The strategic challenges facing UK aviation

Assessing the future of UK Air Connectivity

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Air connectivity has important benefits

- **Trade:** Having a direct flight compensates for around 10% of the negative effects of international borders.
- **Global supply chains:** Each day in transit is equivalent of applying a value added tax of between 0.6 and 2.1 percent.
- **Investment:** A new airline route between two MSAs leads to a 4.6% increase in venture capital investment; a 2.5% increase in the likelihood of investment; and increased success rates.
- **Foreign Direct Investment:** A 10% increase in the number of intercontinental flights leads to a 4% increase in HQs.
- **Collaboration:** Between 1991 and 2012 new routes by Southwest Airlines reduced fares by 20% and increased scientific collaboration by 50%.

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How does UK air connectivity compare?

- **Direct connectivity:** Ranked 1^{st} out of 45 European countries on ACI Europe measure. Also for EU's intra-EU travel measure.
- **Indirect connectivity:** Ranked 2^{nd} out of 45 European countries on ACI Europe measure, after Germany.
- **Hub connectivity:** Ranked 4^{th} in Europe on ACI Europe measure, after Germany, Netherlands and France, with Heathrow ranked 8^{th} in world. BUT, using OAG measure, Heathrow ranks 1^{st}.
- **Customer perceptions:** Ranked 28^{th} in world on WEF measure of quality of air transport infrastructure.
- **Freight:** Ranked 13^{th} in world on IATA's measure of Air Trade Facilitation Index and 22^{nd} on eFreight Friendliness Index.

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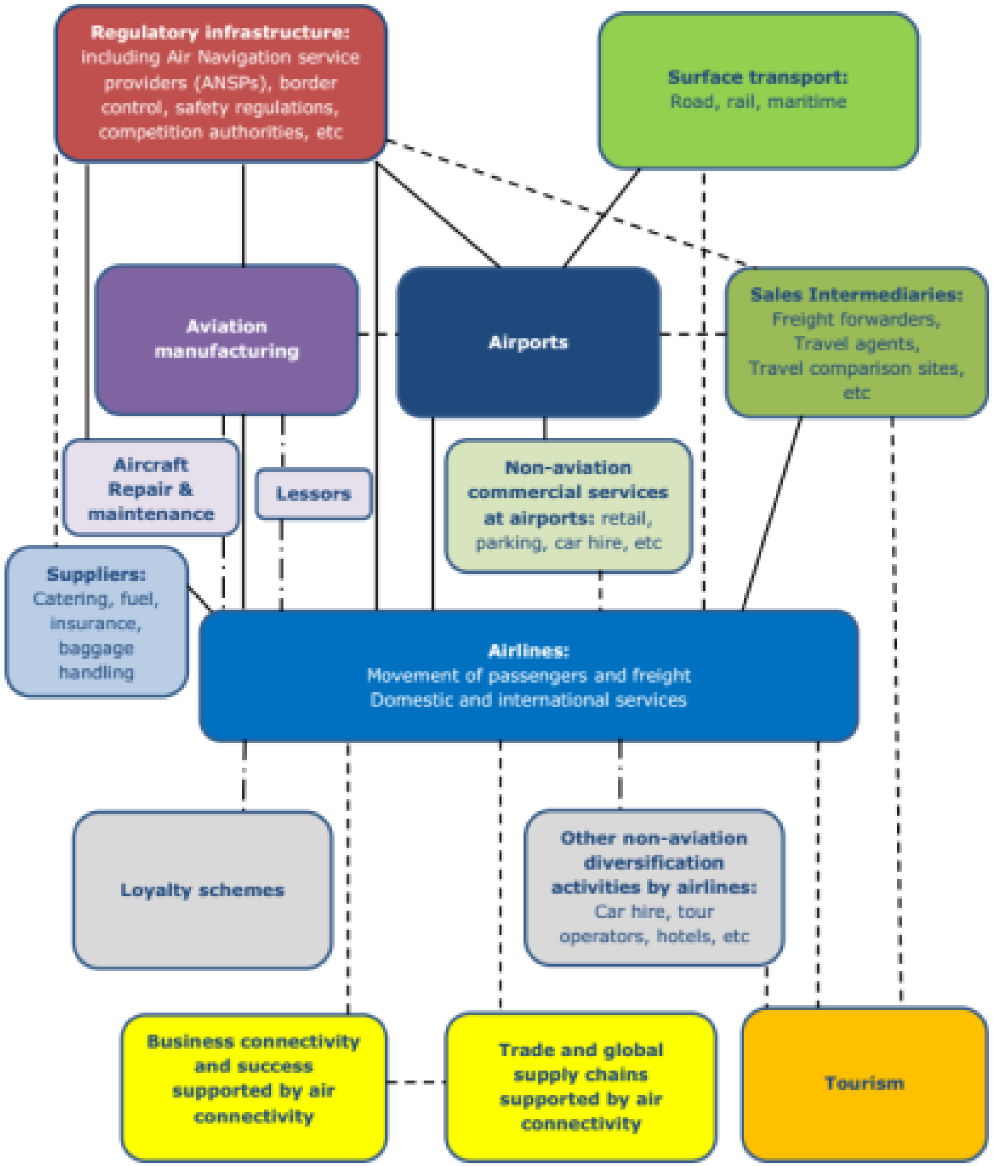

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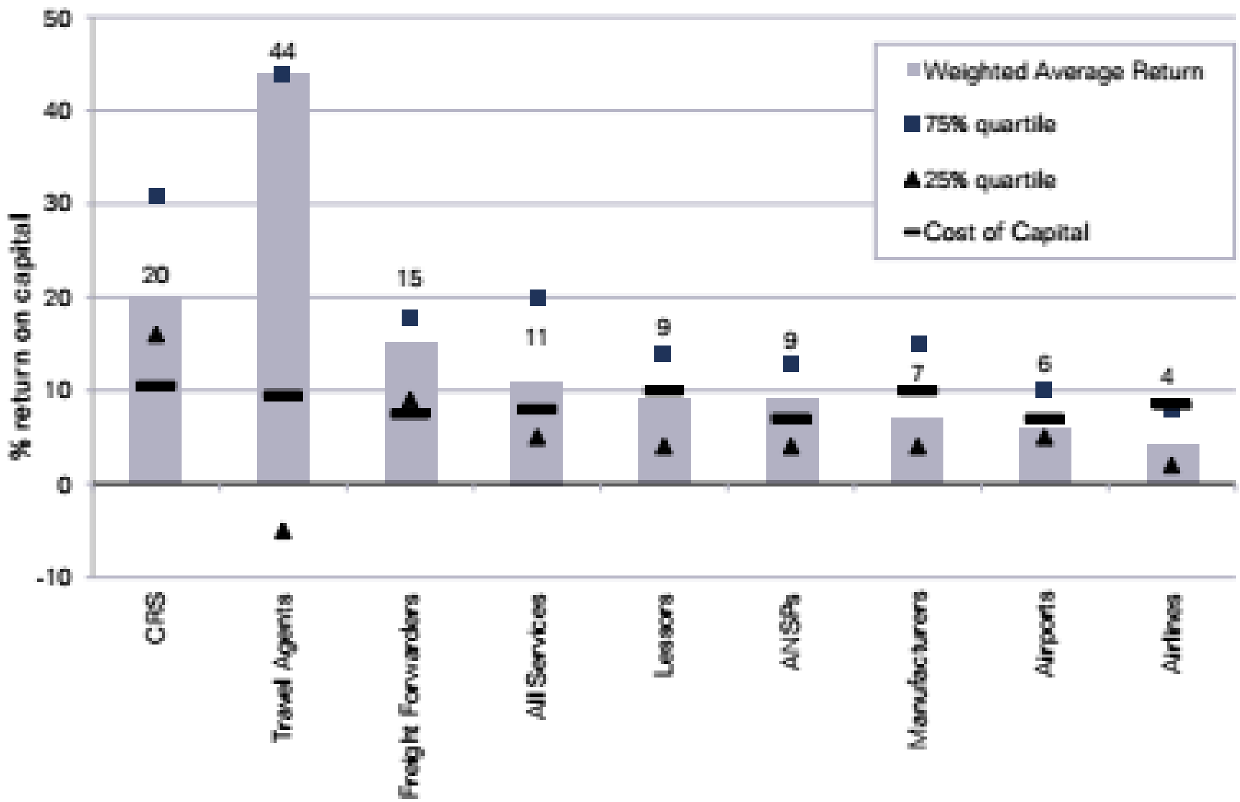
Return on Invested Capital in the commercial air transport value chain, 2004-2011



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The share of the aviation sector in the UK economy

- **Employment:** The aviation sector accounted for 1.1% of UK employment in 2016 (≈ 243,000 people). 52% manufacturing.
- **Total output:** The aviation sector accounted for 2.0% of UK total output in 2014 (≈ £63bn). 45% manufacturing.
- **Total Gross Value Added (GVA):** The aviation sector accounted for 1.4% of UK GVA in 2014 (≈ £23bn). 34% manufacturing.
- **Total exports:** The aviation sector accounted for 6.2% of UK total exports in 2014 (≈ £32bn). 73% manufacturing.
- **Employee compensation:** The aviation sector accounted for 1.7% of UK employee compensation in 2014. 38% manufacturing.

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The regulatory challenges of air connectivity

- **Environment:** Carbon footprint; air quality; noise…
- **Planning regime:** Balance local, national and global issues…
- **Safety and standard setting:** International standards; local enforcement; managing airspace…
- **Flying internationally:** No WTO rules, done by Air Service Agreements based on: choice of nine freedoms of the air; nationality and ownership clauses…
- **Economic regulation:** Promoting competition between airlines, airports...
- **Taxation:** Accessibility; desirability of investing; environmental impacts…

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Challenge 1: BREXIT, Air Service Agreements and aviation

- **Tariff barriers:** Limited direct impact on aviation manufacturing (WTO Agreement on Trade in Civil Aircraft).
- **Non-tariff barriers:** Rule of Origin regulations; potential for differing regulatory standards…
- **Servification of manufacturing trade:** Many aviation manufacturers now selling services, so GATS not GATT.
- **Air freight:** Impact of trade by other sectors…
- **Air Service Agreements:** Need to renegotiate…
- **Industry preference:** To remain part of key EU initiatives such as Single European Sky (SES), European Aviation Safety Agency (EASA), European Common Aviation Area (ECAA)…

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Fights between	UK airlines	EU airlines	3rd country airlines
2 points in UK	-	UK-EU ASA: 9^{th} Freedom	UK-third country ASA: 9^{th} Freedom
UK and EU country	UK-EU ASA: 3^{rd} and 4^{th} Freedoms	UK-EU ASA: 3^{rd} and 4^{th} Freedoms	UK-third country and EU-third country ASA: 7^{th} Freedom
2 EU countries	UK-EU ASA: 7^{th} Freedom	-	-
2 points within an EU country	UK-EU ASA: 9^{th} Freedom	-	-
UK to EU country to another EU country	UK-EU ASA: 5^{th} Freedom	UK-EU ASA: 3^{rd} and 4^{th} Freedoms	UK-third country and EU-third country ASA: 7^{th} Freedom
UK to EU country to another point within that EU country	UK-EU ASA: 8^{th} Freedom	UK-EU ASA: 3^{rd} and 4^{th} Freedoms	EU-third country ASA: 7^{th} and 9^{th} Freedoms UK-third country ASA: 7^{th} Freedom
UK and 3^{rd} country	UK-third country ASA: 3^{rd} and 4^{th} Freedoms	EU-third country ASA: 7^{th} Freedom from outside EU	UK-third country ASA: 3^{rd} and 4^{th} Freedoms
EU and 3^{rd} country	UK-third country ASA: 7^{th} Freedom	-	-

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Challenge 2: Providing the capacity to support global connectivity

- **Heathrow expansion:** Solves short term capacity issues, but how effective will the UK's forward planning be…?
- **Planning regime:** Balance local, national and global issues…
- **National Infrastructure Commission:** Potential to become a mechanism for identifying and addressing infrastructure needs.
- **To maximise benefits need to avoid silos:** Air connectivity also depends on surface transport…
- **Lessons learnt from the Airports Commission?**
- **Paying for change:** A key decision criteria for expanding airport capacity in London and the South East was the availability of private sector funding. Given low Returns on Invested Capital, will private sector funding always deliver?

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Challenge 3: Aviation as a local business

	% passengers	Aviation % of total employment	Rank for workplace employment minus working residents	% commuting by car	Average distance (km)
Heathrow	27.6%	40.3%	14	67.9%	23.8
Gatwick	16.1%	48.9%	50	68.1%	21.2
Manchester	9.7%	55.4%	75	76.7%	35.0
England		0.8%		60.3%	14.5

- **The industry is <u>VERY</u> geographically concentrated:** Brings key benefits, but also key costs to local communities.
- **How can the industry become better local partners?**
- **Independent Commission on Civil Aviation Noise:** What if noise conflicts with other goals such as carbon emissions?

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Challenge 4: Incentives and innovation in the aviation sector

- **Manufacturing:** Regulatory barriers post BREXIT; impact of education and immigration policy on skills; the economics of fleet upgrades…
- **Air Passenger Duty:** Potentially undermines air connectivity; provides no incentives to operate cleaner or quieter aircraft…
- **Freights:** BREXIT means there is a need to rethink border processes…
- **Competition:** Fosters innovation; low Returns on Invested Capital may mean market segmentation prevents consolidation…
- **Protecting UK tax payers from repatriation costs:** Need to consider impact on air connectivity…

Conclusions

- Air connectivity is very important and the UK currently performs reasonably well.
- The aviation sector is a key part of the UK economy.
- The sector’s geographic concentration brings both costs and benefits for local communities.
- Decision-making on planning issues needs to be joined up.
- Aviation raises significant regulatory challenges, not least because what may help solve one problem can exacerbate another.
- BREXIT will have a significant impact and raises important questions.