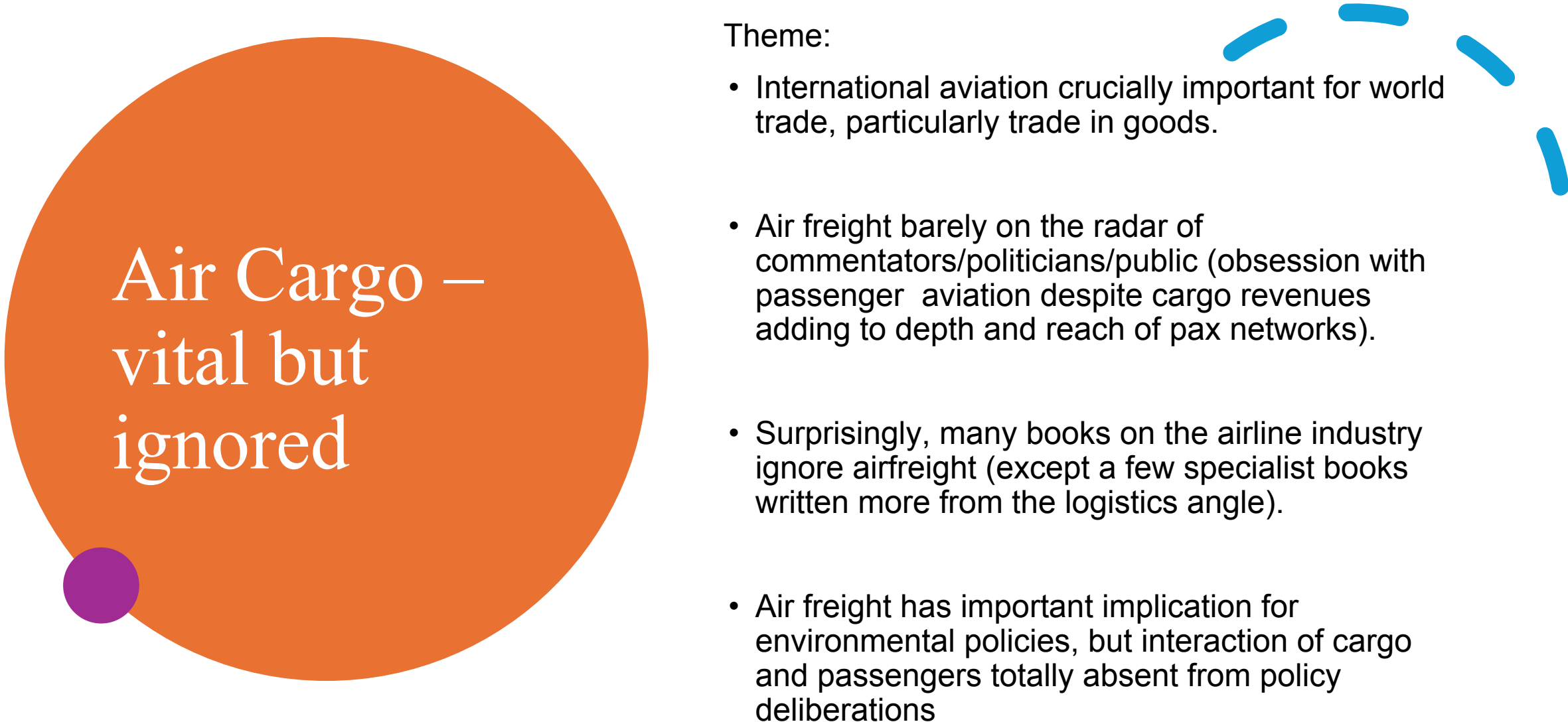


Hidden Cargoes



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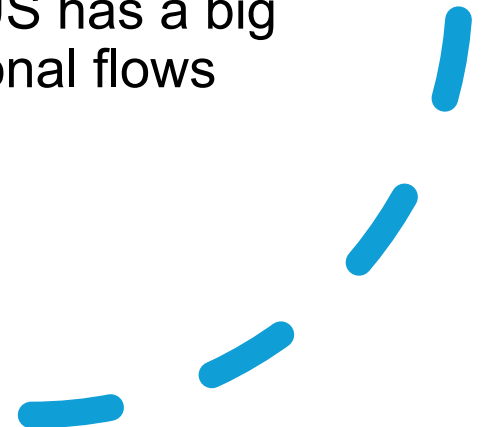
Air Cargo — vital but ignored

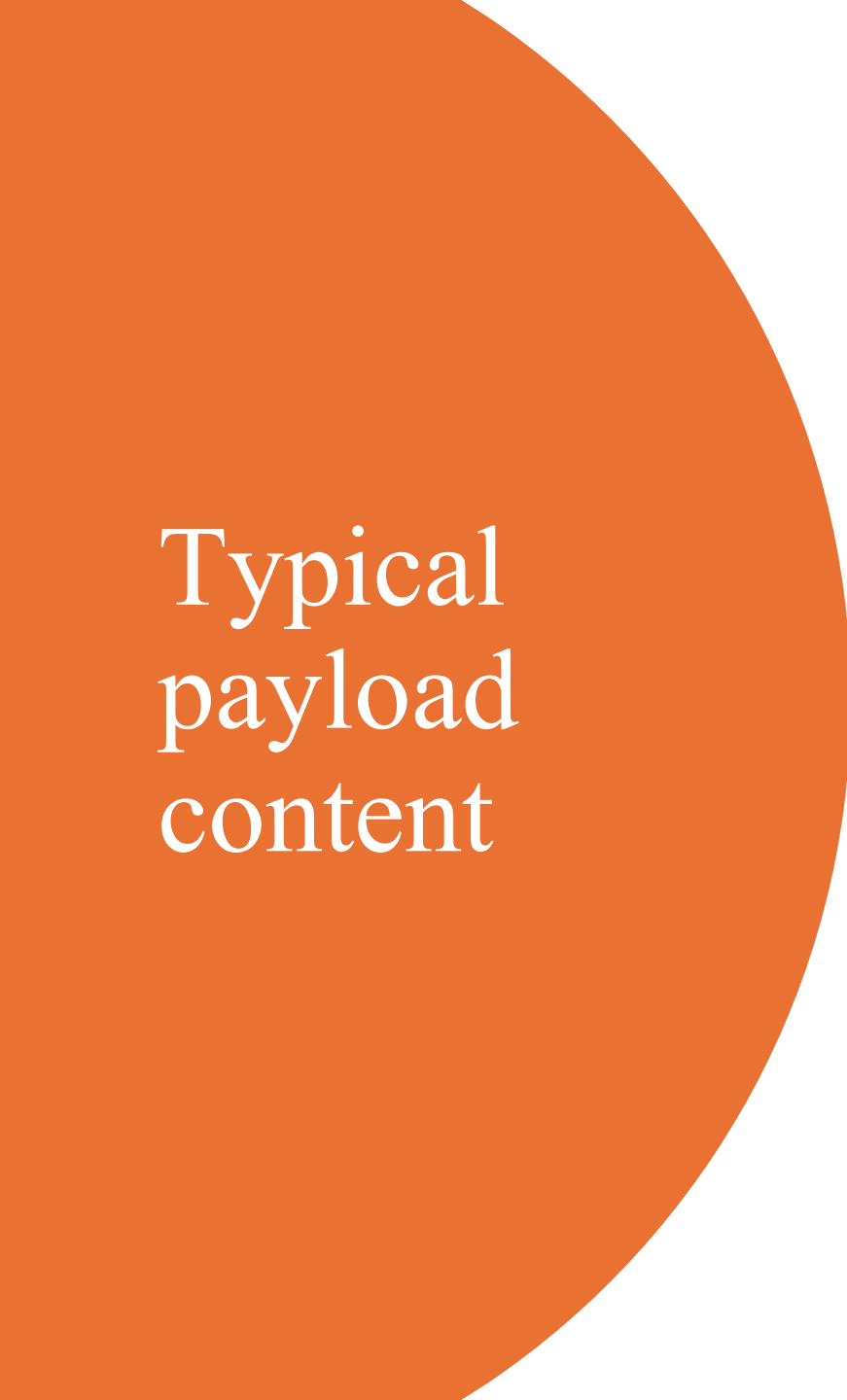
Theme:

- International aviation crucially important for world trade, particularly trade in goods.
- Air freight barely on the radar of commentators/politicians/public (obsession with passenger aviation despite cargo revenues adding to depth and reach of pax networks).
- Surprisingly, many books on the airline industry ignore airfreight (except a few specialist books written more from the logistics angle).
- Air freight has important implication for environmental policies, but interaction of cargo and passengers totally absent from policy deliberations

How important is air cargo?

- Last IATA estimate, about **one-third** of total world goods trade by value (the crucial metric) was transported by air.
- So, what is being shipped? Generally, urgently needed/valuable/perishable commodities.
- Driven by integrated supply chains of international commerce and in part supercharged by just-in-time systems of modern manufacture.
- Big regional differences in air freight statistics and caution required on generalisations, eg US has a big domestic market, but otherwise international flows dominate.



A large orange circle on the left side of the slide, partially cut off by the edge.

Typical payload content

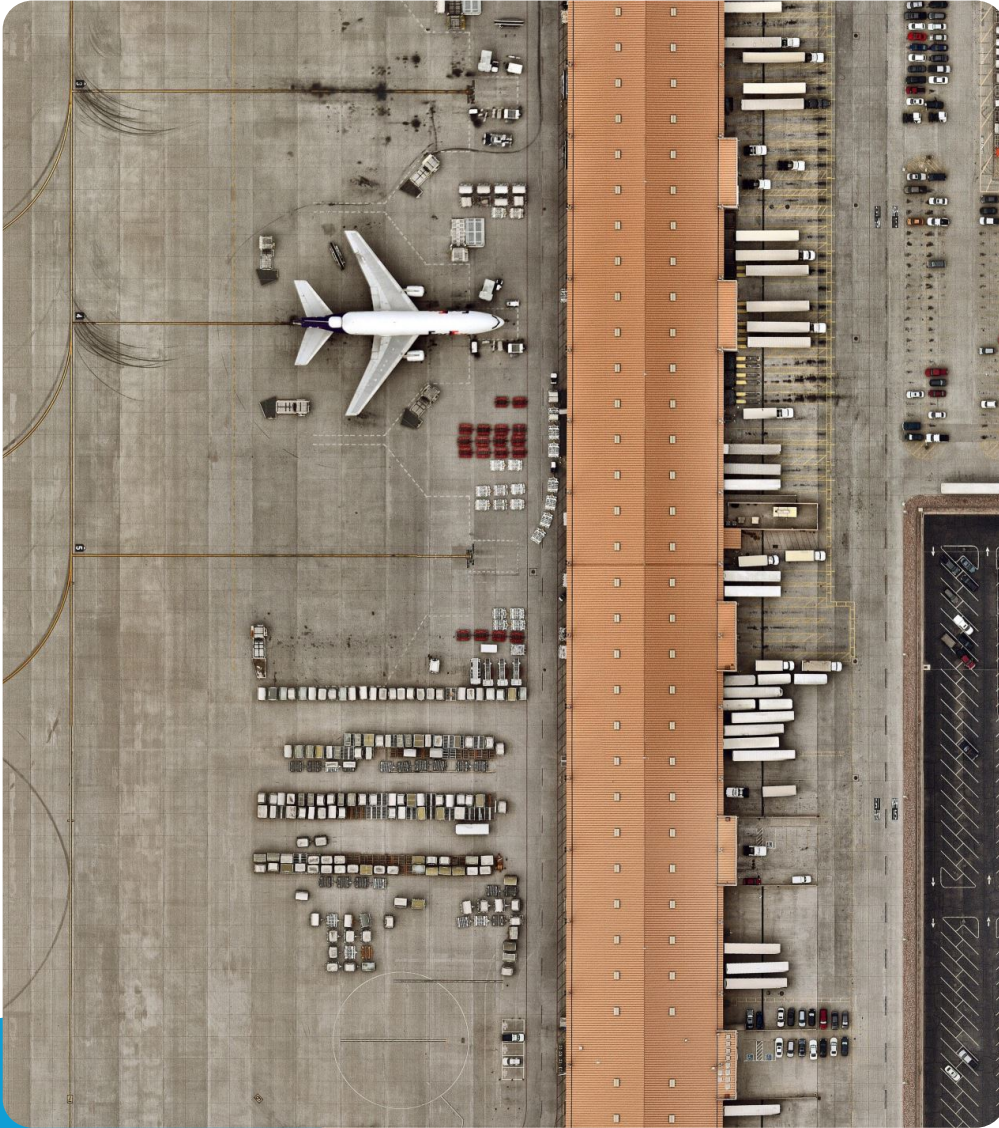
- Pharma (medicines, vaccines)
 - High-value electronics (semiconductors, smartphones)
 - Chemicals
 - Scientific instruments
 - Apparel/textiles (luxury fashions)
 - High security items (jewellery, bullion, artwork)
 - Foodstuffs (mangoes, salmon)
 - Office and industrial machinery/components (outsized goods by specialist freighters e.g. Beleuga)
- 
- A series of four blue curved line segments in the bottom right corner, arranged to suggest a curved path or a stylized arrow pointing upwards and to the right.

Manufacturing
supply chain



Belly-hold vis freighters

- Airfreight transported either in freighter aircraft (derivatives of pax jets) or in the hold of pax jets. (Combi's out of fashion except during Covid). Many pax airlines have freighter divisions.
- A little more than half world's air cargo (by tonne-kms) now sent beneath the feet of passengers, particularly on wide-bodied aircraft, as **belly-hold freight**.
- Before the financial crisis freighter aircraft more important. Crisis led to lower freight loads and overcapacity in the freighter sector with some pax airlines leaving the main-deck freighter market.
- Development of technology and wide-bodies has driven the trend. 777-300ER can carry 28-30 tonnes of freight, similarly A350-1000; A380 no more despite its size because of more pax baggage. Actual loads usually much lower: depends on local market size, freighter competition, route length, headwinds, maxing out on cubic etc



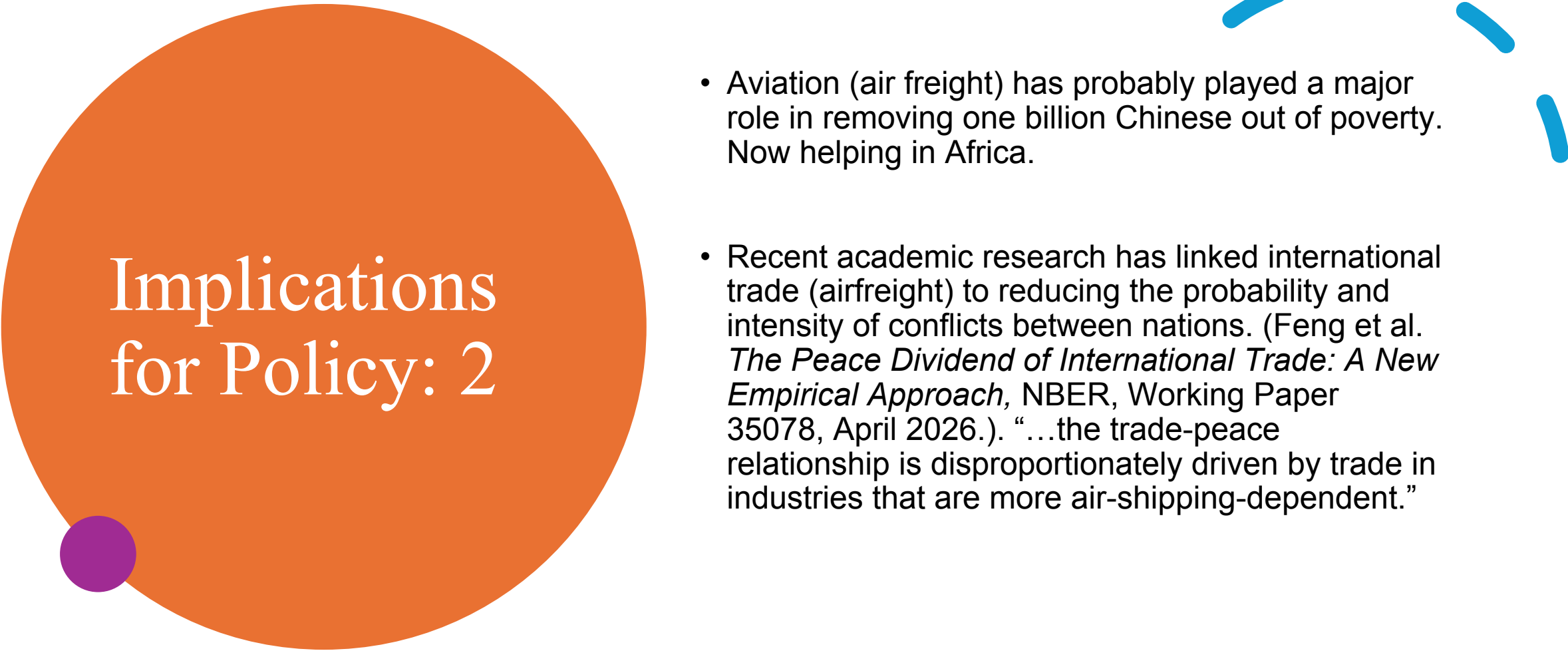
Case study: Heathrow

- LHR a major hub in international aviation (premier) both pax and cargo.
- Quarter plus of UK goods trade by value, almost £250bn, 2025. LHR is UK's premier port for trade.
- But unusual because freighters are banned (except for grandfathered movements). Vis. Paris, Amsterdam, Hong-Kong.
- Cargo throughput, circa 1.5mn tonnes 2025, nearly all **belly-hold**, mostly on long-haul, wide-bodied (40% of total movements), av. distance 3,800mls.
- Dividing through gives circa 8.0 tonnes per long-haul pax flight (equivalent to 60-70 pax +bags)
- *“roughly £3,500 worth of goods beneath the seat of every passenger”*. (LHR Release)



Implications for policy: 1

- Because passengers and goods are a joint product of a flight (variable proportions) and cargo adds to weight and fuel burn, you cannot say passengers are responsible for 'x' emissions.
- Emission/passenger taxes (ETS, CORSIA, UK APD) have implication for world goods trade and this needs to be consciously considered by policy makers. Do you want to add inadvertently to 'Trump' tariffs?
- Symbiotic relationship between long-haul pax and cargo such that latter an important ancillary revenue for airlines (accounting for 10-15% of total revenues for av. pax flight – SEO Econ Research 2014). Thus, belly-hold increases frequency/scope of networks, increasing trade intensity.



Implications for Policy: 2

- Aviation (air freight) has probably played a major role in removing one billion Chinese out of poverty. Now helping in Africa.
- Recent academic research has linked international trade (airfreight) to reducing the probability and intensity of conflicts between nations. (Feng et al. *The Peace Dividend of International Trade: A New Empirical Approach*, NBER, Working Paper 35078, April 2026.). "...the trade-peace relationship is disproportionately driven by trade in industries that are more air-shipping-dependent."