

# ***European Hub Airports – Do Competitors within the Catchment Constrain Market Power?***

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**>> What is the level of substitution European hub airports face in regard to offered short-haul and long-haul destinations?**

**>> Case study Frankfurt Airport**

**> Approach**

**> Market concentration short-haul market**

**> Market concentration long-haul market**

**>> Conclusion and outlook**

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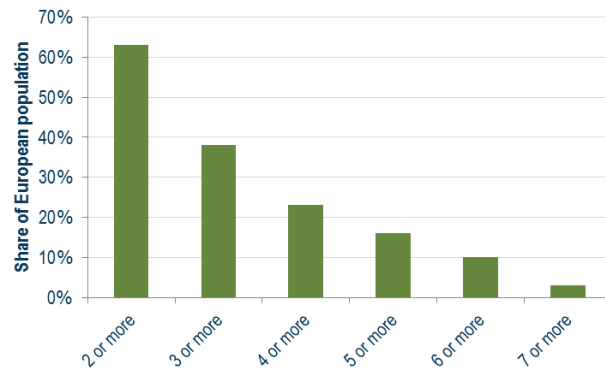
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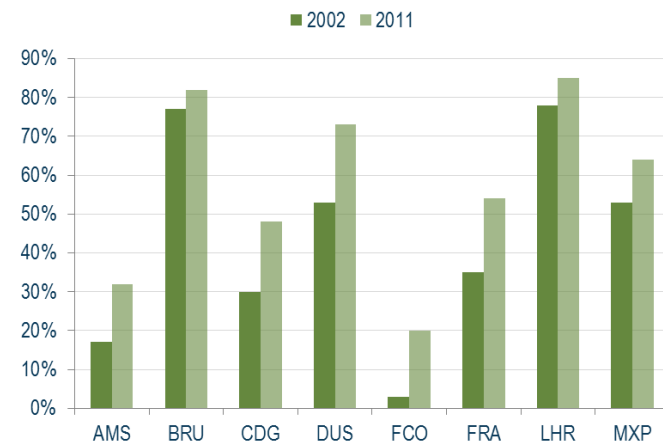
>> **How many airports do passengers have access to within two-hours drive time?**

Number of airports in Europe within a radius of two hours' drive



>> **Do small airports offer the same destination as European hub airports?**

Share of European destinations with an overlap at another nearby airport



>> **What is the substitution potential both for short-haul and long-haul destinations?**

## >> Depiction of firms' market shares within a particular industry

### > Application to airport industry, calculation of seat capacity

> For each destination offered out of hub airports

$$HHI_{dest} = \sum_{i=1}^N a_i^2$$

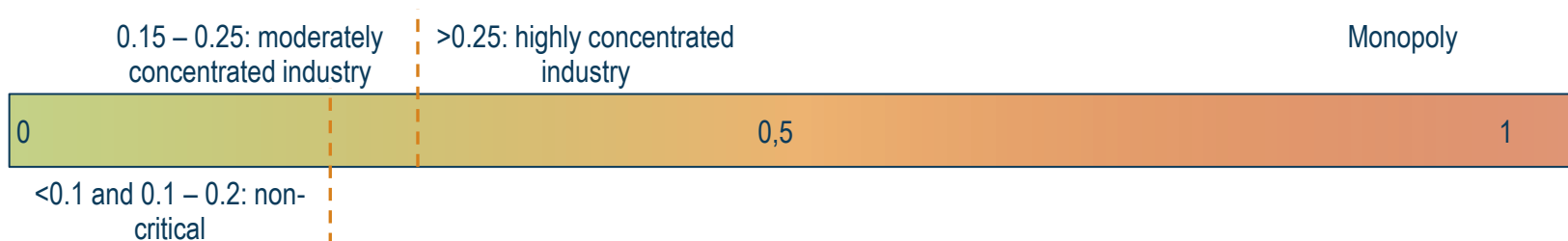
*N* = Number of firms in the market

> Aggregated level for each hub airport

$$HHI_{hub} = \sum_{i=1}^N HHI_{dest} a_i$$

*a* = Market share of firm *i* in a total of *N*

### U.S. Department of Justice (2010)



### European Commission (2004)

Source: U.S. Department of Justice (2010), Horizontal Merger Guidelines, U.S. Department of Justice and the Federal Trade Commission, issued: 19 August 2010, <http://www.justice.gov/atr/horizontal-merger-guidelines-08192010#5c> ; European Commission (2004), Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, in: Official Journal of the European Union (2004/C 31/03), pp. 5-18.

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## 1. Catchment area

- > Area surrounding the airport which inbound and outbound travelers originate from or travel to
- > Variation (1hr-/ 2hr-drive)
- > Variation by demographics and travel purpose

## 2. Geographic market

- > Short-haul destinations offered at an airport

## 3. Supply side analysis

- > Calculation of supplied seats at each airport
- > Identification of overlap in regions and destinations

Airport	LHR	CDG	FRA	AMS	MAD	IST	MUC	FCO	BCN	LGW	ZRH	MAN	VIE	OSL	CPH	DUS	ARN	DUB	BRU	MRP	TXL	HEL	ATH	PRG
2-hrs	13	6	13	10	4	3	7	4	4	13	10	10	4	7	9	14	8	9	12	8	6	4	6	6
1-hr	6	2	1	1	1	1	1	1	1	2	2	2	1	0	2	3	1	0	2	3	1	0	0	0

FRA	MHG	STR	DUS	CGN	SCN	FKB	SXB	HHN	LUX	ZQW	PAD	NUE	DTM
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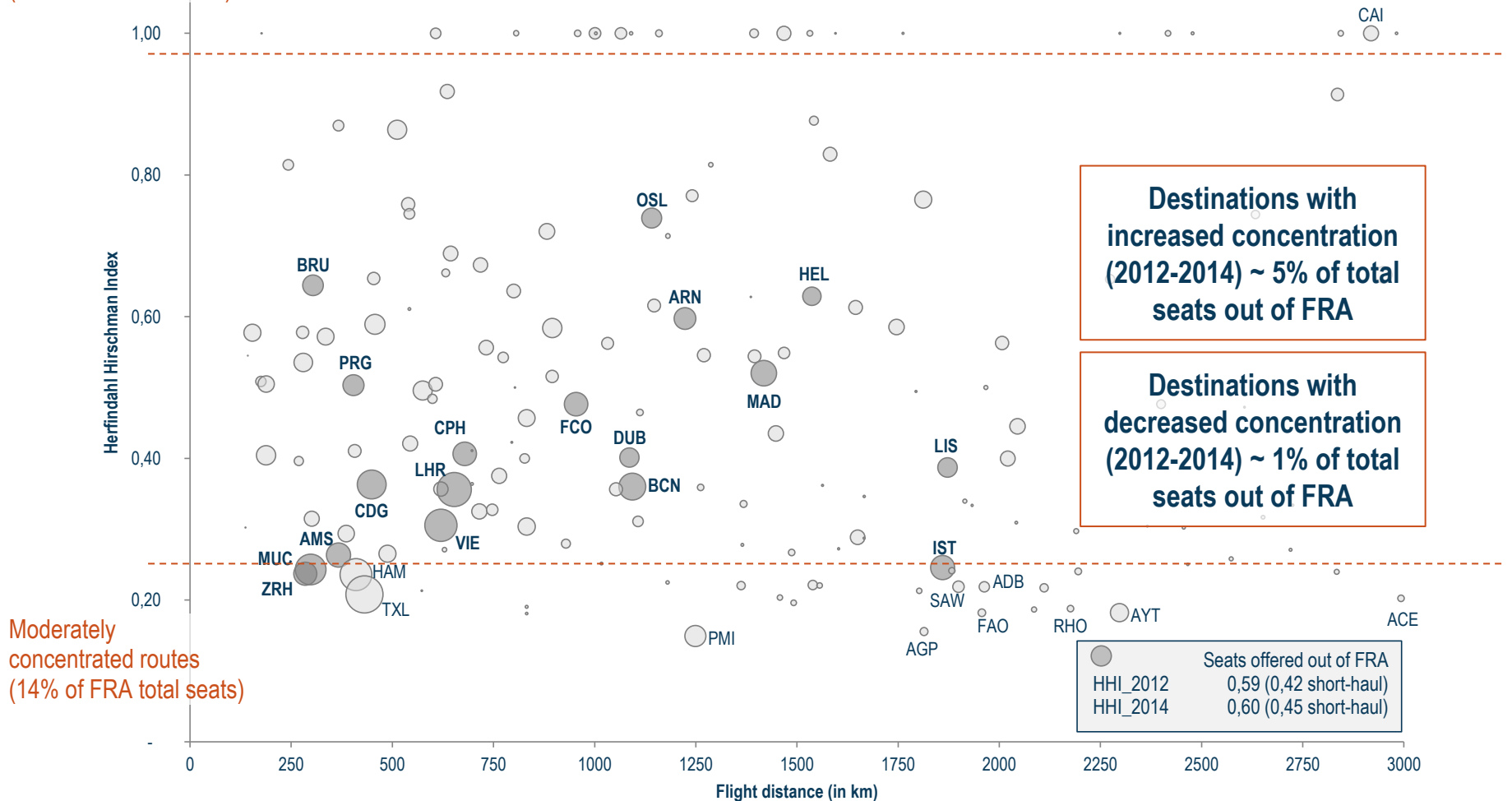
Source: Airports with scheduled traffic in 2012 from OAG (2012)

# Short-haul point-to-point market

## Frankfurt catchment

Monopoly routes  
(3% of FRA total seats)

Concentration of short-haul point-to-point traffic out of FRA (2014)



Source: data from OAG (2014)

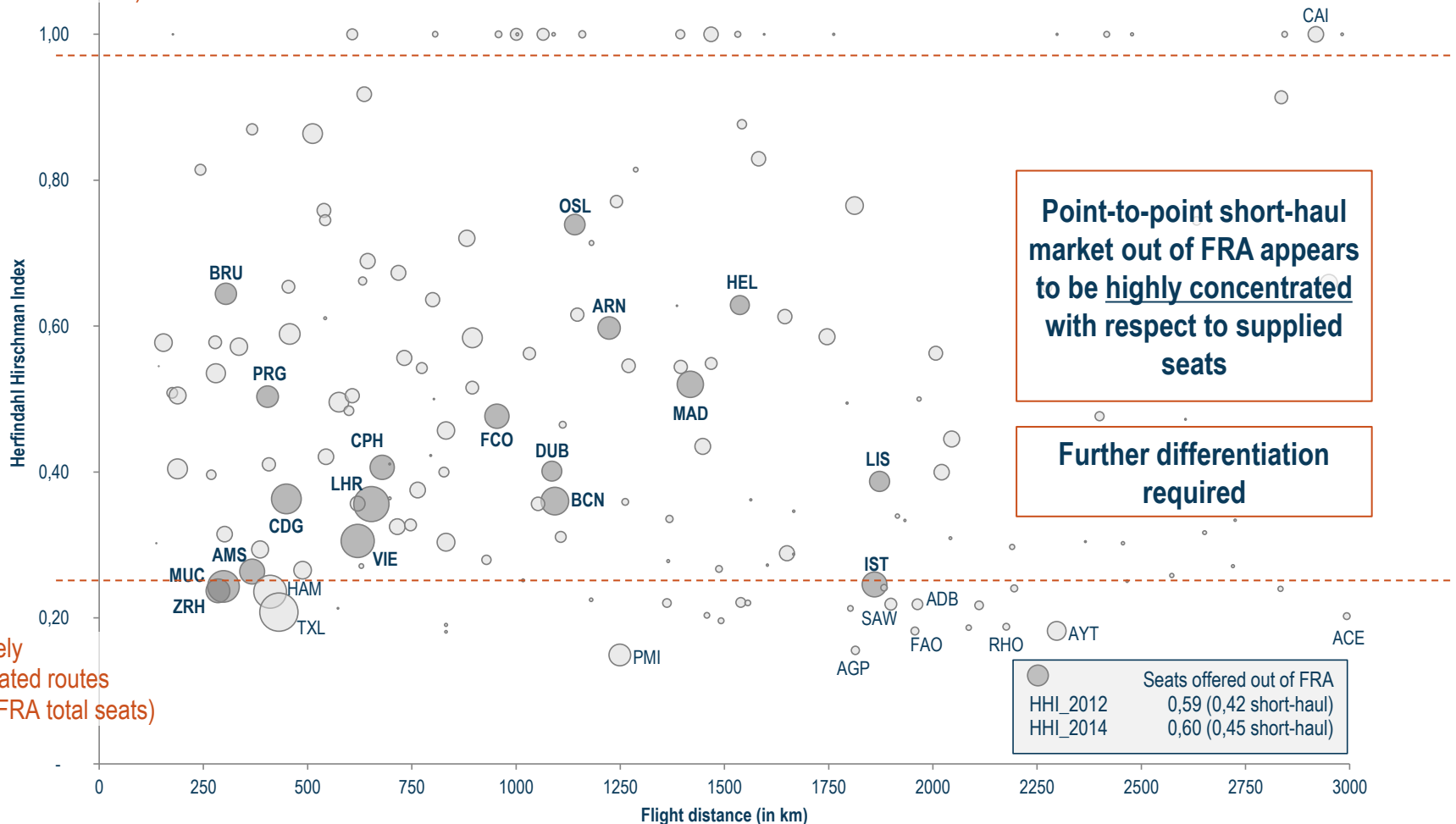


# Short-haul point-to-point market

## Frankfurt catchment

Monopoly routes  
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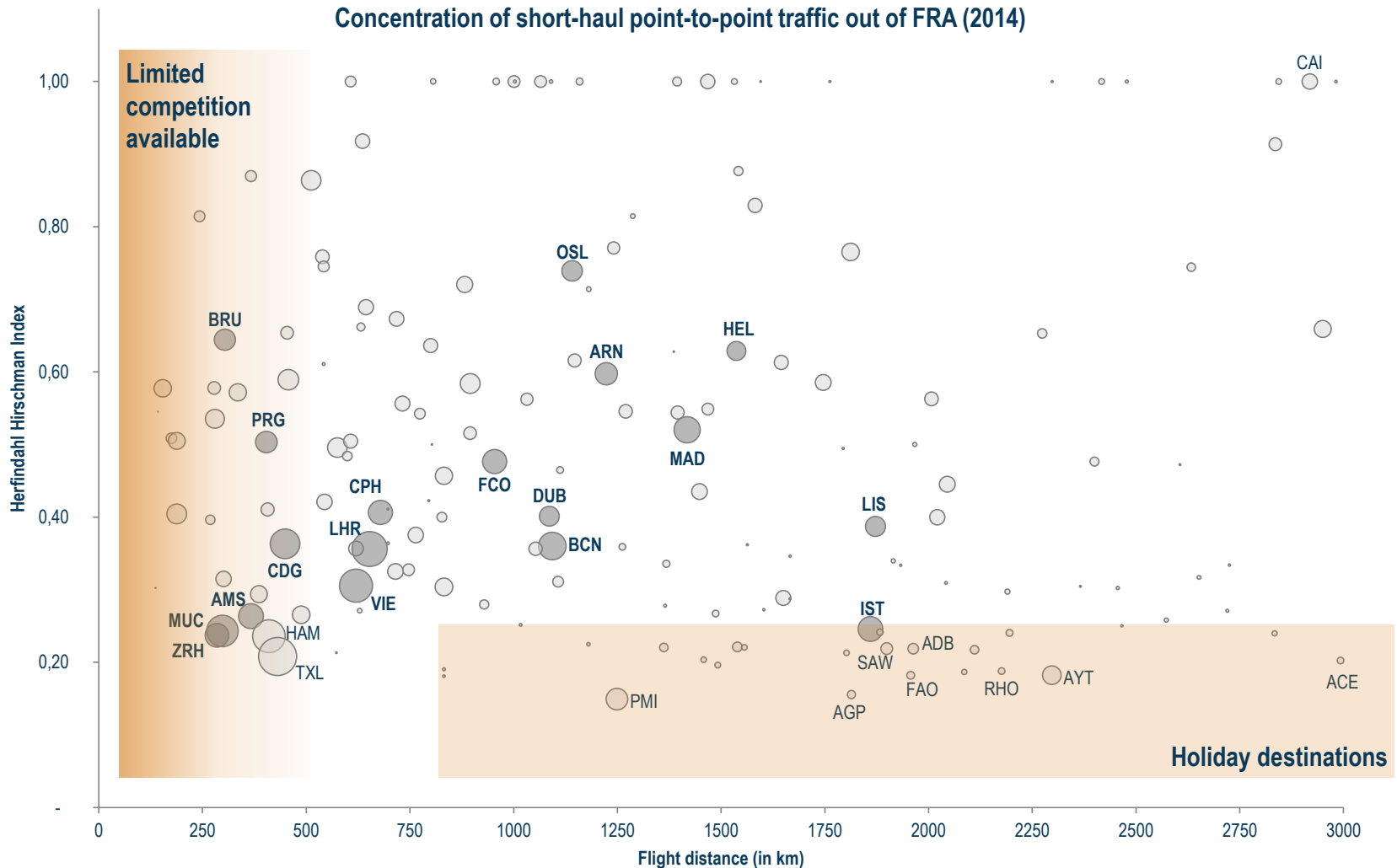
Concentration of short-haul point-to-point traffic out of FRA (2014)



Source: data from OAG (2014)

# Categorization of destinations

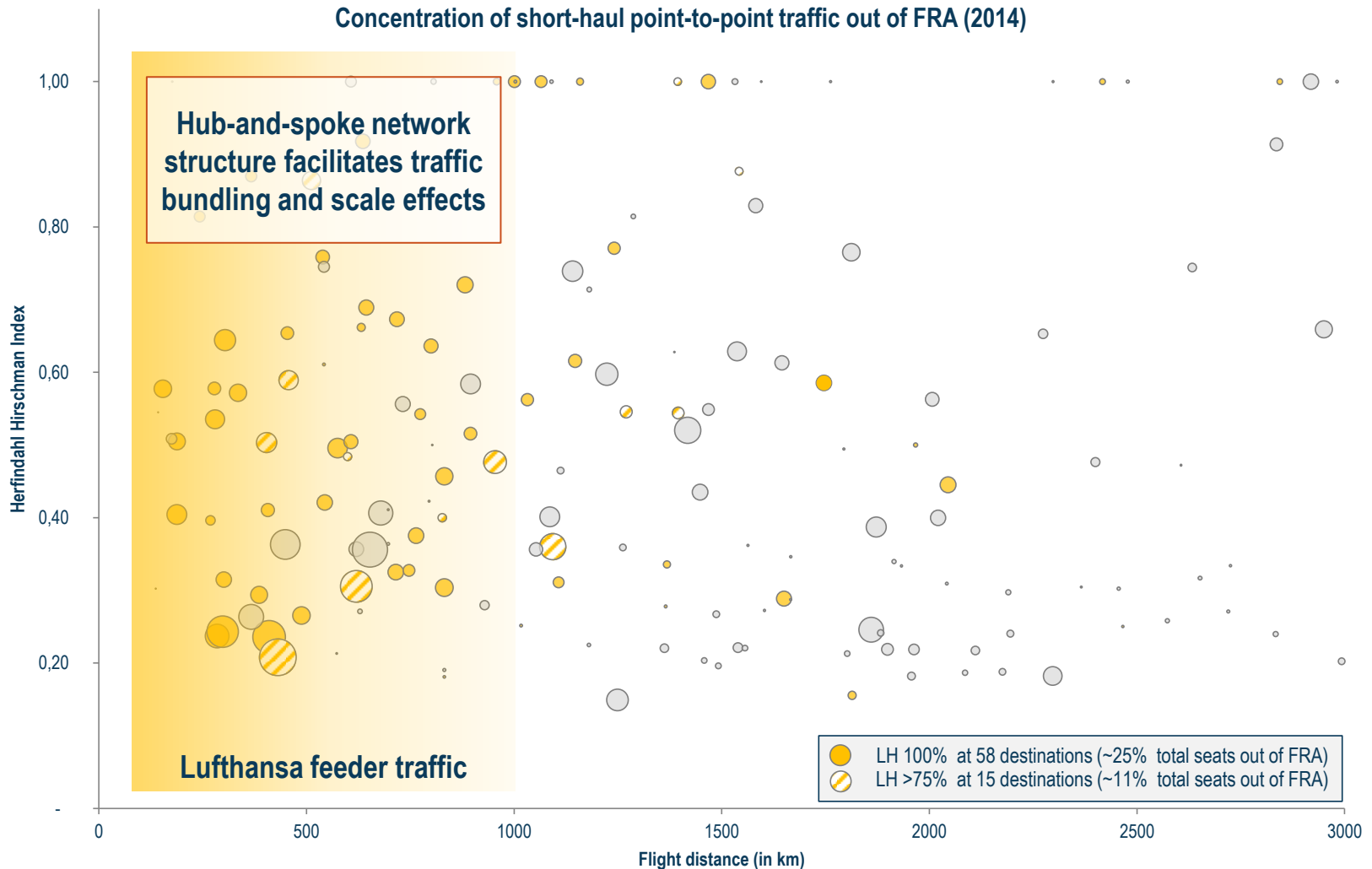
## Frankfurt catchment



Source: data from OAG (2014)

# Network carrier share (Lufthansa)

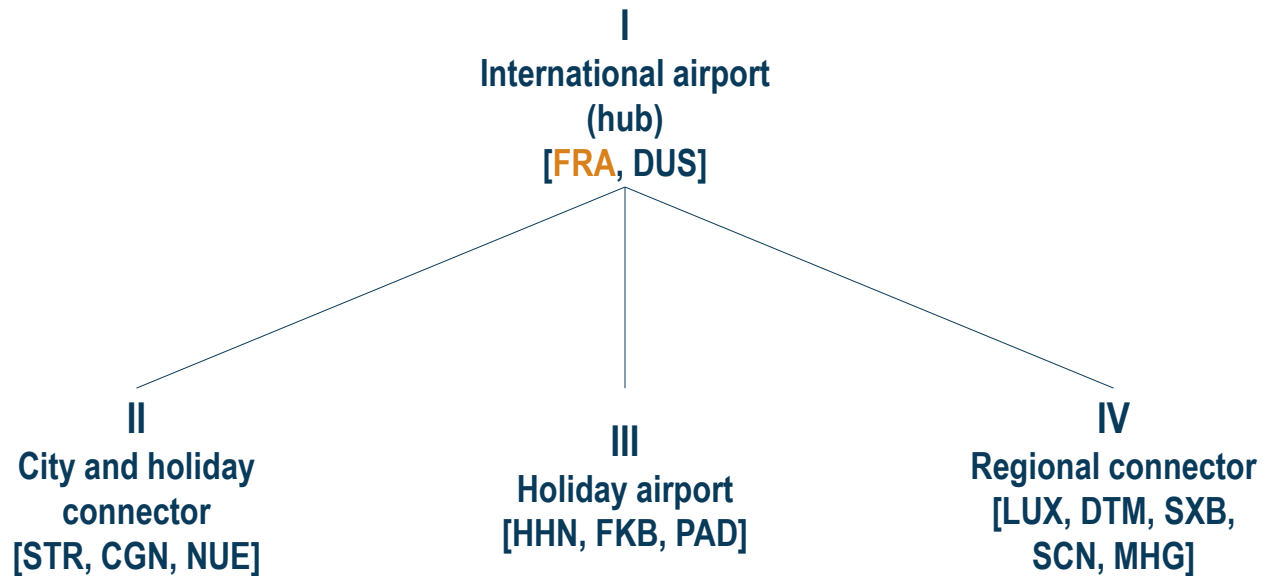
## Frankfurt catchment



Source: data from OAG (2014)

# Differentiation of airport tiers

## Frankfurt catchment



### Parameters

- (1) Airport size – passenger volume, aircraft movements
- (2) Regional focus 1 – world region level
- (3) Regional focus 2 – country level
- (4) Airline type – airline business model

### Types of competition

- (1) Inter-layer – different category
- (2) Intra-layer – same category

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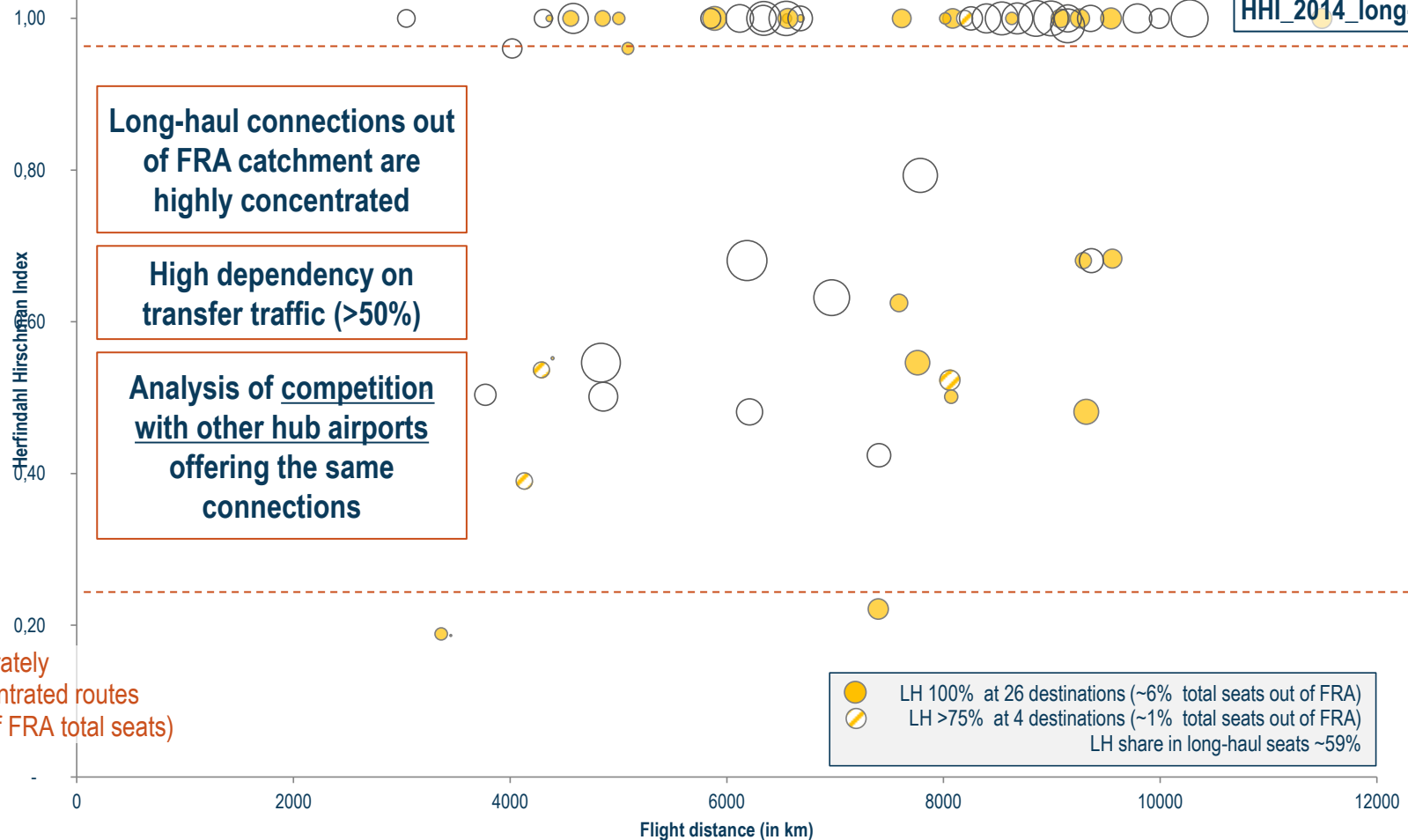
# Long-haul point-to-point market

## Frankfurt catchment

Monopoly routes  
(24% of FRA total seats)

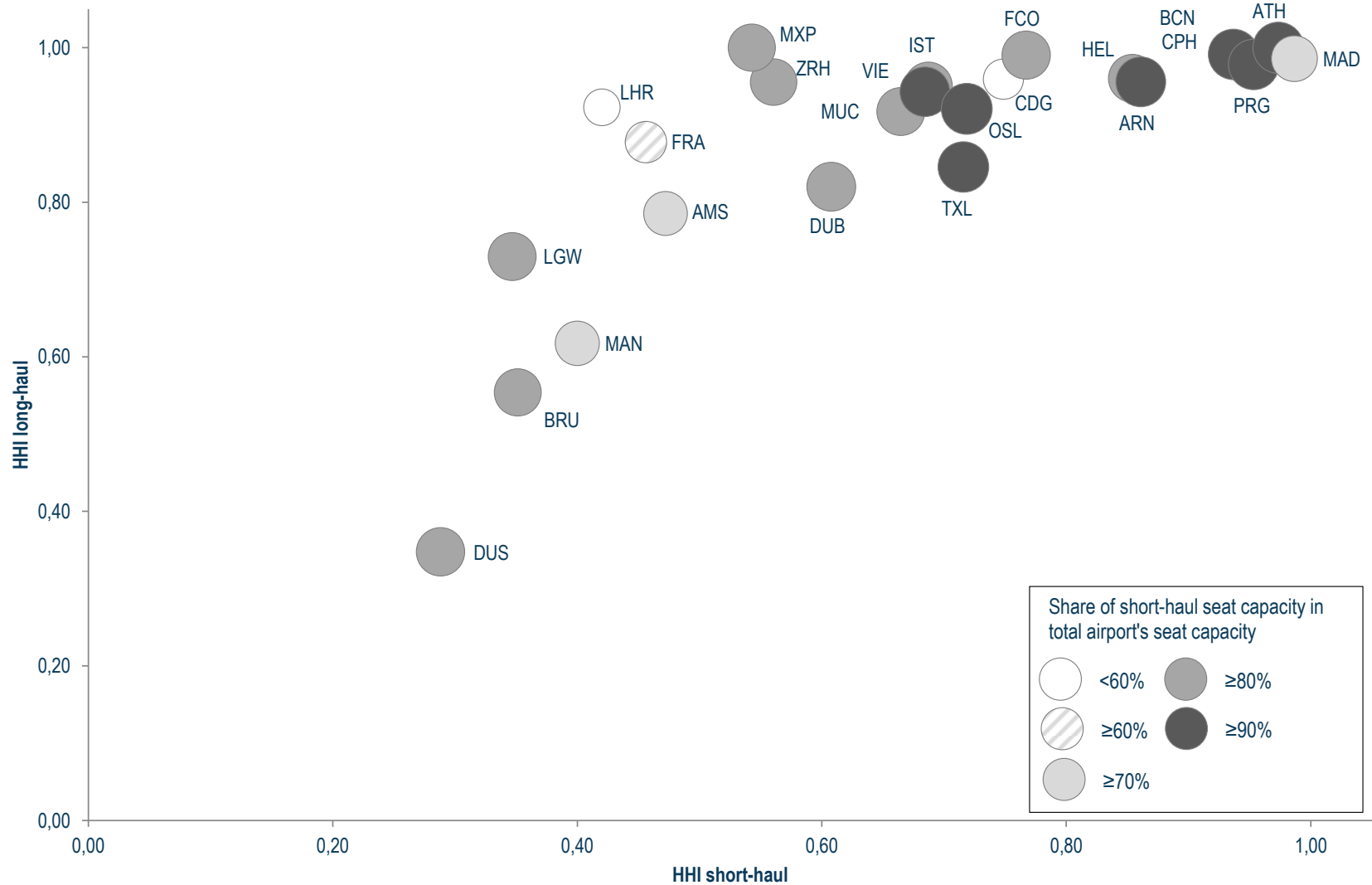
Concentration of long-haul point-to-point traffic out of FRA (2014)

HHI\_2012\_long-haul 0,87  
HHI\_2014\_long-haul 0,87



Source: data from OAG (2014)

# Overview European hub airports



# Conclusion and outlook

*Towards a more competitive environment?*

## **>> High concentration in the short-haul as well as long-haul segment out of catchment area!**

- > Strong concentration of seat capacity at most European hub airports
- > Hub airports offer higher frequency in comparison to airports within catchment

## **>> BUT connecting flights require a different market definition**

- > First analysis of long-haul market out of (European) hub airports shows low market concentration
- > Close linkages between network carrier and hub airport require analysis of transfer connections

## **>> Next steps**

- > Combined application of connectivity and concentration measures
- > Identification of overlap in feasible connections
- > Identification of further parameters influencing hub airport competition