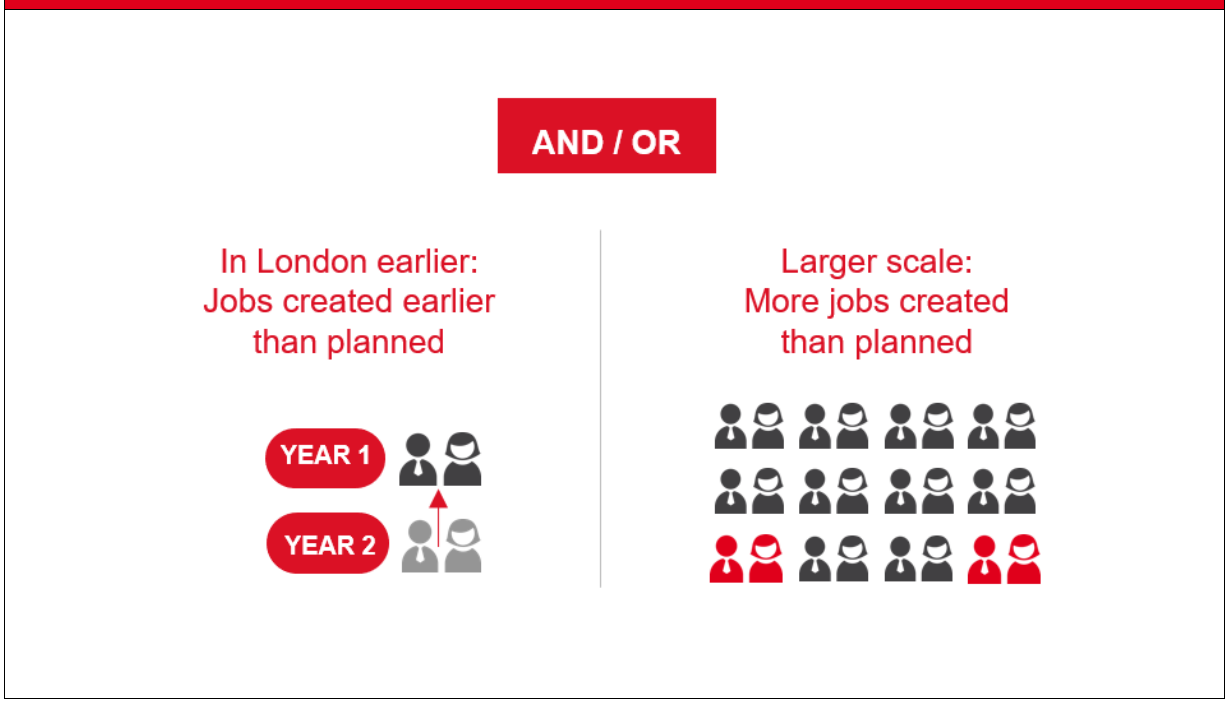
Before 2018/19, companies in both contestable and non-contestable projects were asked the above question in table 5. However, the question does not directly address any influence London & Partners had on the timing and scale of the investment, which is the only impact that is counted for non-contestable projects. To improve estimation accuracy on additionality for non-contestable projects, these companies will instead be asked the question in table 7.

Table 7. New additionality question for non-contestable projects	
Question: *Would you have invested earlier or at a greater scale without the support from London & Partners?*	
Answer	Weight
Definitely NOT	Weight = 100 %
Probably NOT	Weight = 50 %
Probably	Weight = 20 %
Definitely	Weight = 0 %

Until enough completion survey data is collected from new projects to apply an accurate additionality factor for non-contestable projects, the average of 20 percent for contestable and non-contestable will be used.

The description of calculation of additional GVA in Figure 3 and Table 5 applies to contestable projects. For non-contestable projects, London & Partners only attributes GVA to its efforts if it has influenced the company to arrive in London earlier, or to invest in London at a larger scale in terms of number of jobs (see figure 4). For example, for a company that arrives in London ½ year earlier, GVA will be calculated as: GVA = Contestable GVA/6. The reason contestable GVA is divided by 6 is that the calculation of contestable GVA assumes persistence of three years. Bringing the company to London ½ year earlier, has thus added 1/6 of the GVA that would have been claimed if it was a contestable project. The Social Time Preference Rate is not applied to GVA from jobs created earlier, since a maximum of one year's acceleration is assumed.

Figure 4. Impacts claimed for non-contestable projects



If the company has invested at a larger scale, i.e. if the company has created more jobs, GVA is counted according to how many more jobs it has created, assuming the jobs will stay three years. The value of these jobs is calculated using the steps outlined in chapter 3.3.3.

4. Business Retention

1.1. Background

Historically, London & Partners has focused on attracting foreign owned businesses to set up and expand in London, creating jobs, and facilitating export and global growth.

The business environment has changed with the United Kingdom's vote to leave the European Union, and some businesses have expressed the view that they may relocate jobs from London. London & Partners is engaging directly with these companies, helping them with resources, information and connections, helping them to navigate Brexit and access the opportunities for growth in London in the future.

1.2. Rationale for intervention

London & Partners' intervention is justified based on market failures including lack of information and positive externalities. The logic model diagram in Figure 4 shows the progression from activities to outputs and impacts below.

Information failure

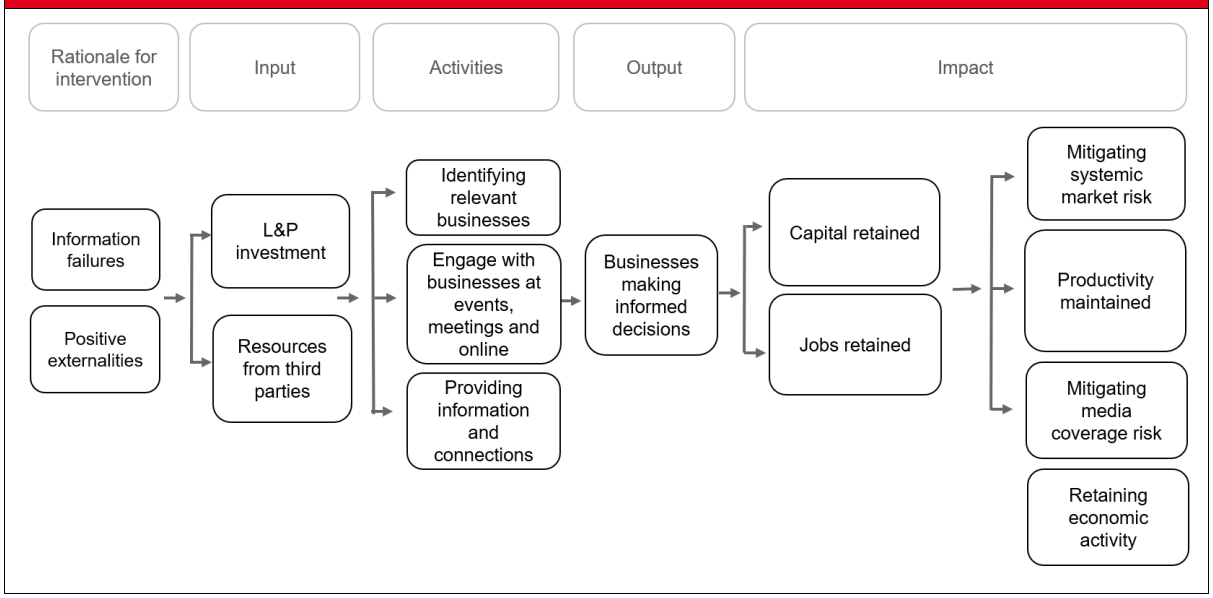
Companies located in London require information on market opportunities, regulatory change, access to customers and the availability of talent after the United Kingdom has left the European Union. At the time of writing, no final agreement between the United Kingdom and European Union has been reached, so there is a lack of complete information. As negotiations develop, companies need to be aware of how any new rules might affect them. The future relationship between the two political regions also continues to receive a substantial amount of coverage in the media, and it is therefore important to help companies make fact-based decisions. Private service companies may have some interest in providing these services, but since they cannot fully internalise the benefits; the market is likely to under-provide the range of information needed for a firm to decide on retaining jobs in London.

Positive externalities

The presence of international businesses in London may benefit local economies via knowledge spill-overs to local firms. The acquisition of knowledge tends to increase local productivity and improve local economic outputs. Increased competition may lower prices and increase product variation to the benefit of consumers.

The logic model diagram in Figure 5 shows the progression from activities to outputs and impact.

Figure 5. Logic model for Business Retention



1.3. Evaluation methodology

The success of London & Partners will be measured against the additional impact that happens because of the organisation's activities. The measure of success for this activity is the number of jobs retained in London by companies because of the support provided by London & Partners. Companies will be asked to complete a survey when they have decided on whether to retain jobs in London. Table 8 shows the survey questions used to measure the number of retained jobs.

Table 8. Retained jobs questions

A	Were you considering moving jobs away from London before engaging with London & Partners?
B	Have you now moved fewer jobs than you initially thought you would?
C	Were London & Partners a valuable resource in that process?

London & Partners will count any retained jobs in B if a business answers yes to question A and C.

As the political negotiations may last for a long time, London & Partners will also count the number of companies engaged. A company will be considered to have been engaged if London & Partners has:

- Met with representatives from the company in a scheduled meeting; or
- Referred the company to a partner organisation or expert; or
- Provided a significant amount of relevant information directly to the company via email. The communication needs to be two-way.

5. Business Export

(Mayor's International Business Programme)

5.1. Background

The Mayor's International Business Programme aims to maximise London's economic competitiveness and prosperity through increased export by small and medium sized enterprises (SMEs).

The programme started in February 2016 and builds on the success of the predecessor initiative, The Mayor's Export Programme.

Support is provided through both one-to-one and one-to-many activities, with the programme engaging with beneficiary businesses over a minimum of one year. Support is provided both in London and overseas and includes:

- Diagnostic – this ensures that businesses are both eligible for the programme and are in a position to begin exporting;
- Business clinics and mentoring – these provide support to businesses in relation to, for example, tendering for international supply chain contracts, joining consortia opportunities and entering into partnerships or joint ventures;
- Trade missions – these are designed to be consistent with the needs of SMEs, the target sectors and identified overseas market opportunities. Participating SMEs are also provided with pre-mission briefings to prepare for the missions; and
- Overseas mentors – beneficiaries are connected to mentors in target markets. These mentors provide ongoing guidance and first-hand knowledge of overseas markets and issues in their particular geography.

SMEs are able to choose the support accessed from the range of activities provided.

MIBP is part-funded by the European Regional Development Fund programme (ERDF). Usually businesses are eligible if they at a minimum have; 10 employees, £1 million in revenue or funding, or 20 percent year on year growth. However, depending on the sector, these minimum requirements could be flexible, for example, if a life sciences company has raised £5 million but only has 4 employees, then they may be eligible. Another example may be the urban sector where two or more successful projects are already in place and this then qualifies the business.

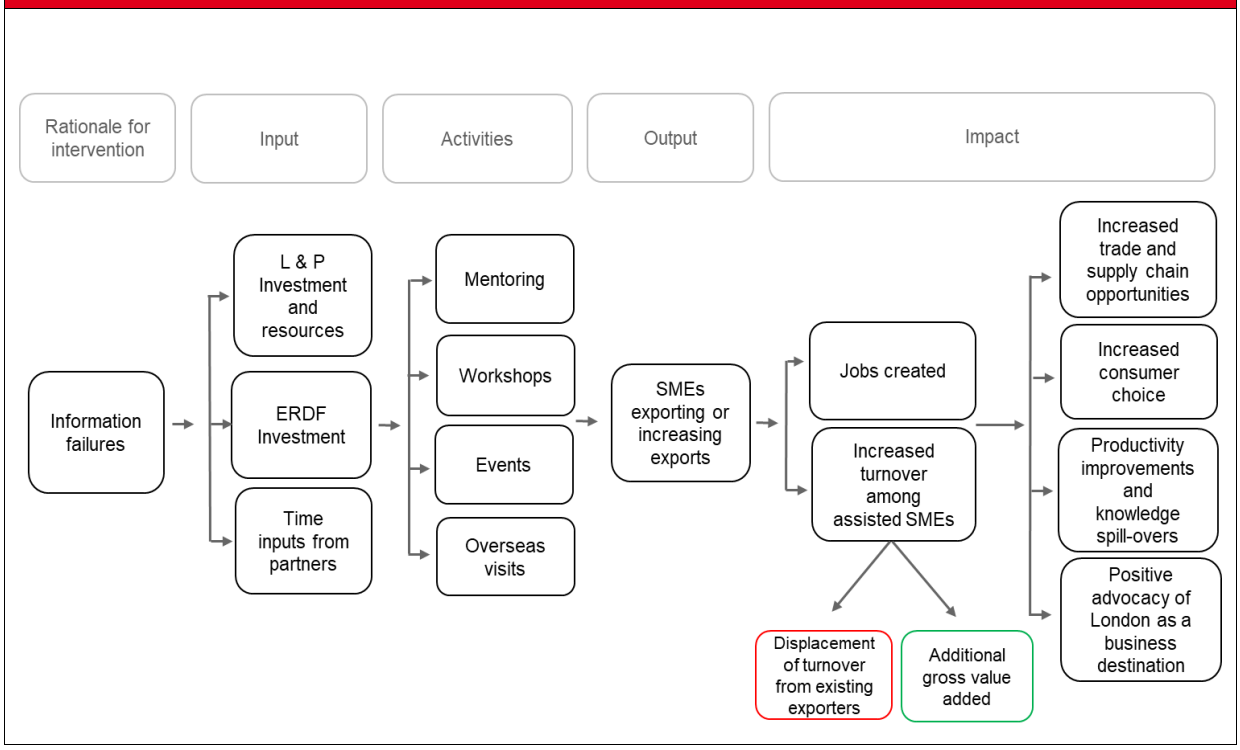
5.2. Rationale for intervention

The MIBP seeks to address the market failure of asymmetric information. London businesses do not have perfect knowledge of the overseas market for their products or of how to access these markets, particularly companies at the early stage. Conversely, potential overseas customers may have little knowledge of the products and services offered by London's small and medium-sized enterprises. These information issues result in less than optimal trade between London's businesses and international buyers.

In addition, international trade raises London's reputation as a business centre, which is a positive externality. This benefit is not fully internalised by individual businesses, and they will thus under-invest in international trade engagements.

The logic chain diagram in Figure 6 shows the progression from activities to outputs and impact.

Figure 6. Logic model for The Mayor's International Business Programme



5.3. Evaluation methodology

Beneficiary impacts are assessed through a completion survey which is sent to the beneficiaries when they graduate from the programme. A turnover-based approach to assessing economic impact in terms of Gross Value Added (GVA) has been adopted rather than a jobs-based approach. This is because businesses may increase their exports without increasing job numbers or without a proportionate

increase in jobs numbers. For example, businesses may have been operating below 100% capacity prior to increasing exports and have therefore been able to increase production without increasing job numbers. Alternatively, businesses may have invested in new equipment to increase productivity rather than increasing workforce numbers.

The methodology for the MIBP has been developed in collaboration between London & Partners and AMION Consulting.

5.3.1. Data collection

The GVA impact of the MIBP is based on data from individual graduated beneficiary businesses. A telephone survey of 53 beneficiary businesses was conducted by Amion Consulting between 30th April and 25th June 2018. The respondents represent a 59% response rate based on the total number of 90 graduated beneficiaries at the time of data collection. Data from this survey is used to estimate average displacement and additionality.

Table 9 summarises the profile by sector of the survey respondents compared with the overall beneficiaries. This shows that the technology sector has the greatest representation among survey respondents, while the other sectors are less represented, which corresponds to the sector distribution of all beneficiaries. Sector compositions are outlined in appendix D.

Table 9. Sectors of survey respondents and beneficiaries

Sector	% of survey respondents	% of overall beneficiaries
Technology	74%	61%
Life sciences	19%	22%
Urban	7%	17%

5.3.2. Calculation of additional GVA for Business Export

Beneficiary turnover increases are self-reported and therefore adjusted to account for the risk of over-optimism, uncertainty inherent to forecasting and to include only the additional impact, which are due to the activities undertaken by London & Partners. Additionality is for this programme accounted for by asking only to turnover increase that happened as a result of the programme (step A in table 9) and accounting for deadweight in terms of availability of the same support elsewhere (step J in table 9).

Figure 7 illustrates the steps in the calculation of GVA.

Figure 7. Illustration of steps in the GVA calculation

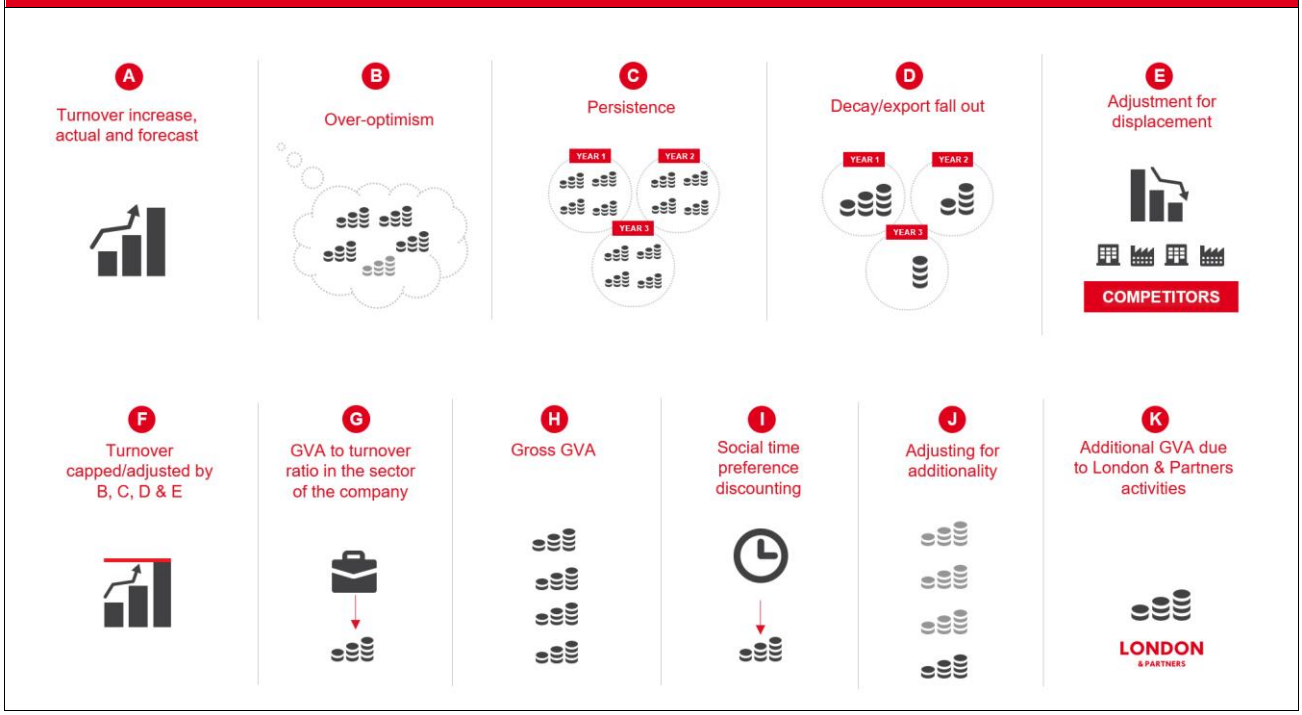


Table 10 describes each step with further details on the calculations and data sources.

Table 10. Summary of steps within the business export economic impact model		
Step	**Detail**	**Source/calculation**
A	Turnover increase as a result of the programme	Completion survey
B	Over-optimism: capping future forecast impact at 100% of current turnover	Recommendation from Amion Consulting based on analysis of outliers
C	Persistence	RDA Impact Evaluation Framework[18] - 3 years
D	Decay - Export fallout	Persistence in Exporting: Cumulative and Punctuated Learning Effects', ERC[19]
E	Displacement	Survey with beneficiaries from the first two years of the programme
F	Adjusted turnover increase	A capped/scaled by B, C, D and E
G	GVA to turnover ratio	Annual business survey
H	Gross GVA	= F * G
I	Social Time Preference Rate	HM Treasury Green Book
J	Deadweight – support available elsewhere	Survey with beneficiaries from the first two years of the programme
K	Net additional GVA	= H * (1-I) * (1-J)

The next sections describe the steps in the GVA calculation.

Turnover increases

Data on turnover impacts is collected by asking businesses after they have graduated from the programme about the value of realised and expected increases in export sales resulting from the MIBP. If they cannot provide a specific impact value, they are asked to provide an estimate of the percentage of their total turnover that has resulted from the support. The beneficiaries are also asked about the timing and persistence of impacts over future years.

[18] http://webarchive.nationalarchives.gov.uk/20090609050004/http:/www.berr.gov.uk/files/file50735.pdf
[19] Love, J. & Manez, J, 2016, 'Persistence in exporting: cumulative and punctuated learning effects', Enterprise Research Centre, https://www.enterpriseresearch.ac.uk/wp-content/uploads/2016/12/ERC-ResPap50-LoveManez.pdf

Optimism bias

Some businesses estimated very high future turnover increases. For example, two businesses estimated increases of 500 percent. Amion Consulting recommends limiting the maximum future increase to 100 percent of turnover to account for over-optimism among survey respondents.

Persistence

Given the uncertainty over the future of international trade and the general concern about survey respondents being potentially overly optimistic, persistence of a maximum of three years for each company's turnover impacts has been assumed, unless the beneficiary indicated a shorter duration.

Decay - Export fallout

Exports resulting from the support are reduced to the levels set in Table 11[20] over the duration over which export sales accrue. This accounts for, for example, increased competition in subsequent years.

Table 11. Decay in export sales over time

Year	1	2	3
Export sales (% of first year sales)	100%	87%	82%

GVA to turnover ratio

Turnover impacts are converted to GVA using ratios derived from the annual business survey. Table 12 sets out the Standard Industrial Classification (SIC) codes used in the analysis, along with the regional data for London in relation to turnover and GVA for 2016.

Table 12. GVA to turnover ratio, percent

Sector	Percentage of respondents	GVA to turnover ratio	Weighted ratio
Life sciences	19%	56%	11%
Technology	74%	52%	38%
Urban	7%	48%	3%
Weighted average			**52%**

The weighted average GVA to turnover ratio of 52% is used, due to the limited sample size for some sectors.

Social Time Preference Rate

Impacts that happen in the future are worth less than those happening at present time. Future impacts are therefore discounted with the Social Time Preference Rate (STPR), as described by the HM

[20] Persistence in Exporting: Cumulative and Punctuated Learning Effects', ERC, 2016

Treasury Green Book[21]. London & Partners take this into account by discounting future turnover increases according to the years the increases are expected.

Deadweight

To assess the extent to which the companies would have got the same support without the intervention by London & Partners, the question in table 13 was answered by the 53 survey respondents. The average across the respondents was 35%.

Table 13. Additionality question	
Question: *If you hadn't received any support from the programme, do you think you would have been able to receive similar support from elsewhere?*	
Answer	**Weight**
No, not at all	0%
Yes, but to a lower standard	20%
Yes, but with a delay	50%
Yes, to the same standard and within the same timeframe	100%

Displacement

Displacement measures the extent to which export increases resulting from the support provided are at the expense of other exporters from London. It has been assessed by asking the questions shown in tables 14 and 15.

Table 14. Displacement Question 1
What percentage of your goods and services are sold to export markets?
Percentage
Don't know
Won't say

Table 15. Displacement Question 2
What percentage of your export market is served by competitors from Greater London?
Percentage
Don't know
Won't say

The level of displacement across all survey respondents was assessed to be 9%.

21 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/685903/The_Green_Book.pdf

6. Business Growth (London Growth Network)

6.1. Background

London & Partners' business growth programme offers business advice and support to businesses based in London with fewer than 250 employees and turnover of less than £40m looking to grow across London including the outer boroughs.

The programme helps companies to overcome barriers to growth and increased productivity. This is done by providing ongoing guidance and support in the form of a tailored growth plan, a dedicated account manager, events & workshops, access to experts via a mentoring programme and opportunities to collaborate with large corporates.

LGN is part-funded by the European Regional Development Fund programme (ERDF).

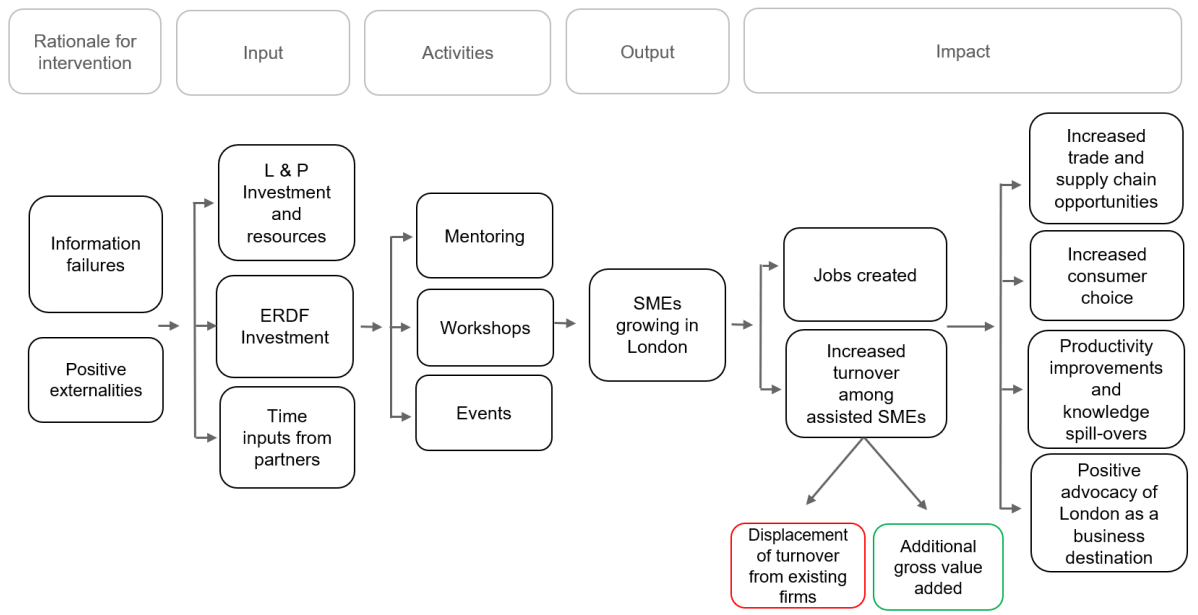
6.2. Rationale for intervention

The business growth programme seeks to address the information and coordination market failures. London businesses do not have perfect knowledge of how to unlock their growth potential and of potential business partners, particularly companies at the early stage.. Also, benefit of organizing e.g. networking events where they can meet business partners is not fully internalised. Hence, they will under-invest in engagement with other businesses and experts.

The logic chain diagram in Figure 8 shows the progression from activities to outputs and impact.

6.3. Evaluation methodology

Figure 8. Logic model for The Mayor's International Business Programme



London & Partners and the Greater London Authority (GLA) commissioned Hatch Regeneris Consulting to evaluate the programme, as it is a requirement by ERDF to use an external evaluator. This methodology is similar to that used to evaluate the Mayor's International Business Programme.

Differences between this program and the Mayor's International Business Programme need to be taken into consideration. For example, any revenue impact of the London Growth Network may take longer to materialise if, for example, a business has focussed on developing new products, rather than finding clients for existing products.

The evaluation of this program will include measurement of outputs as required by the ERDF, e.g. the number of companies supported with at least 12 hours, new jobs and new products.

The methodology set out below draws on guidance from the HM Treasury Green Book, Magenta Book and MHCLG's ERDF Summative Assessment Guidance[22].

6.3.1. Data Collection

All BGP beneficiaries provide basic contact information as part of the process of engaging with the project. This is used by evaluators to contact beneficiaries between 6-12 months after completion of

[22] Ministry of Housing Communities & Local Government & European Union European Structural & Investment Funds, 2017, England European Regional Development Fund Programme 2014 to 2020: Project Summative Assessment Guidance, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/705888/ESIF-GN-1-033_ERDF_Summative_Assessment_Guidance_v1.pdf

their support, asking them to complete a survey to capture their perspectives on the project and information to allow an analysis of the impacts of support provided.

London & Partners will aim for sample representativeness across sectors. At the time of writing in 2018, no surveys have been conducted, given the relatively early stage of the programme. The first graduated companies will be surveyed in the spring 2019, and the results from this will feed into the calculation of additional GVA.

6.3.2. Calculation of additional GVA for Business Growth

Additional GVA is based on beneficiary turnover increase as reported by the individual businesses. Additionality of London & Partners is taken into account for this area by:

1) Asking what share of any impact that has happened, was as a result of the programme (step B), and

2) Asking if they could have got the same support elsewhere (step F)

Figure 9 illustrates the steps in the calculation of GVA.

Figure 9: Illustration of steps in the GVA calculation

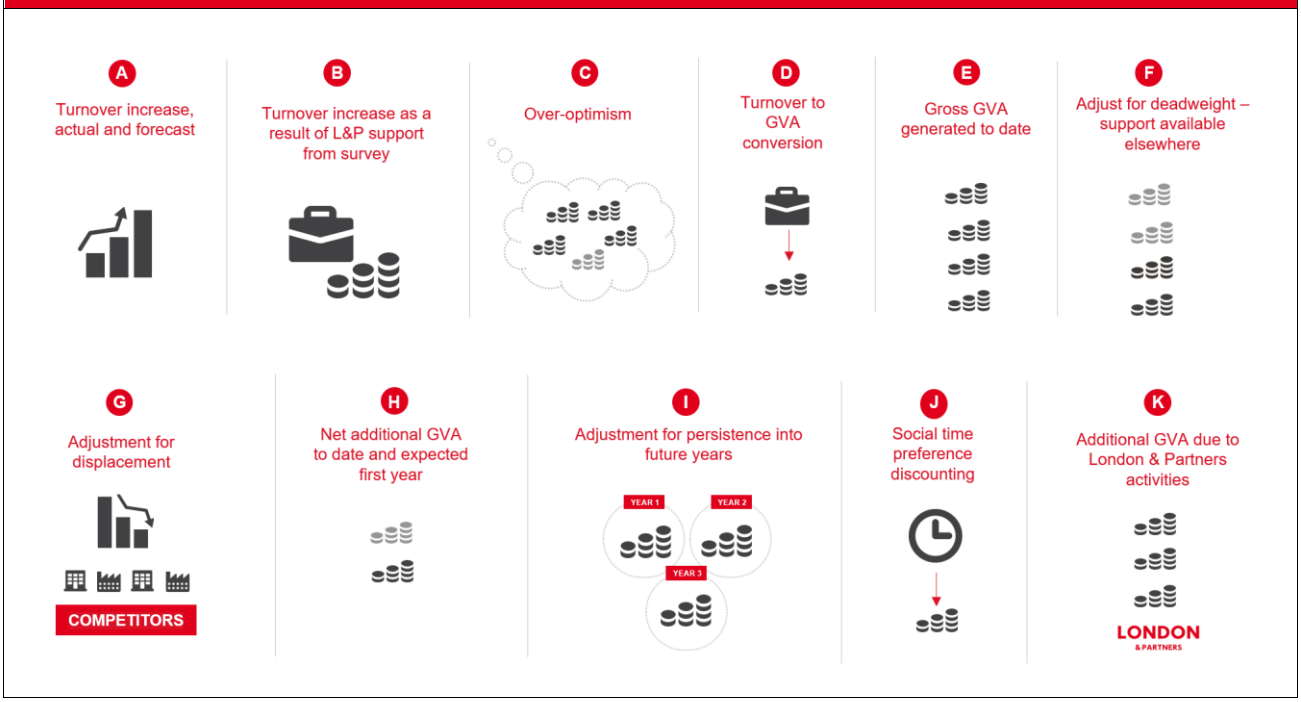


Table 16 describes each step with further details on the calculations and data sources.

Table 16. Summary of steps within the business growth economic impact model		
Step	**Detail**	**Source / Calculation**
A	Turnover increase achieved to date and anticipated in next year (survey)	Survey
B	Percent of turnover increase as a result of the support received	% from survey
C	Optimism Bias – none assumed on turnover increase to date; 20% optimism bias assumed on future estimates	Optimism bias assumption based on rounded estimate from L&P FDI optimism bias findings
D	GVA to turnover ratio	Annual business survey
E	Gross additional GVA generation to date and in next year	= A * B * (1-C) * D
F	Deadweight – support available elsewhere	% from survey
G	Displacement	% from survey
H	Net Additional GVA generated to date and expected in next year	= E * F * (1-G)
I	Persistence of future impacts	3 years. HCA Additionality Guide, 2014 and assumed decay of impacts over three years
J	Social Time Preference Rate	HM Treasury Green Book
K	Net Additional GVA	= H * I * (1-J)

Turnover increase

Surveyed beneficiaries are asked to state:

1) The number of people employed by their business and the total annual turnover at the end of their last full financial year
2) Their current number of employees and their expected annual turnover at the end of this financial year (based on current performance)
3) The number of additional people they expect to employ over the next 12 months and their expected annual turnover at the end of the next financial year

The difference between (1) and (2) represents gross jobs and turnover generated to date since the beginning of the programme. The difference between (2) and (3) represents gross jobs and turnover expected to be created in the next year.

Percent of turnover increase as a result of the support received

The extent to which any impact happened as a result of the programme is estimated through the question in table 17. The second column in the table indicates how each response is treated in the modelling. This question is used to assess additionality for jobs change, turnover change and future jobs / turnover change. While this is included as part of the turnover question for evaluation of the Business Export programme, it is asked separately Business Growth to make it easier for respondents on a programme where impacts may be less easily identifiable.

Table 17. Impacts of support question	
Question: *What proportion of this change was purely as a result of working with the Business Growth Programme?*	
Response	**Weight**
0%- none of it is due to the Business Growth Programme	No net impacts
Less than 25%	12.5% of gross impacts considered additional
26%-50%	37.5% of gross impacts considered additional
51%-75%	62.5% of gross impacts considered additional
76%-99%	87.5% of gross impacts considered additional
100% - all of it was due to the Business Growth Programme	100% of gross impacts considered additional
Don't know	Additionality based on average level across all respondents to question

Adjusting for Over-Optimism

No optimism bias is assumed for assessing change in employment and turnover to date, as it is assumed businesses would provide this information on an objective basis.

In assessing future impacts, there is greater uncertainty and significant risk of beneficiaries being over-optimistic. However, there are no standard approaches to quantifying optimism bias in this circumstance. Analysis by CLG in 2007[23] for example, highlights that in estimating outputs from projects there was a relatively even spread between projects where outputs were over and under estimated.

Internal data from London & Partners has analysed optimism bias in estimating future impacts from FDI projects. The data shows that approximately 78% of expected impacts are realised. Although the type of investment is quite different, this optimism bias can be used as a proxy for assessing optimism bias of future expected growth by businesses in the BGP programme.

[23] Optimism Bias in the Appraisal of Regeneration Projects

Optimism bias has therefore been assumed for future expected impacts, with an assumption that 80% of estimated impacts would be realised. In the evaluation report this assumption will be tested to consider the effect on project impacts and value for money if the optimism bias is higher or lower.

Converting turnover to GVA

Gross GVA generated is assessed based on applying a turnover-to-GVA ratio to the gross turnover generated for each surveyed business. The ratio used will be relevant to the sector in which the beneficiary operates and is drawn from Annual Business Survey data for each relevant sector, based on national sector averages.

Deadweight

Deadweight measures the extent to which the same support would have been obtained without London & Partners' business growth programme. It is assumed that similar support could potentially have been accessed by beneficiaries from a different provider. Accounting for deadweight, in combination with the question in table 17, ensures that we only count the additional impact of the programme. This is tested through the beneficiary survey by asking the survey question in table 18. The second column indicates how each response is treated in the modelling.

Table 18. Deadweight question	
Question: *What do you think would have happened had you not received support from the Business Growth programme?*	
Response Option	**Modelling Response**
We would have obtained the same support in the same timeframe with a different provider	100% deadweight
We would have obtained the support with a different provider, but at a later time	80% deadweight
We would have obtained the support with a different provider but they would have been of a lower quality	50% deadweight
We would not have obtained the support with a different provider	0% deadweight

Adjusting for displacement

Displacement activity relates to where the growth of one firm may have inhibited growth in another firm in London, hence reducing the overall net benefits of the project for London as a whole.

For the purposes of this assessment, the displacement of jobs and GVA impacts are assessed using the survey question in table 19. In the modelling, gross additional impacts are then reduced accordingly based on displaced impact e.g. if 100% of the firm's turnover would be taken up by other London competitors then it is assumed all of the gross impacts generated were just displaced from other firms in the London economy, and none would be considered net additional.

Where there is a range, the modelling will use the middle point of that range.

Table 19. Displacement question for BGP	
Question: *If your firm ceased operations, what proportion of your turnover would be taken up by your competitors in London?*	
Response Option	**Modelling Response**
None	No displacement of gross impacts
Less than 25%	12.5% displacement of gross impacts
26% to 50%	37.5% displacement of gross impacts
51-75%	62.5% displacement of gross impacts
76%-99%	87.5% displacement of gross impacts
100%	100% displacement of gross impacts
Don't know	Displacement based on average level across all respondents to question

Calculating Persistence Effects

As described above, the survey assesses the potential for improved business performance which occurs as a result of the BGP support, to lead to additional employment and GVA generation over the next year.

It is assumed that these impacts will persist beyond this for a further two years (so three years' persistence in total), before decaying as other factors start to exert a much larger influence on business performance.

The estimate of three years' persistence is based on guidance in the HCA Additionality Guide, 2014.[24]

Social Time Preference Rate

Impacts that happen in the future are worth less than those happening at present time. Future impacts are therefore discounted with the Social Time Preference Rate (STPR), as described by the HM Treasury Green Book[25]. Future impacts are expected to stay for three years, as described in the section above, and these impacts are therefore multiplied by the average discount factor described in table 5.

[24] Housing & Communities Agency, 2014, Additionality Guide, 4th ed., https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/378177/additionality_guide_2014_full.pdf

[25] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/685903/The_Green_Book.pdf

7. Business Tourism

7.1. Background

London & Partners is home to the city's official convention bureau and promotes the capital as a leading destination for conferences and corporate events. Activity here looks to improve the offer to major corporations and associations, to build on the comparative advantages of London and to improve London's standing as a destination for conferences.

London is one of the most competitive cities for business events globally, ranking fifth in the 2017 International Congress and Convention Association (ICCA) annual rankings. International competition for attracting business events is high and ever growing from both established destinations who are improving their product, and from new emerging destinations. London & Partners promotes the capital with a major focus on new and contestable international events that are at risk of being lost to other city destinations. Attracting business events is not only important for the immediate economic benefits, but for growing a city's reputation, for underpinning sectoral growth, and for helping to animate a destination. Hence the Business Tourism team at London & Partners undertakes many activities to remain at the forefront of global event destinations, and to maintain an active pipeline of future events; targeting both those that could not be won without the intervention and those with the highest forecast return on investment.

London & Partners offers a total event solution service for clients and event organisers, including free and impartial advice on planning meetings, conferences, events, exhibitions, incentives and launch parties in London. Services include:

- Advice about venues, housing, professional conference organisers (PCOs) and destination management companies (DMCs)
- Site inspection facilitation
- Production and support for bids from leading civil and corporate figures in London and the UK to secure large internationally mobile conventions
- Promotional tools to help increase delegate attendance, including DVDs and presentations
- Visitor information for delegates
- Customised accompanying partner programmes in London
- Oyster cards (pay-as-you-go travelcards) for groups of more than 50.

7.2. Rationale for intervention

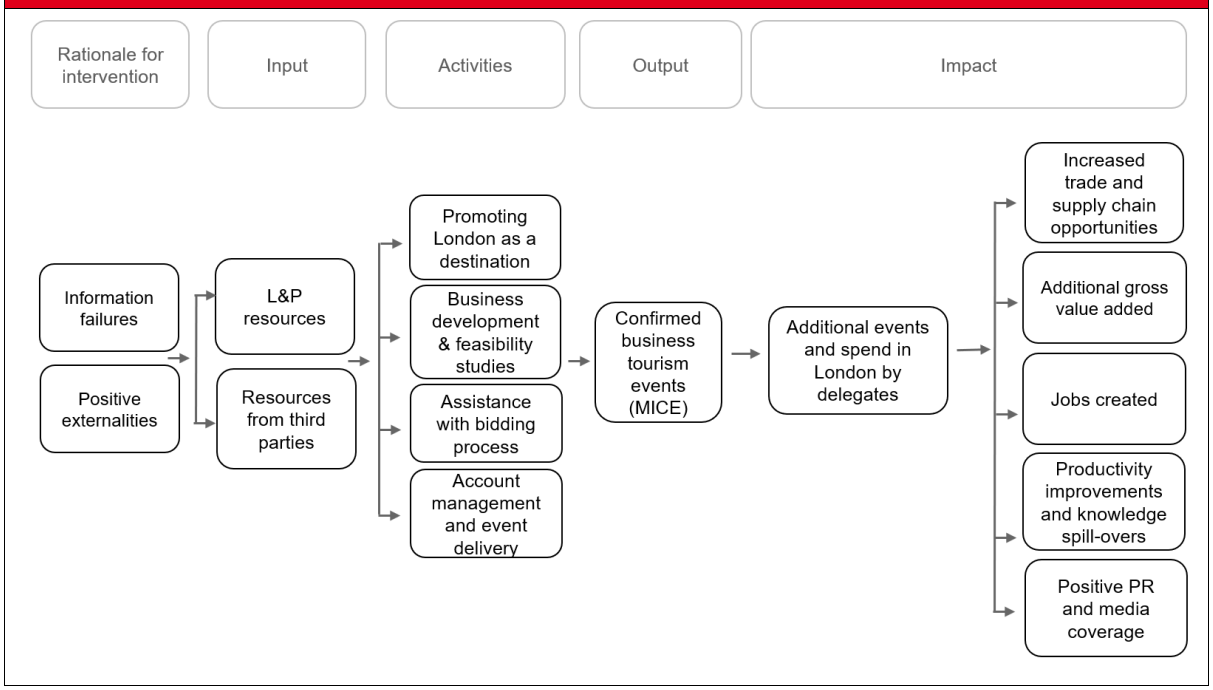
Activity in this area looks to correct information failures whereby conference or event organisers may not realise the full benefits of hosting events in London. In addition, there are information asymmetries: event organisers might have the concern that information provided by accommodation and venue

providers is not independent. An impartial advisor can address this concern and remove barriers to booking events in London.

There are also positive externalities for London and its brand reputation, for example, through attendees being more inclined to return to London as leisure tourists, or through potential positive impacts on trade and inward investment brokered at conferences or events in London. In addition to this, hosting events in London can generate considerable additional spending in London by organisers and attendees. London businesses may also obtain new knowledge when experts in their field visit the city. Although the level of these spill-over benefits can be difficult to evidence, these could lead to considerable additional economic activity in London.

The logic model in figure 10 illustrates how correction of the market failures within business tourism can lead to positive impacts on London.

Figure 10. Logic model for Business Tourism



7.3. Evaluation methodology

The methodology to evaluate economic impact from business tourism conferences and events was developed in 2014 by London & Partners and economists from the Greater London Authority, in collaboration with Regeneris Consulting. London & Partners only report direct additional economic impact in terms of GVA that is generated and retained in London's economy. Hence, in line with our previous evaluation methodology, economic multipliers are not used.

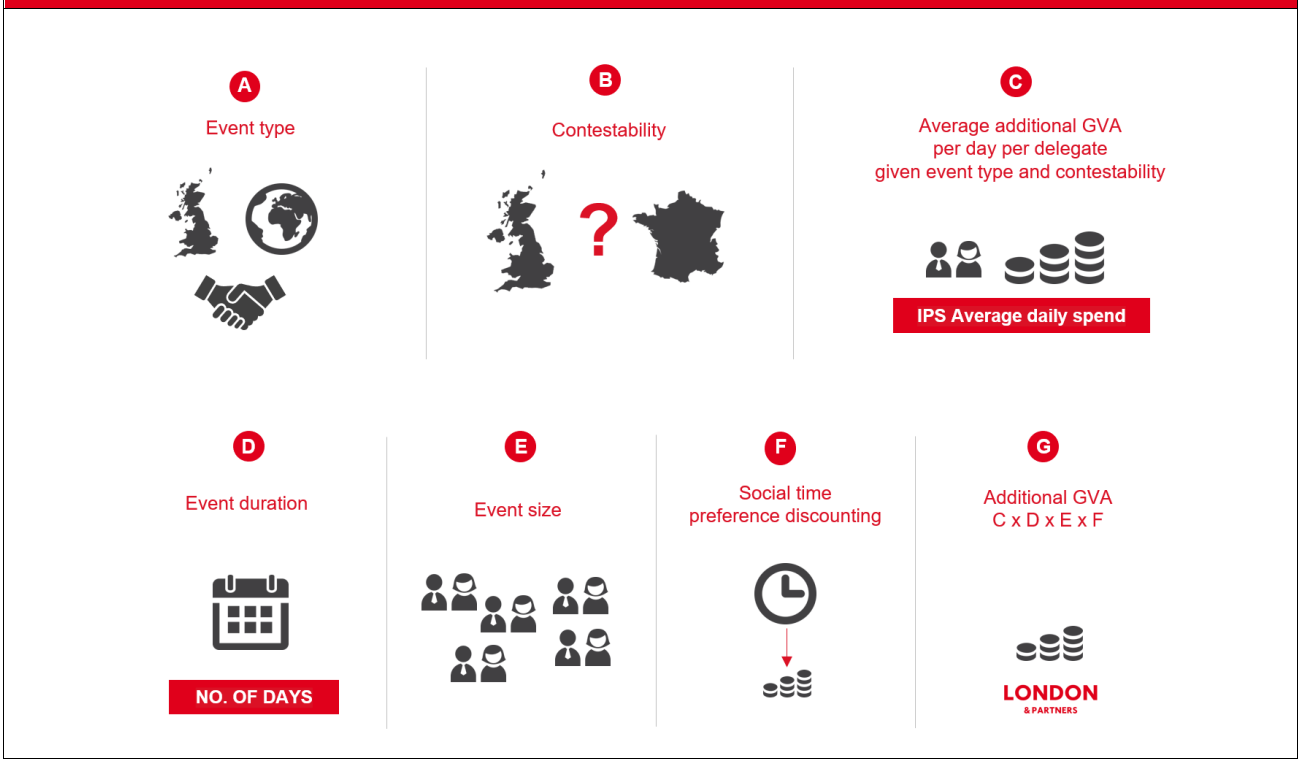
7.3.1. Calculation of additional GVA for Business Tourism

London & Partners supports different types of business events to come to London. London & Partners' event classification is aligned with the standard classification adopted by other national tourism boards since 2006[26]. According to this taxonomy, events are classified as Corporate or Association; International or Domestic; and Single Day or Multi-day events.

An economic impact model developed by Regeneris Consulting was used to calculate average GVA per delegate per night for each of the event types, and for contestable and non-contestable events. The model was based on data from more than 40 events. Average gross spend and additionality drives the economic impact and varies depending on the type of event with international multi-day events generating higher value than domestic single day events. To convert spend into GVA, Input-Output tables for the UK regions were used[27] for the sectors of food and drinks, travel, accommodation and entertainment including attractions etc. Additionality varies from 18 to 43 percent, depending on event type and contestability. Some events, typically larger ones, are confirmed years before they take place. Events happening more than one year after the financial year in which the event is confirmed are therefore discounted with the Social Time Preference Rate as described in HM Treasury Green Book.

Figure 11 illustrates the steps in the calculation of GVA.

Figure 11: Illustration of steps in the GVA calculation for business tourism



[26] "Estimating the Local Expenditure Benefits of Conferences to a Local Area", an advisory note from the UK Tourist Boards. Used towards the delegates expenditure survey carried out in 2006.
[27] This was developed by Regeneris Consulting using the UK level national accounting data, along with data on the London economy.

Table 20 describes each step with further details on the calculations and data sources.

Table 20. Summary of steps within the business tourism economic impact model		
Step	**Detail**	**Source/calculation**
A	Event type	Client feedback
B	Contestability	Client feedback
C	**Average additional GVA per day per delegate**	**Economic impact model based on A and B**
D	Event duration	Client feedback
E	Event size	Client feedback
F	Social Time Preference Rate	HM Treasury Green Book
G	**Additional GVA**	**C*D*E*(1-F)**

The average additional GVA numbers from the economic impact model are adjusted every year based on IPS business tourist data. Calculation of the adjustment factor is shown in table 21.

Table 21. Calculation of adjustment factor for average business tourism GVA		
Step	**Detail**	**Source/calculation**
A	Average business tourism spend per night in previous year	IPS
B	Average business tourism spend per night two years ago	IPS
C	**Adjustment factor**	**A/B**

Although the average additional GVA numbers are updated with the adjustment factor in table 21, event hosts are also asked by London & Partners to its influence on choosing London for the event (additionality). The question is similar to the question in Table 5 and will be used to make yearly adjustment of the numbers. Further, to ensure the average additional GVA numbers are updated, London & Partners aim to initiate a primary research study with a sufficiently large sample of events.

8. Major Sports/Cultural Events

8.1. Background

London & Partners' Major Events Team acts as a central point of leadership and expertise to develop and promote the capital as the world's most exciting destination for major sports and cultural events. The team leads on strategic planning, bid development, marketing, brand activation, and destination marketing using major events as a vehicle to tell London's story overseas and enhance our international reputation.

The team's job is to put a spotlight on London, working with the industry leaders in entertainment, culture and sport to realise world-class events in London. The team works in partnership with the Mayor of London's office, national governing bodies, international sports federations, cultural institutions, rights owners and city stakeholders to win bids and attract new events that resonate globally and that have got a choice to host the event elsewhere. The team helps deliver these major mass-spectator sport and cultural events utilising cross-city expertise and leverage on owned online channels to access new audiences in core markets via user generated content and third-party endorsement.

The team's objective is to attract events which deliver good growth for London, draw global media exposure for London and generate local community engagement. This continues to strengthen London's international reputation as a world-leading and award-winning host city for major events which in turn allows engagement with national and international audiences.

8.2. Rationale for intervention

The rationale for activity in this area looks to correct information failures and information asymmetry. Information failure happens when conference or event organisers may not realise the full benefits of hosting events in London. Information asymmetries happen when event organisers might have the concern that information provided by accommodation and venue providers is not independent. An impartial advisor can address this concern and remove barriers to booking events in London.

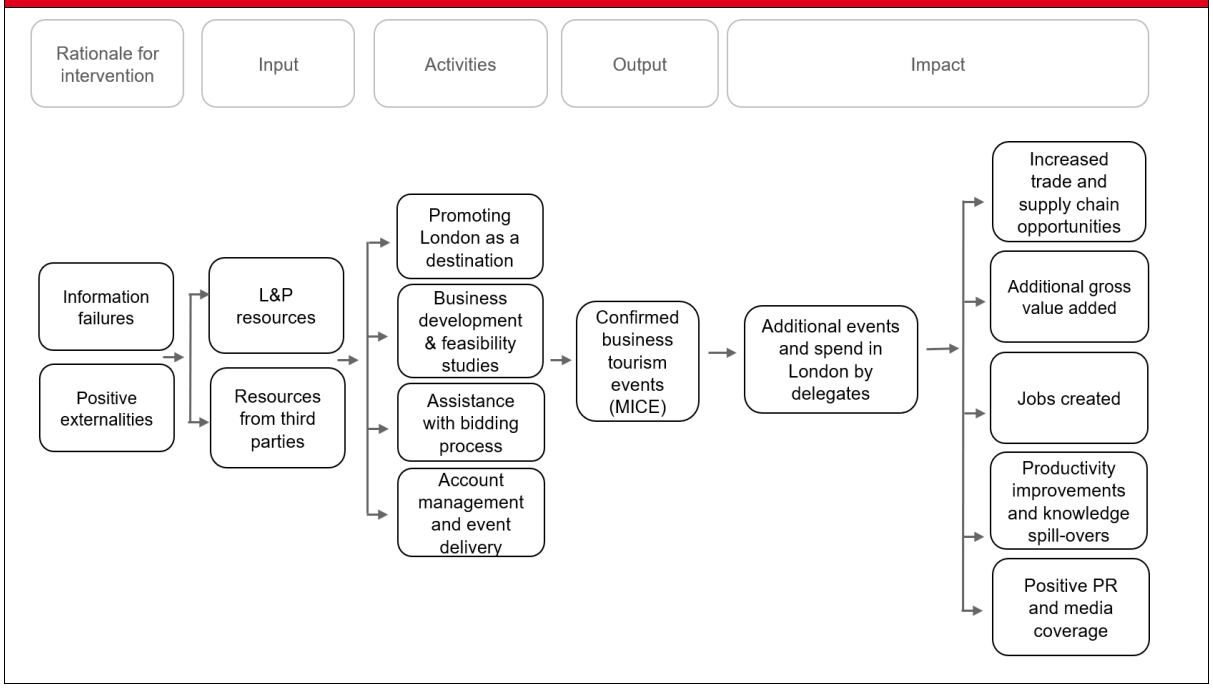
There are also positive externalities for London and its brand by hosting events, for example through spectators or global viewers being more inclined to visit, study, work and invest in London. Private businesses have little or no incentive to promote London's brand and to invest in destination marketing. This is because they cannot capture the full benefits. Without public sector intervention, the market would therefore lead to an under-investment in promoting London's brand.

Hosting events in London can also generate considerable additional spending in London by organisers and attendees. London citizens may be inspired to take up new sports or cultural activities, which may

have the potential to increase the health and well-being of Londoners, and the events may provide volunteering and learning opportunities. Although the level of these externality benefits can be difficult to evidence, they could potentially be of considerable economic value to London.

The logic model in figure 12 illustrates how correction of the market failures within major sports and cultural events can lead to positive impacts on London.

Figure 12. Logic model for Major Sports/Cultural events



8.3. Evaluation methodology

The methodological approach to estimate the economic contribution of major sporting and cultural events is based on eventIMPACTS[28]. EventIMPACTS was developed by Sheffield Hallam University's Sport Industry Research Centre (SIRC) and was commissioned by a consortium of UK based organisations staging and promoting major public events nationally. However, for consistency in measurement of other business lines, London & Partners and GLA Economics agreed on applying discounting factors to estimate additional GVA deriving from the events.

Ideally every event should be evaluated on its own. However, this would not provide a cost-efficient approach to measuring GVA. The evaluation of individual events is therefore based on average figures from past events that were evaluated economically. Table 22 shows the event taxonomy and the studies used to inform the economic value of each event type.

[28] Details of the eventIMPACTS methodology available at http://www.eventimpacts.com/economic

London & Partners is currently reviewing reputational impacts of hosting events. This is currently not quantifiable within this paper.

Table 22. Event classification and sources for calculation of economic impact		
Group	**Type**	**Source**
A	Sporting Single-Day high profile international event	Two NFL International Series Games, 29 September and 27 October 2013, Wembley Stadium
B	Sporting Multi-Day high profile international event	ATP World Tour Finals, 5-12 November 2012, The O_2 Arena
C	Sporting event, mainly local low profile	2014 Final Diving World Series at the London aquatics centre.
D	Free cultural event	Lumiere London 2016
E	Creative/art event	London Design festival

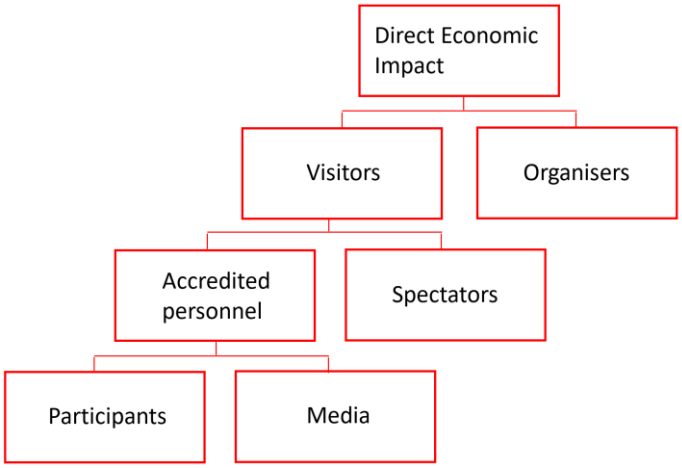
For more details on GVA assigned to sporting events see Appendix E. With the growth of new types of events, such as e-sports, which has both physical and virtual spectators, new classifications will be developed.

8.3.1. Calculation of additional GVA for Major Events

The contribution of London & Partners supported events is measured through the estimated direct economic impact on London in accordance with the eventIMPACTS methodology. As illustrated in figure 13, there are two sources of an event's direct economic impact: visitors and organisers spend[29]. The visitor component can be disaggregated further into spectators; audience and accredited personnel (i.e. delegates, media etc.).

[29] "An Economic Assessment of London & Partners support for major events", Sport Industry Research Centre, Sheffield Hallam University, (2013).

Figure 13. Flow diagram outlining the components of economic impact from major events



Direct economic impact is estimated by accounting for spending in London by both (non-London) domestic and overseas visitors who visit the capital for the purpose of attending the specific event, this excludes spend from random visitors.

The figures are concerned with the amount of new money injected into London from external sources as a direct result of hosting major events. The figures provide a baseline to estimate the net benefits of major events to London in terms of Gross Value Added (GVA) terms, and to estimate the additionality of London & Partners' contribution, deriving an overall cost-benefit ratio of London & Partners promotional activity linked to major events.

London & Partners applies an additionality factor of 33 per cent to convert gross to net economic spend. The additionality of London & Partners' contribution has been set at 33 per cent based on the three main players contributing in winning major events bids; namely, the Sport Governing Body (UK Sport Federation), the hosting venue and the City (London & Partners, the Mayor's official promotional organisation for London). This is a simplifying assumption as additionality for our activity in this business area cannot be estimated via primary research. Additionality is set at 100 per cent in case of London & Partners owned events, for example, Ride London.

Additionality for this business area had been largely discussed during a round table with national counterparts, and two consultancies have been involved in brainstorming on the subject. There has not been any systematic analysis in the major events' evaluation literature setting out the additionality from an organisation such as London & Partners when promoting and supporting major events.

Additional spend is finally converted into additional GVA by using the same GVA conversion ratio used for leisure tourism (40 per cent, based on data from the Annual Business Survey, ONS) given similarity of the expenditure pattern.

Events are counted in the financial year they are confirmed, rather than when they take place. The estimated economic impact is therefore discounted by the Social Time Preference Rate of 3.5 % on a

case by case basis[30]. Repeat events, such as NFL games, that are initially strongly influenced to come to London by London & Partners, are discounted by 25 percent when they return in subsequent years. If we have reason to believe our impact on repeat events is smaller, the discount will be larger.

Methodology for evaluation of reputational impact is being developed, and the overall evaluation methodology framework for major sporting and cultural events is to be reviewed. The review may include updating the calculation input with estimations from more recent events.

30 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/685903/The_Green_Book.pdf

9. Leisure Tourism

9.1. Background

London & Partners attracts international leisure tourists to London by promoting the city as the leading destination in the world. Marketing activity is targeted at young, first time visitors to make trips to London they would not otherwise have made. Marketing channels include visitlondon.com, social media channels, third party websites, and partner and influencer channels.

9.2. Rationale for intervention

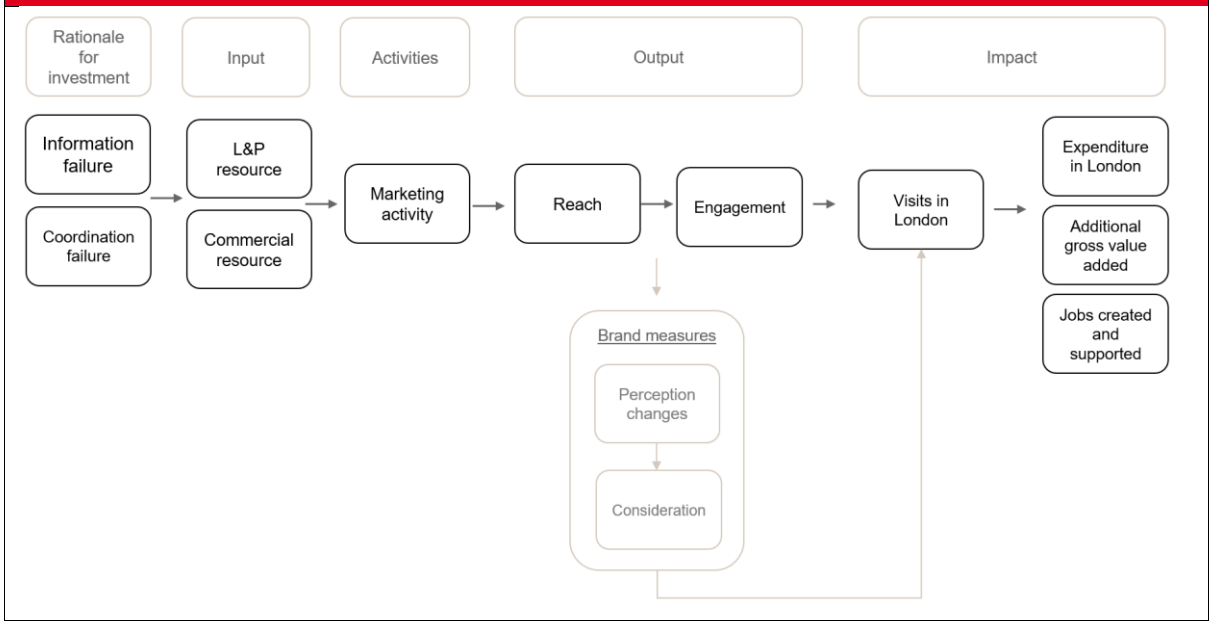
Hotels, attractions and other tourism focused organisations have little or no incentive to promote London's brand and/or to invest in a destination marketing strategy. This is because visitors' expenditure is spread across a range of organisations, meaning that the organisations may not internalise the full benefits of destination marketing.

This coordination failure results in an under-investment of the market in promoting London's brand. At the same time, information failures mean that our audiences are not fully aware of the benefits of London's leisure tourism, which might prevent a portion of them from considering London as a destination.

Evaluation activity conducted at London & Partners aims to understand the portion of visitors effectively influenced by London & Partners marketing activity.

The logic chain diagram in Figure 14 shows the progression from activities to outputs and impact.

Figure 14. Logic model for Leisure Tourism



9.3. Evaluation methodology

This methodology to calculate the impact of London & Partners marketing activities builds upon the most credible and conservative evaluation approaches published by GLA Economics[31] and is grounded in an extensive academic literature review on measuring the economic impact of destination marketing activity. London & Partners, jointly with GLA Economics, has extended and adapted these methodological approaches across different marketing activities.

In line with previous studies and with the approach used by similar organisations, the economic impact of consumer marketing activity is measured via 'conversion research'. This consists of surveying a sample of our audience who have been exposed to our marketing activities to estimate the conversion of marketing exposure into actual visitors choosing London. The samples are contacted after their initial exposure to the marketing activity.

The survey is designed to establish what percentage of respondents choose to visit the city following their interaction with London & Partners' marketing activity. At the core of this evaluation is the estimation of the additionality of London & Partners' marketing activities; i.e. the extra benefits that accrue as a direct result of these activities, over and above what would have happened anyway.

9.3.1. Calculation of additional GVA for Leisure Tourism

The leisure tourism economic impact model estimates the additional GVA generated by tourists influenced to visit London or to extend their visit in the capital as a result of engaging with London & Partners' marketing activities. The major driver of economic impact is additional tourist expenditure. Expenditure is converted into GVA using a ratio based on data from ONS and previous GLA Economics evaluation evidence.

The leisure tourism model is based on an experimental approach with an estimated counterfactual outcome. The "treatment group" in the experiment is the group of people exposed to London & Partners online marketing activity and part of a 3rd party panel database. The control group, which is the basis for the estimated counterfactual, is drawn from the same panel and consists of people with demographical characteristics similar to the exposed group in terms of nationality, age, income and number of children.

To understand the additionality of marketing activities, both groups are asked questions about visits to London. The economic impact of marketing activity is based on the difference in visits, intentions to visit and visit length. The control group approach eliminates biases that would stem from using a

[31] Key references include: "Destination Marketing and Promotion: Economic Impact Methodology Study", ECORYS (formerly ECOTEC), (2010); and GLA Economics Working Papers 46 and 54, relating to Visit London campaigns (2011, 2012).

survey approach, e.g. over-optimism, since the same biases will be present in responses from both exposed and unexposed users. Ideally, we should compare behaviour by those exposed to our marketing activity to the behaviour of those same people, had they not been exposed. However, this is logically impossible, and using a control group is the second-best option.

Samples will be collected on an ongoing basis from marketing channels where users can be tracked. The majority of responses will be sourced from large online campaigns, such as the London-Paris campaign, launched on 3rd party channels in 2018. Respondents will also be sourced from our own channels including visitlondon.com and social channels where users can be tracked (currently only Facebook).

To the extent it is feasible, the control group for visitlondon.com will be sourced from the group of non-engaged users. Samples across channels and activities will be pooled this unless the sample sizes allow evaluation by unique campaigns and channels. At a minimum, London & Partners' will aim to survey 400 users exposed to our marketing activity and compare this to 400 unexposed users.

London & Partners will also test new methods to collect data, for example using third party pixel tracking to track actual bookings to London among people exposed to marketing compared to bookings among a control group.

Box 1. Sampling for online marketing evaluation

Exposed and unexposed survey respondents are sourced among users who have opted in to a third-party survey panel. They are identified using pixel tracking that matches users exposed to the tracked online content with users on the panel. Pixel tracking works as follows:

1. A pixel is created and embedded within London & Partners' marketing content.
2. When a user is exposed to that marketing, the pixel is activated and identifies if the user is part of the 3rd party panel database.
3. User identity is only known by the owner of a panel database that the user has opted into, and only users in the panel database are identified. Data is anonymised and no personal data is made available. The owner is a third-party survey company.
4. The pixel can also capture and store information such as whether the user engaged with the content, the format of the content and the channel where the content was viewed
5. Once users have this been identified on the pixel, they are placed in a group of exposed users.
6. The group of exposed users are surveyed. A demographically and behaviourally similar group of people in the database is also identified and surveyed.

Based on the responses, London & Partners is able to determine the proportion of visitors to London in each group. The hypothesis is that a higher share of the group of users exposed to marketing activity will have visited or intend to visit London, compared to the control group. The exposed group may also have stayed more nights. The results from the surveys are used to estimate in each group:

- Average number of trips made to London in the last year
- Intent to visit
- Average length of stay
- Average party size

The surveys will be repeated annually where possible, and at least every 3 years, to ensure we continue to build our understanding of the impact of different content and channels.

Figure 15 illustrates the steps in the calculation of GVA.

Figure 15. Illustration of steps in the GVA calculation for leisure tourism

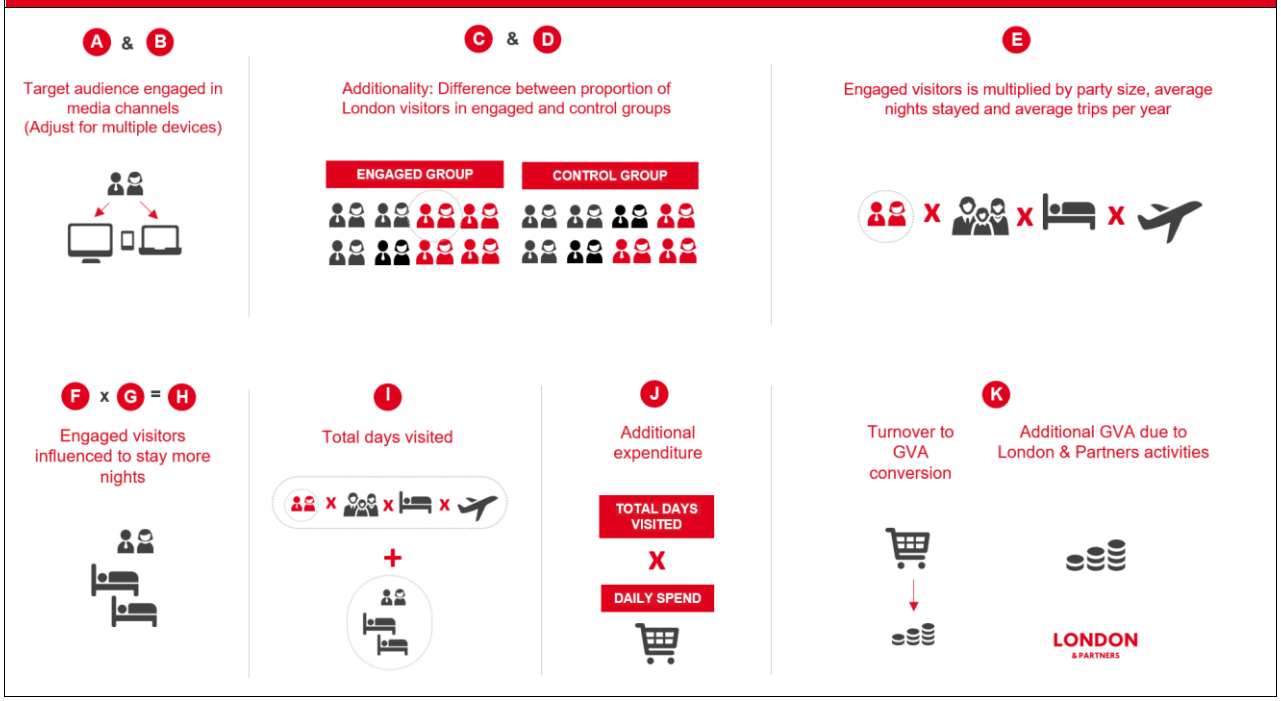


Table 2 describes each step with further details on the calculations and data sources.

Table 23. Summary of steps within the leisure tourism economic model		
Step	**Detail**	**Source/calculation**
A	Population of engaged target audience	Marketing channel data
B	Adjustment for multiple devices	Exposure data or survey data combined with data from previous leisure tourism surveys by London & Partners
C	Additionality	Survey
D	Number of engaged who visit or intend to visit as a result of London & Partners marketing activity	= A * B * C
E	Gross day visits (actual)	= D * (Average party size) * (Average days per trip) * (Average trips made in one year) Factors in brackets are drawn from survey.
F	Number of visitors influenced to stay longer	Survey
G	Extra days from visitors influenced to stay longer	Survey
H	Total extra days	= F * G
I	Total days visited	= E + H
J	Additional expenditure	Total days visited x Daily spend
K	Net Additional GVA	= J * Turnover to GVA conversion ratio

Input factors in table 23 are described below.

Population of engaged target audience

Total population within London & Partners' target audience who have been exposed to marketing activities. See appendix G for more details on the definition of engagement.

Adjustment for multiple devices

The engaged target audience is likely to have been exposed to the marketing content on more than one device, e.g. both on a laptop and on a mobile phone. In case the engaged target audience is not measured by unique users, a question from the survey on how many different devices the content has been seen on will be applied to discount the total population.

Additionality

The difference between the proportion of those who visited London from the engaged audience survey group and those who visited London from the control group

Number of visitors influenced to stay longer

Visitors exposed to London & Partners marketing content might have been influenced to stay longer compared to visitors in the control group. The number is calculated as the proportion of those who visited London from the engaged audience survey group minus the additionality (step C) multiplied by the total engaged target audience (step A).

Extra days from visitors influenced to stay longer

The difference between the number of days visited by those who visited among the engaged audience and those who visited among the control group

Additional expenditure

Daily spend is based on the International Passenger Survey[32] daily average spend per market (overseas visitors).

Net Additional GVA

The net additional GVA is the economic impact in London that has happened as a result of London & Partners' activities. The visitor expenditure to GVA ratio based on ONS statistics and GLA Economics research[33]

The Social Time Preference Rate it's not applied to GVA from visiting tourists since most tourists influenced by London & Partners marketing content visit less than one year after the organisation report its GVA impact.

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32 https://www.ons.gov.uk/surveys/informationforhouseholdsandindividuals/householdandindividualsurveys/internationalpassengersurveyips

33 Methodology used drawn from GLA Economics Working Paper 54, which estimates a visitor expenditure to GVA ratio of 37.8 per cent, based on the weighted average of turnover to GVA for the relevant sectors that account for the tourism spend, drawn from Annual Business Survey data (ONS). This ratio was updated based on the visitlondon.com survey 2012/13. Standard Industrial Classification 2007 (SIC 2007) codes used – Division 47: Retail trade, except of motor vehicles and motorcycles; Groups 55.1, 55.2, 55.9 within Accommodation division; Division 56: Food and beverage service Activities; R: Arts, entertainment and recreation; Groups 49.1, 49.3, 50.3 within Transportation and storage section

Measuring brand campaigns

London & Partners will attempt to measure the impact of London messaging and brand activity for the first time. The hypothesis is that an improvement in the perception of London leads to an increase in consideration, and ultimately persuade more people to choose London as a destination. Also to be tested is an assumption that the more engaged the audience, the better their perception/consideration of London, thus the more likely they are to choose London. The methodology will be published in a separate paper once the assumptions have been tested.

10. Higher Education

10.1. Background

London & Partners attracts international students to London by promoting the city as the leading study destination. Marketing channels include studylondon.ac.uk, social media channels, third party websites and social media channels, including partners and influencers. In addition to attracting international students, London & Partners also work to retain and attract new talent for businesses. Evaluation methodology is to be developed for talent, and the following focuses on attracting international students.

10.2. Rationale for intervention

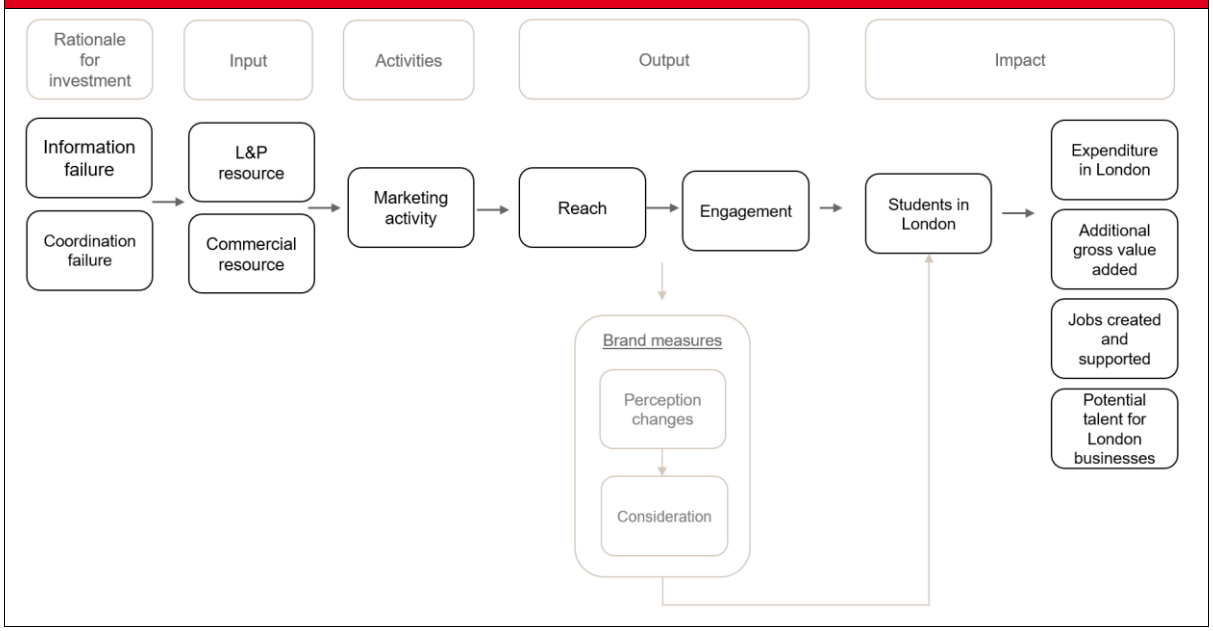
Higher education organisations have little or no incentive to promote London's brand and/or to invest in a destination marketing strategy. This is because students' expenditure is spread across a range of organisations, meaning that higher education organisations may not internalise the full benefits of destination marketing.

This coordination failure results in an under-investment of the market in promoting London's brand. At the same time, information failures mean that prospective students are not fully aware of the benefits of London's higher education, which might prevent a portion of them from considering London as a destination.

Evaluation activity conducted at London & Partners aims to understand the portion of international students effectively influenced by London & Partners marketing activity.

The logic chain diagram in figure 16 shows the progression from activities to outputs and impact.

Figure 16. Logic model for Higher Education



10.3. Evaluation methodology

After consultation with the British Council and a review of the evaluation and economic impact assessment literature, it was clear there was no robust measurement of economic impact generated by marketing activities to attract international students to the UK and London. The economic impact model developed by London & Partners and GLA Economics is the first attempt to fill this gap.

Similar to the leisure tourism methodology, economic impact is driven by the additional students' spend in London with the addition of the income from tuition fees and visits from friends and family. This is converted into GVA.

A conversion survey approach is used to understand the economic impact of international students. Users will be surveyed across different channels. The ability to survey users will vary by channel. For example, on www.studylondon.ac.uk a subset of users submit their email address and can be sent an extensive survey. However, this group is likely to be more engaged than the total population of website users as email addresses are only collected if a user registers for more information or if they want to send a course enquiry to a university.

Live surveys will be used on www.studylondon.ac.uk to capture the population of users who haven't submitted their email addresses, however live surveys will be limited to a smaller set of questions to ensure high response rates. A user browsing a website live is unlikely to answers more than a small number of questions. This smaller set of questions will be the same as those sent to registered users.

This smaller set of questions will also be used in other channels such as social media to reflect engagement and impact across other channels. Surveying users in social media is dependent on paid media spend and will therefore vary depending on specific marketing activities. Where it is not

possible to survey social media users, information will be collected from users who have submitted their email address on www.studylondon.ac.uk to identify which other channels they have used.

10.3.1. Calculation of additional GVA for Higher Education

The estimate of the GVA contribution international students is in broad terms calculated by using:

- What proportion of users who engage with London & Partners marketing activity secure a place in a London university or have applied for a place
- The influence London & Partners marketing activity had on their choice to study in London
- Average international student spend

Figure 17 illustrates the steps in the calculation of GVA.

Figure 17. Illustration of steps in the GVA calculation

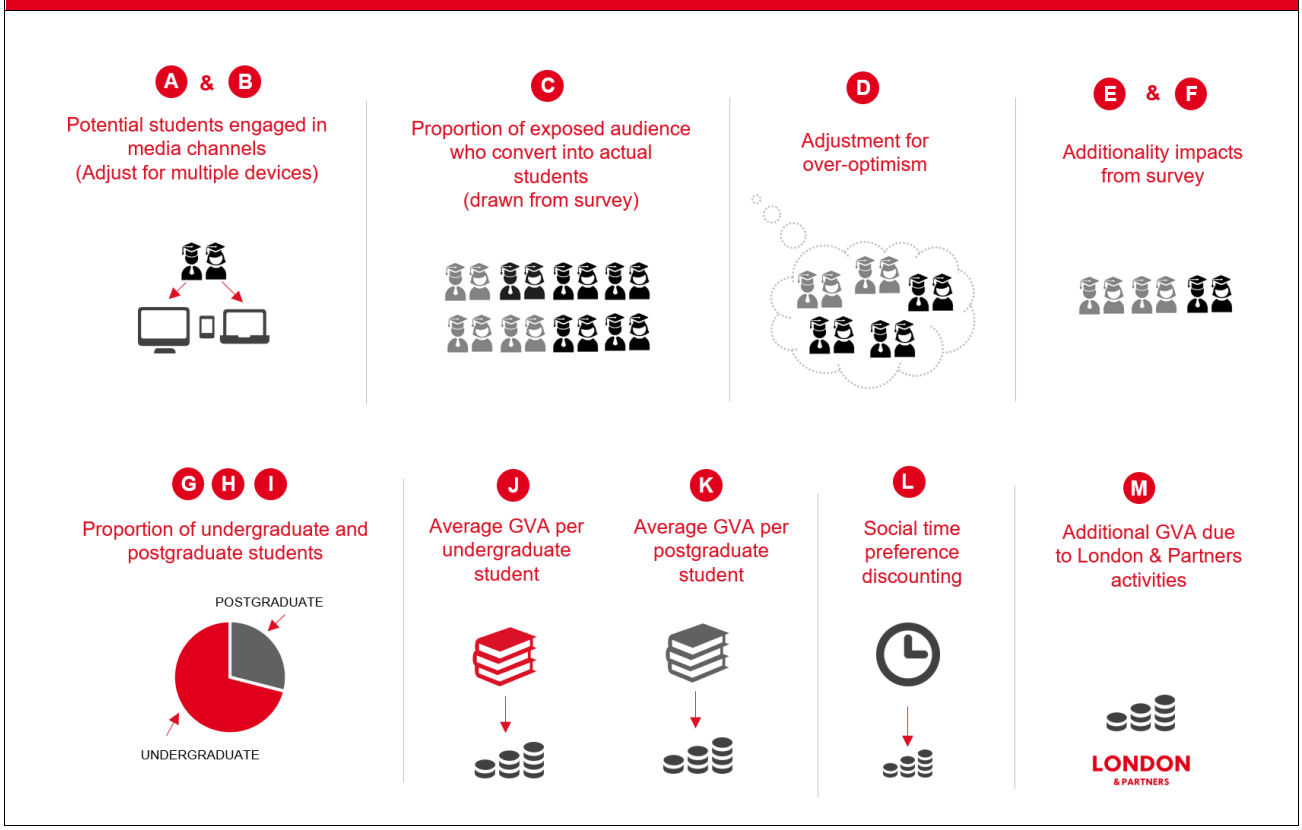


Table 24 describes each step with further details on the calculations and data sources.

Table 24. Summary of steps within the higher education economic impact model		
Step	**Detail**	**Source/calculation**
A	Potential students engaged in media channels	Media channel statistics
B	Adjustment for multiple devices	Survey
C	Converted students	Survey
D	Over-optimism bias adjustment	Model assumption based on other London & Partners business areas
E	Additionality	Survey
F	Net additional students accepted to study in London and convinced by London & Partners	= A * B * C * D * E
G	Proportion of undergraduate students engaged	Website statistics
H	Net additional undergraduate students	= F * G
I	Net additional postgraduate students	= F * (1-G)
J	Average GVA per undergraduate student	London & Partners (2018), The Economic Impact of London's International Students
K	Average GVA per postgraduate student	
L	Social Time Preference Rate	HM Treasury Green Book
M	Net additional GVA	= (H * J + I * K) * L

Each of the factors in table 24 are described in the sections below.

Potential students engaged in media channels

The total target audience population is built on both www.studylondon.ac.uk as well as through other channels. The student audience is surveyed using email addresses collected on the www.studylondon.ac.uk website. See appendix G for more details on the definition of engagement.

Adjustment for multiple devices

Future versions of the survey will ask if the students were influenced by any other London & Partners channels and to what extent. This will establish the influence of different channels and identify where a user may have engaged across different channels and are thus therefore double counted when the model aggregates engagements in each channel. This will enable us to discount for multiple devices.

Converted students

Proportion of exposed audience converting into actual students and accepted in a university in London

Over-optimism bias adjustment

The model discounts the number of students converted to study in London by 20 % to take into account any over-optimism bias in the respondents' answers. This is based on the assumption that those responding to the survey are the ones most engaged with studylondon.ac.uk.

Additionality

This measures the extent to which the students have chosen London as a result of information through London & Partners' marketing activity. Previous surveys among students who had chosen to study in London and been exposed to London & Partners' marketing activity estimated that an average 9 percent of the decision to study in London was because of London & Partners' marketing activity. This additionality factor will be updated to reflect new survey response findings and averaged across surveys. Additionality (and weightings for analysis) is measured by asking users the question in table 25[34]:

Table 25. Additionality question used within higher education surveys

Question: *What would you have done without the information and guidance received from Study London marketing activity?*

Answer	Weight
Definitely not have studied in London	100%
Probably not have studied in London	50%
Probably have studied in London anyway	20%
Definitely have studied in London anyway	0%

[34] Survey question based upon RDA Impact Evaluation Framework guidance, BIS.

Proportions of undergraduate and postgraduate students engaged

Potential students who sign up to the newsletter on studylondon.ac.uk tell if they are looking for an undergraduate or a postgraduate degree. These numbers are thus used to calculate the share of each type of students. The split is typically around 70% undergraduate and 30% postgraduate students.

Average GVA per undergraduate and postgraduate student

The assessment of the economic contribution from international students to London's economy cannot be derived directly from the survey. This is due to the difficulty for prospective students and actual students who have just arrived in London to provide reliable estimates on the costs of living and the expenditure from visiting families and friends.

London & Partners (2018) estimated the total spending generated by international students was £3.4 billion over the 2016-17 academic year[35]. Table 4 shows the direct impact, with allocation across fees, subsistence and spending generated by friends and relatives. It also shows the conversion into Gross Value Added (GVA) using data from the ONS[36] with a GVA impact of £1.8 billion.

Table 26. Higher Education Spending Channels converted into Gross Value Added

Spending Channel	Total expenditure (£m)	Gross Value Added (GVA), £m
Fee income	£1,523	£913
Subsistence	£1,745	£794
Family and friends	£180	£96
Total	**£3,448**	**£1,803**

Source: London & Partners (2018), The Economic Impact of London's International Students

- **Fee income:** income paid to higher education institutions.
- **Subsistence**: living costs such as rent, food, transport and leisure.
- **Family and friends' visits:** expenditure by relatives and friends who come to London to visit international students.

Using the estimate of direct GVA impact it is possible to generate a headline assessment of the incremental value to the London and UK economy of increasing the number of overseas students in the capital. Building on table 26 table 27 summarises the per-student GVA impact. This headline

[35] Further to this,

[36] Office of National Statistics, 2014, Annual Business Survey, November 2014. SIC codes 47,56, and L used for subsistence spending expenditure to GVA conversion using London data. Per student GVA is calculated based on the income approach. Future calculations should use the balanced approach, which the ONS is now using.

level analysis suggests that each overseas student in London generated a direct GVA impact of around £16,100 for each year of their studies (in 2017 prices).[37]

Table 27. Estimation of the incremental value of overseas students		
Description	**Undergraduate**	**Postgraduate**
Number of students	57,190	55,015
% of total students	51%	49%
GVA apportioned according to share of students (£ million)	£919	£884
GVA Annual impact per student	£16,100	£16,100
GVA Average total impact per student[38]	**£48,200**	**£16,100**

Source: London & Partners (2018), The Economic Impact of London's International Students

Social Time Preference Rate

Impacts that happen in the future are worth less than those happening at present time. Future impacts are therefore discounted with the Social Time Preference Rate (STPR), as described by the HM Treasury Green Book[39]. London & Partners take this into account by multiplying the total GVA with an average discount factor based on how long after the organisation reports on economic impact (which is in April). Calculation of the discount factor is described in table 28.

Table 28. Calculation of the average STPR discount factor		
Students' arrival date after London & Partners' economic impact is reported	Discount rate	Share of students used for economic impact calculation
Up to 5 months	1	28 %
5-17 months after	1/1.035	72 %
STPR discount factor (weighted average)	**0.976**	

[37] All figures updated to 2017 prices using ONS GDP deflator, for full details on the methodologies put in place to derive estimates of GVA per workforce job, by section and division, for London and the UK as a whole, see: Smith, B and Girardi, B, 2017, *Working paper 87: Productivity Trends: GVA per workforce job estimates for London and the UK, 1997 – 2015,* Greater London Authority Economics, available at: https://www.london.gov.uk/sites/default/files/working-paper-87.pdf

[38] Total per-student impacts are based on conservative assumptions about the duration of undergraduate and post-graduate courses. We have assumed average durations of three years for undergraduates and one year for post-graduates. This latter assumption is conservative as post- graduate courses can last more than one year.

[39] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/685903/The_Green_Book.pdf

Acceleration effects, i.e. whether London & Partners have influenced students to come to London earlier, is excluded from the model. This is based on the fact that the decision of when to start a university course is dependent on the completion of previous studies and the beginning of new academic years.

Net Additional GVA

The net additional GVA is the economic impact in London that has happened as a result of London & Partners' activities.

APPENDIX A – Representativeness of sample of FDI businesses

Representativeness of sectors in sample – Surveyed companies vs total companies in 2014-15		
Sector	**% of all companies**	**% of surveyed companies**
ICT	42%	43%
Financial Services	12%	14%
Retail	5%	12%
Creative Industries	10%	10%
Business Services	10%	5%
Leisure & Entertainment	4%	5%
Construction	1%	2%
Energy	3%	2%
Food and Drink	4%	2%
Industrials	1%	2%
Life Science & Healthcare	5%	2%
Transport	2%	0%
Total number of companies	270	42

APPENDIX B - Displacement questions for FDI

In the last financial year what percentage of your sales from your London operation were to customers based in London?

a) *Enter a percentage between 0 and 100% (go to Q6)*
b) *Not sure (go to Q5.1)*

5.1 Would you be able to provide your best estimate of the percentage of your sales which were to London customers?

a) *1-10%*
b) *11-20%*
c) *21-40%*
d) *40-60%*
e) *61-80%*
f) *81-100%*
g) *Don't Know*

6. In the last financial year what percentage of your competitors were based in London?

a) *Enter a percentage between 0 and 100% (go to Q7)*
b) *Not sure (go to Q6.1)*

6.1 Would you be able to provide your best estimate of the percentage of competitors which were based in London?

a) *1-10%*
b) *11-20%*
c) *21-40%*
d) *40-60%*
e) *61-80%*
f) *81-100%*
g) *Don't Know*

APPENDIX C - Sectors and SIC codes for FDI

The table below summarises how London & Partners' definitions of priority sectors are matched to ONS SIC codes for GVA per job calculations. Some of them provide a close match (e.g. Financial Services), while for others it has been necessary to make a judgement on the appropriate codes, e.g. for the new tech-based sectors, such as Fintech and Proptech. Weights have been applied for such mixed sectors. For example, GVA per job for Fintech is calculated as the sum of 50 percent of the GVA per job in Financial services and 50 percent of the GVA per job in Tech. Where the sector matches result in GVA per job that seems unrealistic, an all industries average is used. This judgment is based on feedback from business development managers and has been done for the Travel Trade and University Innovation Hubs sectors. The reason for Travel Trade is that it has an unexpectedly high GVA per job number. University Innovation Hubs has been assigned the all industries average because it has a significantly lower GVA per job than the rest of the sectors. Part of the value created at University Innovation Hubs might materialise itself in spinoff companies, whose GVA values are not counted.

Sectors and SIC codes for FDI		
Sector	**SIC Codes used for GVA per job**	**Weight if applied**
Accommodation	55: Accommodation	
AdTech	70.21: Public relations and communication activities 73.1: Advertising	50 %
	Tech definition*	50 %
Artificial intelligence/machine learning	Digital & computer services from Tech definition*	
Biotech	21: Manufacture of basic pharmaceutical products and pharmaceutical preparations 72.11: Research and experimental development on biotechnology	
Blockchain	Digital & computer services from Tech definition*	
Business services	M: Professional, scientific and technical activities N: Administrative and support service activities	
CleanTech	E: Water supply; sewerage, waste management and remediation activities	50 %
	Tech definition*	50 %
Creative industries	59.11 Motion picture, video and television programme production activities 59.12 Motion picture, video and television programme post-production 59.13 Motion picture, video and television programme distribution 59.14 Motion picture projection activities 60.1 Radio broadcasting	

	60.2 Television programming and broadcasting activities 74.2 Photographic activities 58.21 Publishing of computer games 58.29 Other software publishing 62.01 Computer programming activities 62.02 Computer consultancy activities 58.11 Book publishing 58.12 Publishing of directories and mailing lists 58.13 Publishing of newspapers 58.14 Publishing of journals and periodicals 58.19 Other publishing activities 74.3 Translation and interpretation activities 91.01 Library and archive activities 91.02 Museum activities 59.2 Sound recording and music publishing activities 85.52 Cultural education 90.01 Performing arts 90.02 Support activities to performing arts 90.03 Artistic creation 90.04 Operation of arts facilities	
Culture	90.01 Performing arts 90.02 Support activities to performing arts 90.03 Artistic creation 90.04 Operation of arts facilities 59.11 Motion picture, video and television programme production activities 59.12 Motion picture, video and television programme post-production	

	59.13 Motion picture, video and television programme distribution 59.14 Motion picture projection activities 60.2 Television programming and broadcasting activities 59.2 Sound recording and music publishing activities 18.2 Reproduction of recorded media 32.2 Manufacture of musical instruments 47.63 Retail sale of music and video recordings in specialised stores 60.1 Radio broadcasting 74.2 Photographic activities 32.12 Manufacture of jewellery and related articles 91.02 Museum activities 91.01 Library and archive activities 85.52 Cultural education 91.03 Operation of historical sites and buildings and similar visitor attractions	
Cyber security	Digital & computer services from Tech definition	
E-commerce	47.91: Retail sale via mail order houses or via Internet	
E-sports	Digital & computer services from Tech definition*	
EdTech	P: Education	50 %
	Tech definition*	50 %
Energy	35: Electricity, gas, steam and air conditioning supply	
Engineering	42: Civil engineering 71.12: Engineering activities and related technical consultancy	
EventTech	68.20/2: Letting and operating of conference and exhibition centres 82.3: Organisation of conventions and trade shows	50 %
	Tech definition*	50 %
FashTech	47.71: Retail sale of clothing in specialised stores	50 %

	47.72: Retail sale of footwear and leather goods in specialised stores 74.1: Specialised design activities	
	Tech definition*	50 %
Financial services	K: Financial and insurance activities	
Fintech	K: Financial and insurance activities	50 %
	Tech definition*	50 %
GovTech	84: Public administration and defence; compulsory social security	50 %
	Tech definition*	50 %
Hardware	Computer and electronic manufacturing services from Tech definition	
HealthTech	Healthcare service definition**	50 %
	Tech definition*	50 %
HR tech	78: Employment activities	50 %
	Tech definition*	50 %
Infrastructure	42: Civil engineering	
InsurTech	K: Financial and insurance activities	50 %
	Tech definition*	50 %
MedTech	26.6: Manufacture of irradiation, electromedical and electrotherapeutic equipment 26.70/1: Manufacture of optical precision instruments 32.5: Manufacture of medical and dental instruments and supplies	50 %
	Tech definition*	50 %
Online games	Digital & computer services from Tech definition*	
PropTech	L: Real estate activities	50 %
	Tech definition*	50 %
Regeneration	41: Construction of buildings	
Retail[40]	47: Retail trade, except of motor vehicles and motorcycles	
RetailTech	47: Retail trade, except of motor vehicles and motorcycles	50 %
	Tech definition*	50 %
SAAS/software	Digital & computer services from Tech definition*	
Smart cities/Internet of Things	Tech definition*	50 %
	D: Electricity, gas, steam and air conditioning supply	10 %
	E: Water supply; sewerage, waste management and remediation activities	20 %
	H: Transportation and storage	10 %
	Healthcare service definition**	10 %
Telecommunication	61: Telecommunications	
Transportation	H: Transportation and storage	
Travel trade	All industries average	
TravelTech	79: Travel agency, tour operator and other reservation service and related activities	
	Tech definition*	50 %
University innovation hubs	All industries average	
Virtual reality, augmented reality or mixed reality	Tech definition*	

[40] Retail is not a priority sector, so it could have been captured by the “All industries” definition. However, Retail traditionally makes up a large share of the non-priority projects, and we are therefore allowing a separate definition.

All industries[41]	All industries average	

*Tech definition	
26.1	Manufacture of electronic components and boards
26.11	Manufacture of electronic components
26.12	Manufacture of loaded electronic boards
26.2	Manufacture of computers and peripheral equipment
26.4	Manufacture of consumer electronics
26.51/1	Manufacture of electronic instruments and appliances for measuring, testing, and navigation, except industrial process control equipment
26.51/2	Manufacture of electronic industrial process control equipment
26.8	Manufacture of magnetic and optical media
33.13	Repair of electronic and optical equipment
95.11	Repair of computers and peripheral equipment
58.2	Software publishing
58.21	Publishing of computer games
58.29	Other software publishing
62	Computer programming, consultancy and related activities
62.01	Computer programming activities
62.01/1	Ready-made interactive leisure and entertainment software development
62.01/2	Business and domestic software development
62.02	Computer consultancy activities
62.03	Computer facilities management activities
62.09	Other information technology and computed service activities
63.1	Data processing, hosting and related activities; web portals
63.11	Data processing, hosting and related activities
63.12	Web portals

[41]Used for all projects that do not fall into one of the other sectors

**Healthcare service definition	
75	Veterinary activities
86	Human health activities
86.1	Hospital activities
86.10/1	Hospital activities
86.10/2	Medical nursing home activities
86.2	Medical and dental practice activities
86.21	General medical practice activities
86.22	Specialist medical practice activities
86.23	Dental practice activities
86.9	Other human health activities

APPENDIX D – Sectors and SIC codes for MIBP

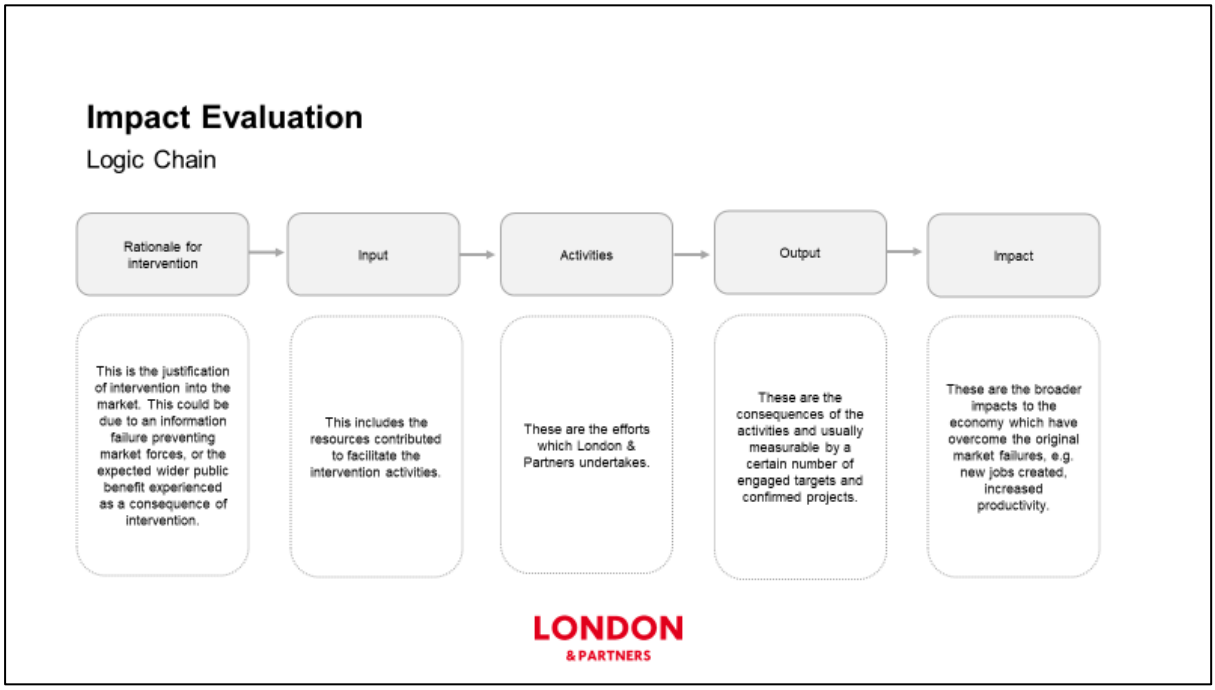
SIC codes used to define MIBP sectors			
Life-sciences	**Turnover in London, 2016**	**GVA in London, 2016**	**GVA to turnover ratio**
C29: Manufacture of basic pharmaceutical products and pharmaceutical preparations	£339 million	£186 million	
C34: Manufacture of computer, electronic and optical products	£616 million	£347 million	
Total for sector	**£955 million**	**£533 million**	**56%**
Technology			
C34: Manufacture of computer, electronic and optical products	£616 million	£347 million	
C35: Manufacture of electrical equipment	£392 million	£157 million	
J: Information and communication	£101,047 million	£52,484 million	
Total for sector	**£102,055 million**	**£52,988 million**	**52%**
Urban			
C34: Manufacture of computer, electronic and optical products	£616 million	£347 million	
F: Construction	£42,964 million	£15,214 million	
J: Information and communication	£101,047 million	£52,484 million	
M79: Architectural and engineering activities: technical testing and analysis	£11,986 million	£7,744 million	
Total for sector	**£156,613 million**	**£75,789 million**	**48%**

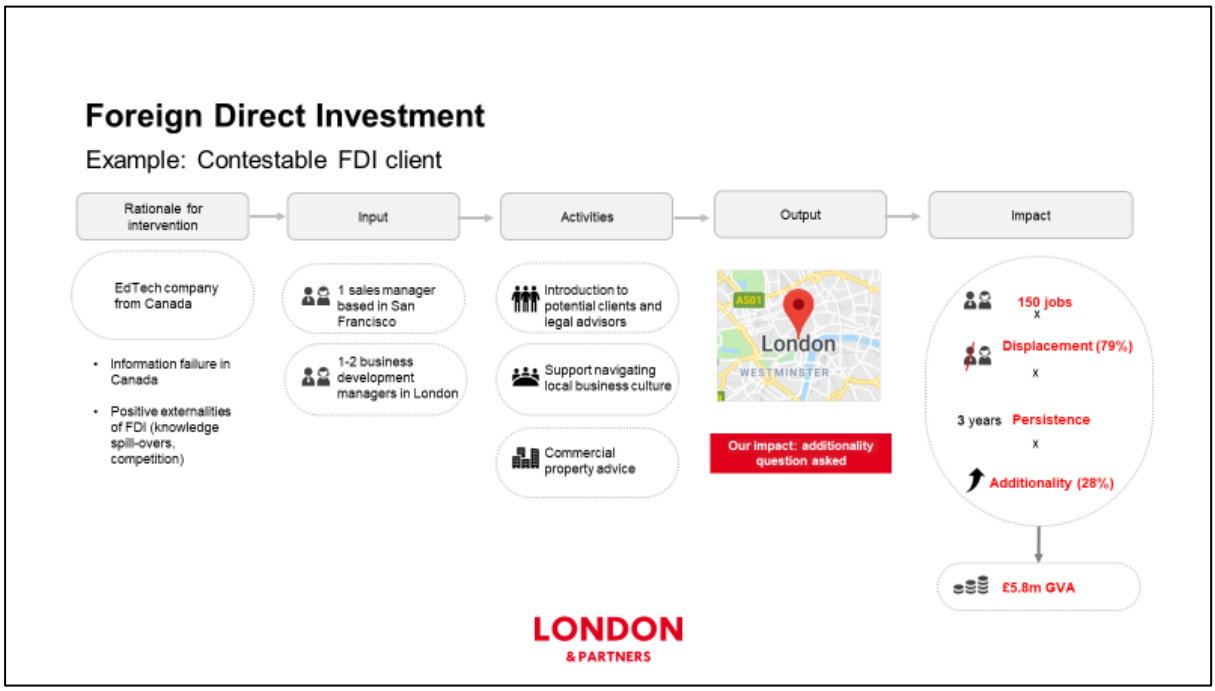
Source: Annual Business Survey, Office for National Statistics, 2016.

APPENDIX E – GVA assigned to event types

GVA assigned to event type		
Group	**GVA per spectator**	**Source**
A = Sporting Single-Day high profile international event	**£23.30**	Based on 2013 primary research for NFL (relatively high international attendance)
B = Sporting Multi-Day high profile international event	**£11.10**	Based on SIRC analysis from 2012 primary Research for ATP
C = Sporting - single or multiday local low profile mainly local event	**£3.20**	Based on 2014 Fina diving world series at the London aquatics centre. Examples of such type of events are wheelchair rugby or tennis, Winter run etc.
D = Free cultural Single or Multi-Day event	**£1.60**	Based on Lumiere London 2016 primary research. Lumiere was a free high profile cultural event, with significant presence of local visitors
E = Creative/Art Single or multi-Day event	**£11.60**	Based on London Design festival economic impact figures. The festival has a significant proportion of non-local visitors.

APPENDIX F – Logic chain examples and simplified GVA calculations for select business areas





Business Tourism

Example: Business Conference

Rationale for intervention → Input → Activities → Output → Impact

Rationale for intervention

- Urban innovation conference
- Information failure in the US (were considering Australia and Germany)

Input

- 1 business development manager in London
- Specific support from L&P CEO

Activities

- Using contacts in the US
- Meeting to convince to choose London
- Ensuring what we promised is delivered

Output

Our impact: additionality for contestable projects

Impact

2,500 business visitors

x

5 days

x

£114 GVA/day/visitor*

£1.4m GVA

LONDON & PARTNERS

*Based on average spend for international corporate multi-day events

International Trade

Example: MIBP company

Rationale for intervention → Input → Activities → Output → Impact

Rationale for intervention

- Company with £1m existing turnover
- Information failure in company, not knowing export markets well and customers in export markets not knowing London's offer
- Positive externality when London companies position London as a business centre

Input

- Business development manager in London
- Support from L&P Chair on trade missions

Activities

- Company export eligibility
- Organising trade missions
- Connecting to mentors in target markets

Output

Our impact: turnover increase as a result of the programme, to the extent they couldn't have received the same support elsewhere

Impact

Turnover increase:
Year 1: £0.5m
Year 2: £0.5m

x

Decay (13% in year 2)

x

Displacement (9%)

x

Additionality (65%)

£288k GVA

LONDON & PARTNERS

Leisure Tourism

Example: Tourism Campaign

Rationale for intervention → Input → Activities → Output → Impact

London-Paris campaign

- Information failure in USA
- Low audience knowledge of ease of visiting Paris and London in same trip

£355k London & Partners

£267k Paris Convention Bureau

£151k Eurostar

DON'T WAIT (PARIS › LONDON / LONDON › PARIS)

45m Reach

10% = 4.5m Engagements

Our impact: control vs engaged group

No. of trips
X
Party Size
X
Nights stayed
X
Daily spend

GVA

LONDON & PARTNERS

International Students

Example: Student Campaign

Rationale for intervention → Input → Activities → Output → Impact

Student Welcome campaign

- Negative perceptions in target markets
- Students in key markets don't feel welcome in the UK (Brexit, Visa requirements)

£30k London & Partners

£10k (VIK) Urban Nest, London Eye, Thames Rockets

4m Reach

1.3m Engagements

More international students in London

Our impact: additionality question asked

Number of additional students
X
Tuition fees
+
Living costs & spend
+
Friends & Family spend

GVA

LONDON & PARTNERS

APPENDIX G – Defining marketing engagement

Having a clearly defined target audience ensures the methodology only captures the impact on the targeted audience, and not any incidental impact on other audiences who may also happen to come across London & Partners marketing activity. This is a conservative approach to measuring the impact of London & Partners marketing activity.

Target audience by market*

- China, India, France, Germany and USA

Target audience by age[42]

- 18-34 year olds (leisure tourists)
- 15-25 year olds (international students)

Websites

Unique visitors who engage with a website are the population used to estimate the economic impact of marketing activity. On visitlondon.com we do not count visitors whose visits to the website begins on content that suggests they have already chosen London and are looking for guidance e.g. specific product or event pages.

The number of unique visitors, which is used as the measure of the population, only takes into account an engaged visit. An engaged visit is defined as a user who visits more than one page or interacts with the page (e.g. watches a video, views more than 50% of an article page). Users who leave a website without engaging are discounted. The assumption is they have not been engaged sufficiently to have been influenced.

When London & Partners activity uses a third-party website to reach our target audience we will use the same methodology as above except the engagement metric may be simplified and may only account for the bounce rate. This may be necessary if the third-party site is unable to add advanced tracking to measure engagement with the content (e.g. tracking page scrolls and video views).

Social media channels

Users engaged on our social media channels are the population used to estimate the economic impact of marketing activity. This data is collected via a variety of tools and platforms depending on the specific social media channel.

An engaged user is defined as a user who interacts with the content (e.g. likes, shares, comments on a post, watches a video, etc). Users who do not engage are discounted. The assumption is they have not been engaged sufficiently to have been influenced.

[42] As defined in 2018/19 - 2020/2021 strategy

There are challenges to collecting specific data for our target audiences on social media. The level of available data varies by the social media platform (Facebook, Twitter, Pinterest etc) and also by the type of activity, e.g. more detailed data is available for paid activity compared to organic (non-paid) activity. Few social media platforms provide detailed engagement data segmented by both age and geolocation for organic activity which means we must use suitable proxies.

An example of how engagement is calculated for Facebook and Instagram is provided below, in the table below. This methodology will evolve and improve as more data, tools and different social media platforms emerge. We will review and update this methodology annually as required.

Examples of definitions of social media engagement – own, paid and earned			
Channel	**Activity type**	**Reach**	**Engagement**
Facebook & Instagram	Organic	1. Total audience reached 2. Apply % target market 3. Target age data not available. Proxy 1 = % fans following own channel in target age range*	4. Engagement of target audience reached not available. Proxy 2 = % of total audience engaged taken from the average % of our engaged audience from paid activity for this target audience**
	Paid	1. Total audience reached in each market, in target age range	2. % of target audience reached who engaged with activity
	Earned (influencer/partner marketing)	1. Total audience reached 2. Apply % target market 3. Target age data not available. Proxy 3 = % fans following the influencer/partner channel in target age range***	4. Engagement of target audience reached not available. Proxy 4 = % of engaged followers on the influencer/partner channel****

*Proxy 1 - the demographic of our organic reach is highly likely to be representative of the demographic following our channel.

**Proxy 2 - the content used on organic and paid activity will be very similar (if not the same) and so the engagement rate is likely to be similar. Using the paid engagement rate is likely to be a conservative estimate as you would expect organic engagement to be higher as this is shared with our fans and their followers.

***Proxy 3 - the demographic of an influencer's organic reach is highly likely to be representative to the demographic following the influencer's channel.

****Proxy 4 - the engagement rate of an influencer's followers is likely to be similar to the engagement rate with their wider audience (e.g. if content is shared beyond their own audience).

Third party email

Open rates will be used to measure engagement. We will not measure our own email databases on the assumption these users have already engaged with our channels to subscribe to the email distribution list and so their engagement is already counted as part of other channels.

New channels

New channels will emerge where we are not currently active and we will define engagement for these as they arise.

Known limitations of measuring Engagement

The table below highlights some of the limitations of our evaluation model. These are not unique to the evaluation model but are well established challenges to effectively and consistently measure the impact of marketing activity across different channels. We will evolve the methodology annually to address these challenges as more data and measurement tools become available.

Known limitations of measuring Engagement		
Limitation	**Description**	**Current solution**
Engagements are not unique	• We are aggregating engagement within the same channel i.e. highly engaged users engaging multiple times could inflate engagement rates of the total population. • We are aggregating engagements across channels. Some users will engage with content across multiple channels.	• Survey will establish number of times a user engages with content across different channels • This will be used to discount aggregate engagement to approximate unique engagement
All engagements are not equal	• More engaging content is likely to be more effective in influencing a person to choose London e.g. a person liking a picture on social media is likely to be less influential than a person viewing a video.	• We will use pixel tracking in upcoming campaigns to understand the different influences of different media and channels with a view to updating the model in future if this is successful and the proposed methodology is easy to apply.

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