

SASIG Workshop on Aviation and its Contribution to Local, City
and Regional Economic Growth - 16 Nov 2019

Strategies for Maximising Economic Benefits from Airport Development

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Introduction

Aviation has a material impact on the growth of city, local and regional economies through three key mechanisms:

1. Business activity and employment creation related to airside aviation activities:

- Passenger traffic, air cargo, business/general aviation, space flights/UAVs, military/defence sector, offshore/emergency services, flight testing/pilot training, aerospace OEM/MRO & aircraft recycling
- Direct, indirect and induced jobs
- Supply chains, logistics gateways, strong labour markets

2. Catalytic effects arising from enhanced domestic and international airline network connectivity:

- User benefits and GVA associated with increased productivity for high propensity to fly sectors and medium/large scale firms
- Attraction of inward investment and mobile international talent
- Stronger trade routes facilitating increased volumes of imports and exports
- Increased international and short break tourism – more visitors and spend per head

Introduction cont.

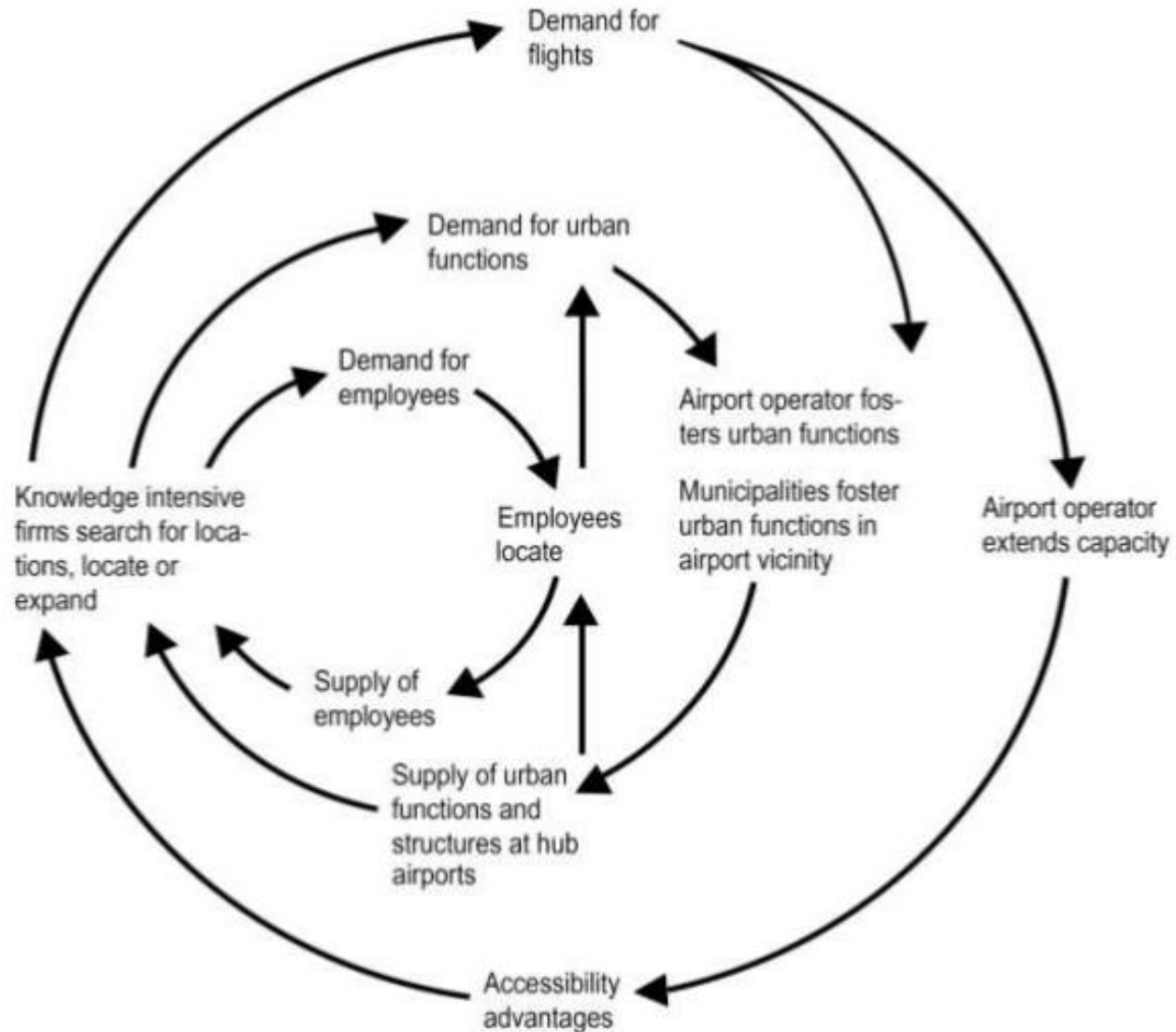
The third mechanism is:

3. Agglomeration economies associated with spatial clustering of aviation related and dependent sectors:

- Airport cities, business districts/corridors, office/business parks and campuses, industrial estates/logistics parks, convention/exhibition centres with hotel/conferences quarters, renewable energy complexes/surface access interchanges
- Spatial proximity/sectoral complementarity results in spillover effects generating catalytic employment and additional local/regional GVA
- Rental premiums encourage airports to invest in both their airside and landside property portfolios and in so doing benefit from the cross-subsidy permitted by diversified income streams
- There is as yet, however, no reliable mechanism through which betterment value in the form of higher rental/land values created by airport investment can be captured from the the development of land outside the operators ownership boundaries and thus contribute to future airside or surface access enhancements.

Thierstein Schematic of Airport & City Interactions

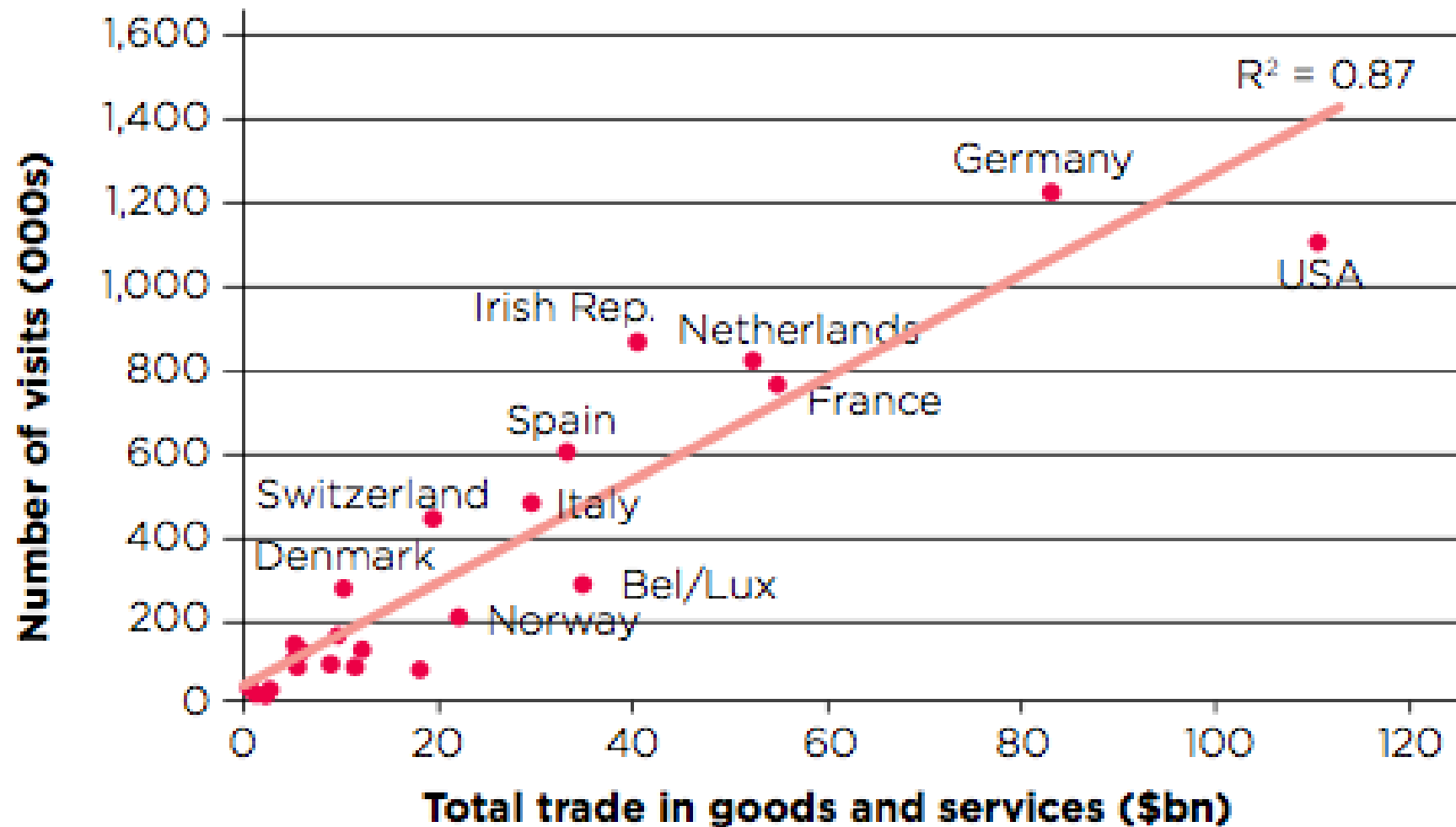
Impact model, stylised version



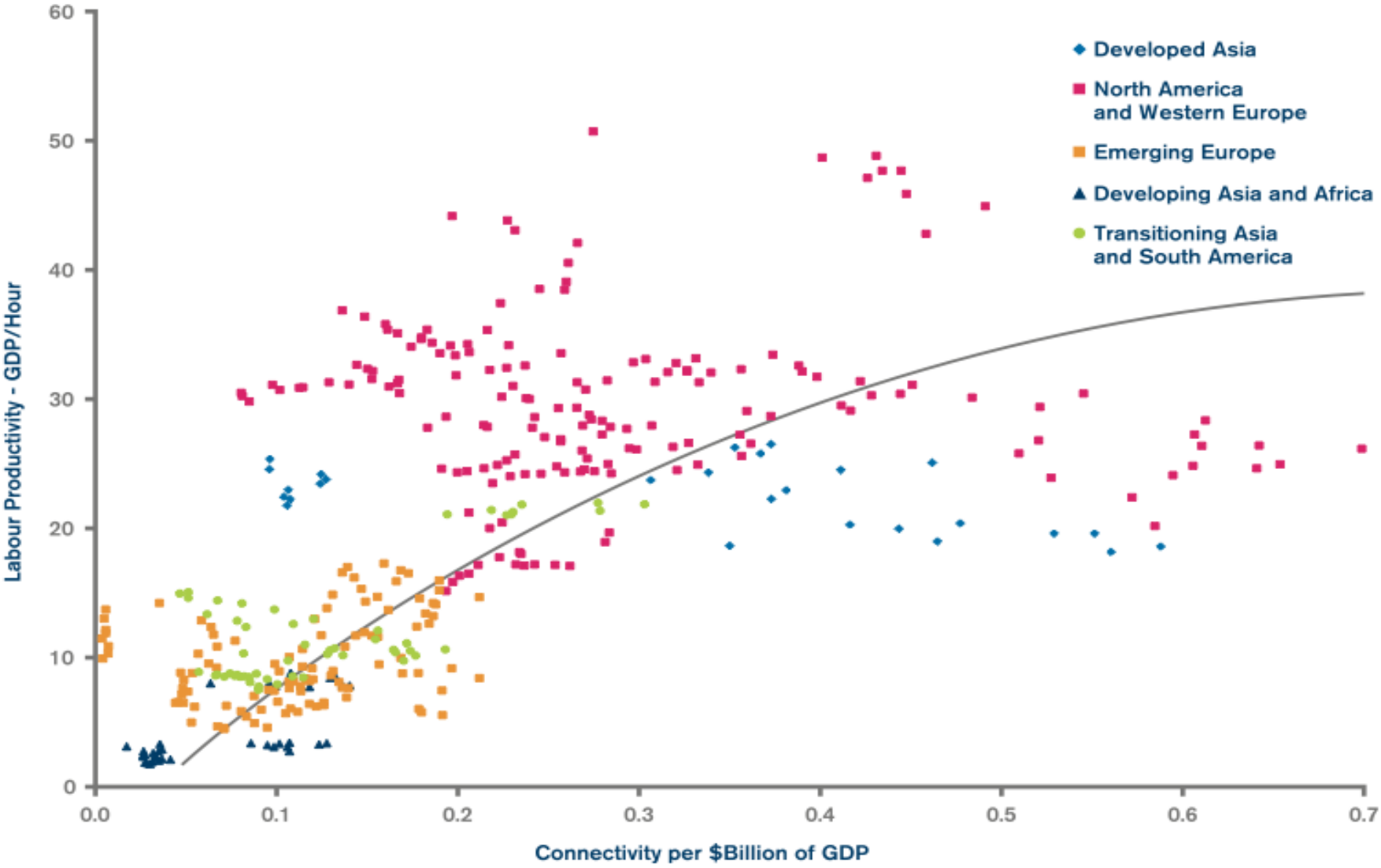
Air Connectivity

- The growing evidence of the correlation between air connectivity, trade, labour productivity and GDP is illustrated in subsequent slides and is now widely accepted by academics and policy makers.
- The relationship is frequently two-way, but new research on the 'direction of causality' suggests that in remote/more peripheral regions or those with less developed aviation markets, interventions to enhance network connectivity appear to be associated with material increases in economic outputs across aviation dependent sectors.
- Little of this research has been UK focused – a gap that needs to be addressed if we are to understand the implications of spatial variations in levels of access to air connectivity on local economies.

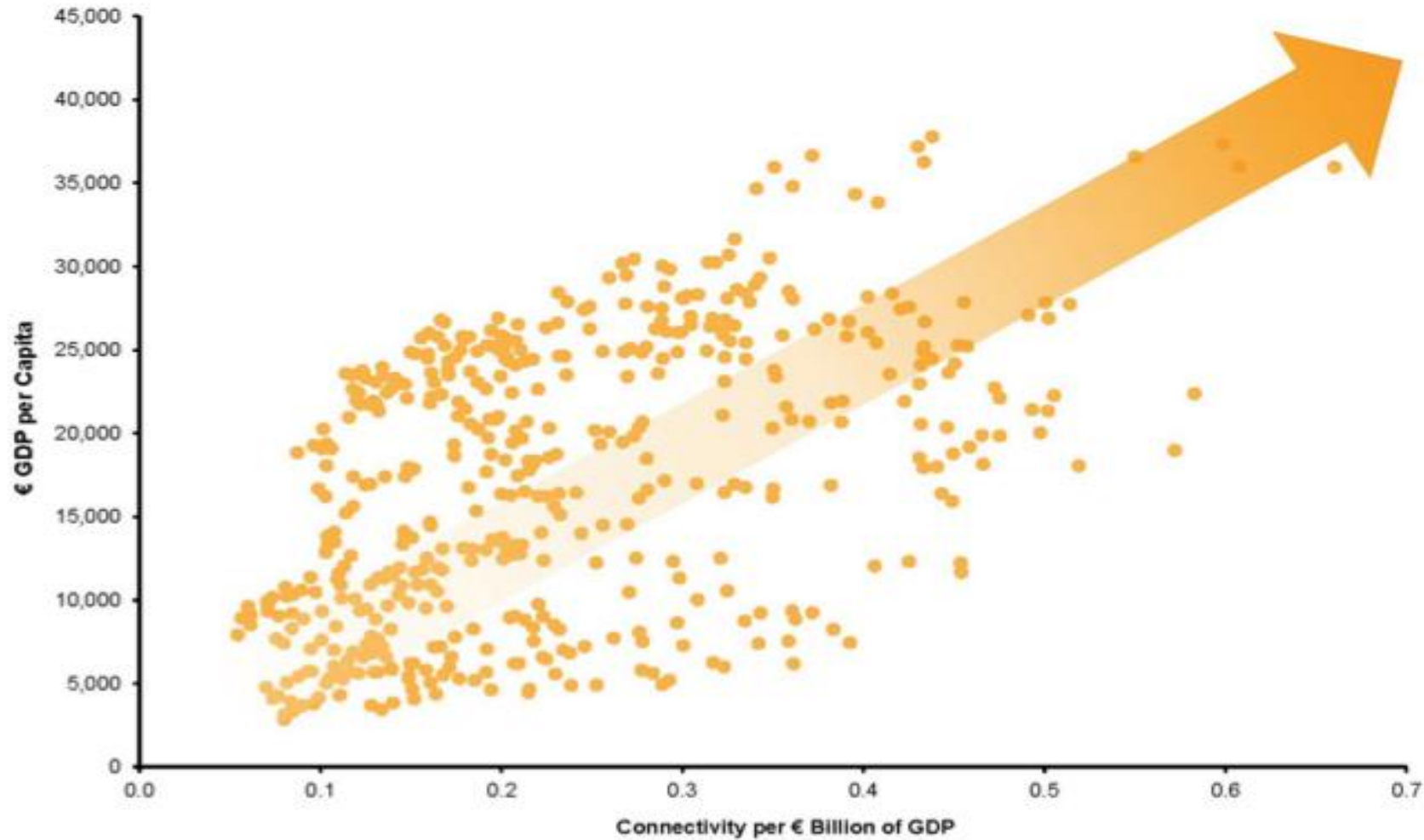
UK Overseas Trade Correlated with Level of Business Visits



Connectivity and Labour Productivity

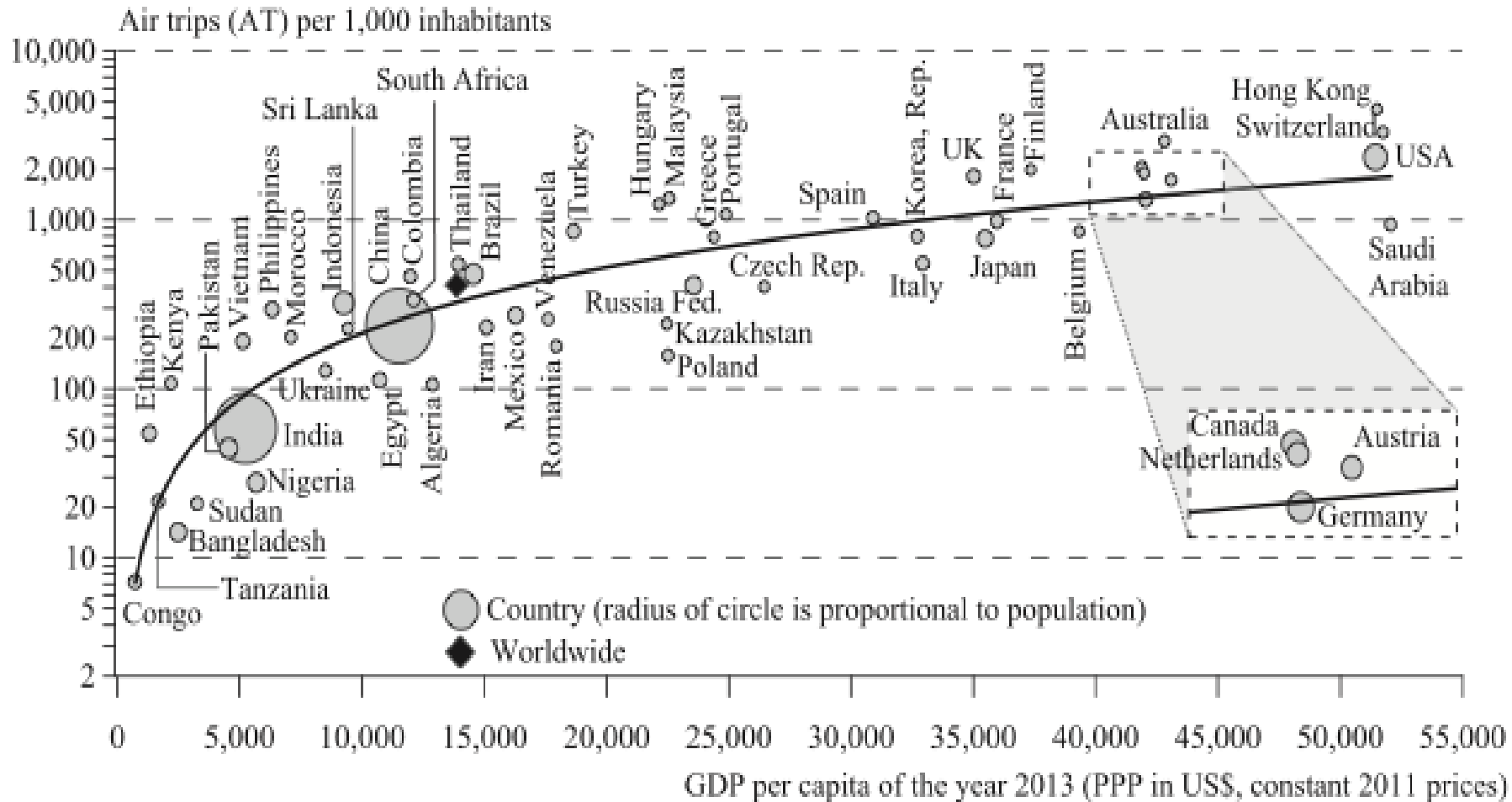


Air Connectivity vs GDP: Europe 2000-12



Source: InterVISTAS Analysis Based on Diio Mi Schedule Data and World Bank, World Development Indicators.

Propensity to Fly and GDP/Head



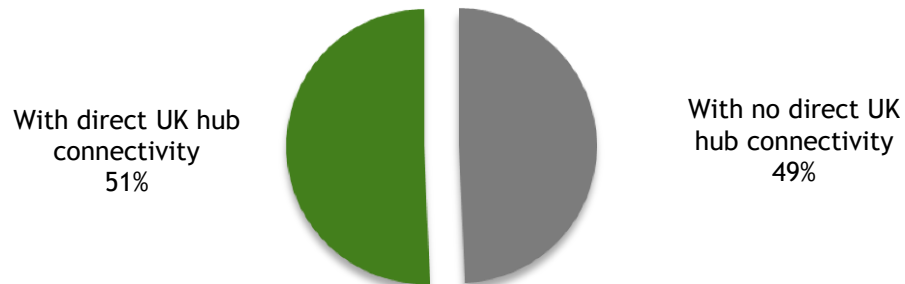
City Hierarchies and Airports

- GAWC has provided evidence of a strong correlation between air transport network density and the location of major innovation communities (R&D, Hi Tech Co's, Universities), decision-making centres (HQ's, Govt Institutions) and advanced producer service clusters (banks, accountants, legal firms, architects, consultants).
- These networks, which are the cornerstones of the modern global economy, are found in greatest density in high ranking World Cities. Fast and reliable access to these cities is therefore of utmost importance for smaller urban areas, regional economies, industrial sectors, and businesses and labour markets located away from their immediate hinterland.
- GAWC rate London (Alpha+ No 2); Manchester (Beta- No 116), Birmingham (Beta- No 120) Edinburgh Beta- No 130), followed by Glasgow, Belfast and Bristol.
- All the evidence points to secondary and tertiary cities in the UK having the greatest potential for the highest rates of economic growth – so it's important, alongside the major regional core cities they also have better access to global markets.

Significant Inequality in International Connectivity Across the UK

Research commissioned by the NCTF suggests that significant parts of the UK are less well connected to London, and through its major airports to the wider world, than those that do have good London hub access by air or rail.

Population of UK's top 120 cities - share with/without good connectivity to UK London hub



GVA of UK's top 120 cities - share with/without connectivity to a UK London hub



The result is 'inequality of access' that effects economic competitiveness; it is important this is addressed

Connectivity - Cities & Economic Growth

Category of Airport by the UK Cities They Serve				
Airport category	City Type			Total
	Core	Secondary	Tertiary	
National Hub (50-75m)	1	2	4	7
National Gateway (25-50m)		3	2	5
Regional Gateway (10-25m)	2	6	3	11
Large Regional (5-10m)	5	7	16	28
Medium Regional (3-5m)	4	9	7	20
Small Regional (1.5-3.0m)		2	1	3
Large Local (0.5 -1.5m)	3	8	10	21
Small Local (Less 500K)	0	8	6	14
Niche Local (Bus Av + up to 100k)	0	6	5	11
Total served	15	51	54	120

Note: Cities assigned to nearest airport within one hour travel time

Airports as Global Gateways for High PTF Economic Sectors

- Literature points to greatest impact of aviation on the wider economy being through sectors where use of air services (i.e. Propensity to Fly) is high.
- Thierstein’s model refers to knowledge sectors, which like most R&D intensive activities (and tertiary education) use aviation extensively.
- The adjacent analysis from a recent PPIW study on Cardiff and St Athan airports for the Welsh Government, provides a useful summary that is also applicable to other airports.
- Sector specifics will vary by City and region depending on location, economic structure and airport size and network density.

Table 1: Sector Analysis: Propensity To Fly

Economic Sectors in Wales	Propensity to Fly (Pax)	Propensity to fly (Air Cargo)
<u>Priority Sectors</u>		
AM&M	✓	✓
Life Sciences	✓✓	✓✓
Professional & Finance	✓✓	✓
Media & Creative	✓	-
Environmental & Renewables	xx	x
ICT	x	✓
<u>Other Sectors</u>		
Other Manufacturing	-	✓
Agriculture	xx	✓
Public Sector	✓	-
Tertiary Education	✓✓	x
Tourism (Domestic)	✓	xx
Tourism (International)	✓✓	-
Events, Conventions, Conferences	✓	-
Energy	✓	x
Retail	xx	-
Construction	x	xx

Airports, City Planning and Economic Regeneration

- Airports can have a significant influence on physical structure & land use zoning of cities.
- Airports are large facilities that attract significant surface access infrastructure and associated development beyond their boundaries (e.g. hotels, logistics, business space)
- There is also a wider indirect effect on city planning due to airport safeguarding, noise and surface access corridors.
- And there are induced effects arising from enhanced land values for industrial and business space close to airports; and pressures on housing markets and the demand for community facilities, depending on the scale of the airport's workforce.
- In under-performing regional economies these effects will usually be widely welcomed if the airport is well located relative to the main urban area; in those where there is already economic overheating they can cause diseconomies in the form of localised labour and property market pressures and road congestion.

Constraints and Market Failures

- Number of smaller airports have closed, others are under threat -reducing geographical coverage and competition in the airport sector.
- Without a substantive property portfolio, the statutory cost burdens on small airports make them unviable without public sector support.
- Public ownership or subsidy are standard models elsewhere in world; also seeing it grow in UK - DAs, Regional Authorities, Local Authorities.
- Smaller airport operations don't generate financial resources compatible with the investment opportunities represented by their asset base.
- Servicing land speculatively drains capital/revenue from priority operational maintenance, efficiency and growth projects.
- Don't have expertise or risk capital to get projects to shovel ready stage.
- Absence of mechanisms for capturing betterment value from airport growth.
- Land use planning - Greenbelt, policy favouring inner urban sites, encroachment in operational areas of housing/other incompatible uses.
- Surface access links - funding is focused on larger projects (Webtag bias).
- Skills shortages & labour market pressures.

Policy Implications

The simple 'one size fits all' approach which is evident in a lot of Govt aviation policy will not maximise wider economic benefits from airports:

- Airports serving rural areas or smaller urban populations require a different policy framework to those in larger more congested cities.
- Similarly bigger airports with wider network connectivity and congested estates will not generate the same kind of benefits as smaller ones with substantive development land but fewer air services
- A multi-faceted policy is required tailored to regional geography, economic structure and airport characteristics (e.g. passenger volume, network density, surface access connectivity, levels of runway congestion, developable land airside and landside and planning and environmental constraints)

SASIG Technical Working Group developed a typology of airports, as framework for considering wider economic potential and suitability of different types of intervention:

- *Size* (in terms of passenger numbers per annum)
- *Hinterland characteristics*, i.e. rural, semi-rural, remote, island, etc.
- *Market function*, i.e. hub, gateway, regional, business, military, etc.
- *Competitive intensity*, i.e. number/catchment of airports, network density/compatibility
- *Economic role*, i.e. City/Region, business district, industrial estate, etc.
- *Ownership*, i.e. State, district authority, local authority, private majority, etc.
- *Type of authority*, i.e. state, national, combined authorities, county, district, etc.
- *Source of external funding*, i.e. national, Growth Funds, LEPs, City Deals, developer, landowner

Airport Economy/Governance Typology

Airport Size (Pax/Yr)	Market Function	Hinterland Character	Economic Role	Ownership	Type Planning Authority	Sourcing of Investment
+75 mppa	Global Hub	Top 10 World City	National Technopole Regional Cluster	National Government Ownership	Joint Authorities: National/Regional	International Funding Institutions (e.g. EIB and DWB)
50-75 mppa	Continental Hub	Metropolis	City Growth Point/Anchor Institution	Regional Ownership	Combined City Authorities	National Government Funding
25-50 mppa	Secondary Hub, Major Gateway	Metro Urban Area	Aerotropolis	Arms-length Public Company	City Authorities	Sovereign Wealth Funds
10-25 mppa	Mini-hub, Regional Gateway	Large Core City	Airport-City	Local Authority (Single Shareholder)	Metropolitan Boroughs	Pension Funds
5-10 mppa	Larger Regional	Smaller Core City	Airport-Commercial quarter	Hybrid Public Authority (Joint Local Authority or Local Authority Trust)	Unitary	NIC/IPA: MOD/DIO
3-5 mppa	Medium Regional	Secondary City	Airport District/corridor	Private Majority/LA Minority	County/District	LEPs - Growth Fund
1-3 mppa	Smaller Regional	Tertiary City, peripheral sub-region	Airport Campus	Private Developer/Operator		City Deals
0-1 mppa	Local	Rural, remote region, island	Airport Business/Logistics Park	Private - Infrastructure Fund		Local Authority Investments

Potential policy Interventions

- **Creating simplified economic zones** (Free Trade Areas, Freeports, EZ's)
- **Government/NIC Regional Economic Initiatives** - Northern Powerhouse, Midlands Engine, Great South West, Oxford Cambridge (Varsity) Growth Corridor
- **Industrial strategy** - Local Industrial Strategies, Sector Catapults
- **Relevant initiatives** - in other economic sectors that aviation supports
- **Need for skills initiatives** - academies, apprenticeships, re-training and transferable skills;
- **Open pathways to funding** for public or private promoters - includes introducing devolved agencies or major regional transport initiatives.
- **Strong governance models** are the key to success
- **Ensure City deals, Growth funding, the National Productivity Investment Fund Transforming Cities Fund, Industrial Strategies Challenge Fund** etc give airports appropriate allocations in their distribution of resources.
- **Introduce new 'Local Infrastructure Funds'** to replace lost funding from sources such as EU Structural funds, EIB, EBRD

Extant and Potential Funding Sources

- **City deal roll-out**
- **Prioritise airports in the Transforming Cities Fund**
- **UK Shared Prosperity Fund**
- **Infrastructure Project Authority** delivering national infrastructure construction pipeline able to bring private pension/public funding to bear
- **Strength in Places Fund** to support areas of R&D excellence across the UK - e.g. aerospace, knowledge based sectors drawn to airports
- **Airport Development Corporations** - formalised and business backed
- **HS2 style growth partnerships** - for airports and spaceports lower key approach better suited to a more informal governance model
- **Local infrastructure rate** to support infrastructure projects that are high value for money, local authorities able to borrow a total of £275 million at the new discounted interest rate of gilts +60 basis points.
- **New Local Infrastructure Fund?** - HIF precedent (replace lost EIB, EBRD)

Successful Airport/Public Sector Collaborations

Good examples of public sector support for airport focused initiatives generating substantial wider economic benefits:

- A 'Glocal' nexus of knowledge exchange at Schiphol-Centre
- Frankfurt Airport developed as a Prime Knowledge Hub
- Manchester - Airport City
- East Midlands - Air Cargo centre and SEGRO logistics park
- Aberdeen Airport - Offshore technology park and energy campus
- Cardiff - Aerospace cluster at BAMC and St Athan
- Doncaster Sheffield Airport: Finningley and Rossington Regeneration Scheme (FARRRS), iPort logistics park and Advance Materials Park Sheffield
- Cornwall Airport Newquay - Aerohub and Spaceport
- Blackpool - Enterprize zone initiative
- London Biggin Hill - Locate initiative

Airport Led Economic Growth - Governance Models

- Airports/Private Joint Venture Partnership (e.g. with property developers)
- Direct investment in Infrastructure or property Investment funds
- Public ownership (DAs, LPAs, HIAL, DIO joint use)
- Airport/LEP Development Initiatives
- Airport/LEP/LPA Growth Partnership SPV
- Airport development corporations

Potential Areas for SASIG to Collaborative on Research

Aim: To develop an evidence base that can form the basis of submissions to Government and the wider political community that will inform/influence policy.

- 1. Generic study drawing together the existing literature** on the differential effects of airports on cities and their economies - case studies from member authorities.
- 2. Identify key constraints** (e.g. safeguarding, land use planning, environment, market awareness, project funding), property rentals
- 3. Research into the treatment of airports in Government growth initiatives** (i.e. City Deals, Growth Funds, Enterprise Zones, Infrastructure Initiatives) and how this could be improved/optimized, again drawing on case studies from member authorities.
- 4. Preparation of an airports, cities and their economies policy manifesto** – including where and how different stakeholders and governance models.
- 5. Work with Government to Prepare Guidance** on how to optimize the wider economic value of airports sustainably.