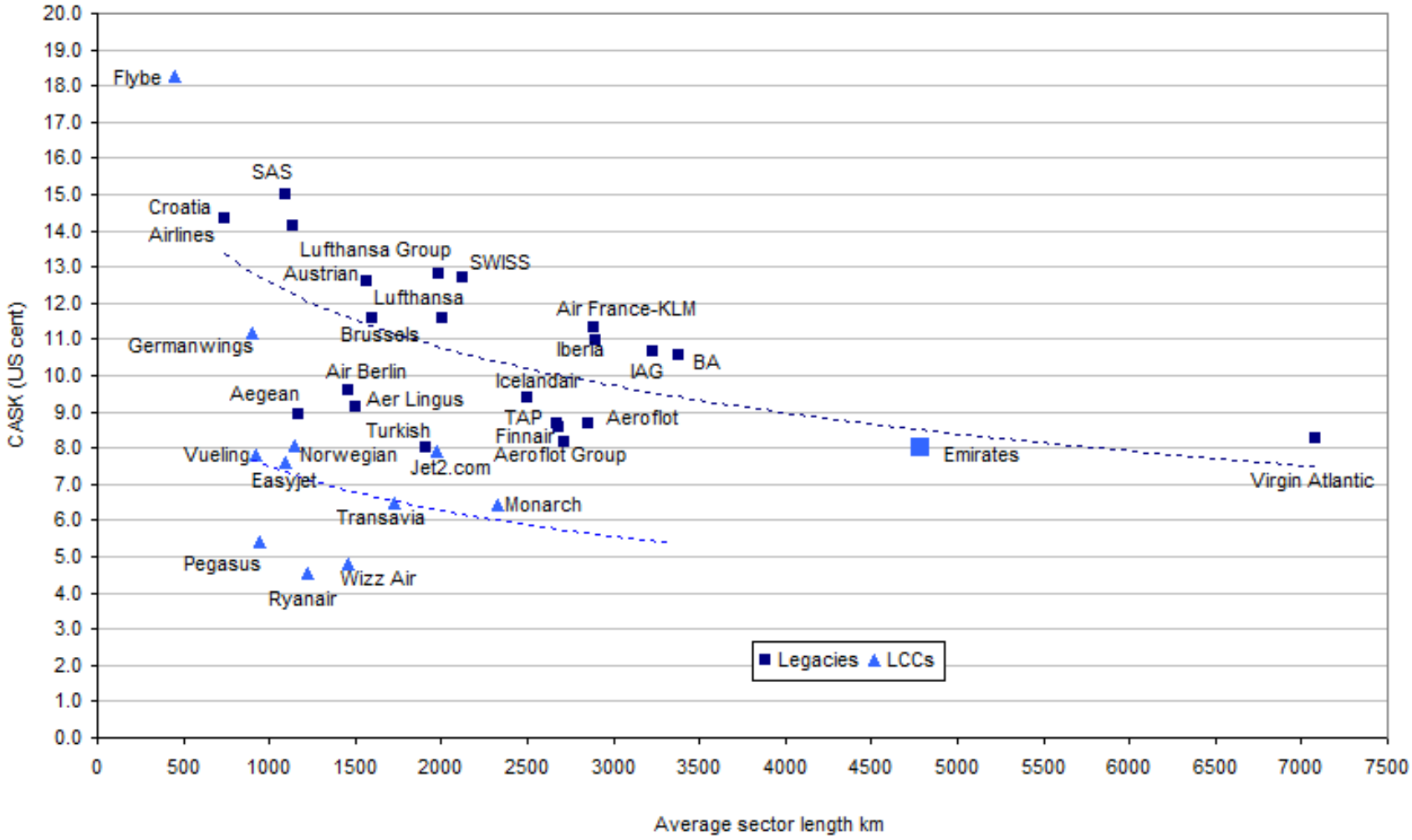



Nevertheless, the chart shows that Emirates' CASK is below the trend line for European legacy carriers and is also lower than that of the ultra long-haul Virgin Atlantic (the only European airline with this route profile). This suggests that, compared to European legacy

carriers, Emirates is a cost efficient operator, although it could not be described as an LCC. This does not consider unit revenue differences and note also that we do not include Asian and other competitors on this chart.

Cost per ASK, CASK, (US cent) and average trip length for selected European legacy and low-cost carriers and Emirates: 2012*

Source: CAPA, Aviation Analysis, Unit cost analysis of Emirates, IAG & Virgin; about learning from a new model, not unpicking it

11th January, 2014

## Unit cost analysis of Emirates, IAG & Virgin; about learning from a new model, not unpicking it




Last year, 2013, saw significant shifts in the attitudes of the major European legacy carriers towards their competitors from the Gulf, as well as some changes in the strategic stance of the Gulf carriers towards global partnerships. Qatar Airways joined oneworld, Emirates entered into a joint venture agreement with Qantas, and Air France-KLM started to codeshare with Etihad, which continued to develop its equity alliance strategy with a growing number of European airlines (among others).

Nevertheless, old attitudes linger and there is still a feeling among some in Europe, including airlines and regulators, that the success of the Gulf carriers is based on unfair subsidies.

In this report we analyse Emirates' unit costs and compare them with IAG and Virgin Atlantic in order to understand the source of Emirates' cost advantage. How level is the playing field and what are the conclusions of this unit cost analysis for European legacy carriers and the policy implications for Europe's regulators and governments?

**Emirates is cost efficient compared with European legacy airlines, but is not an LCC**

One of the key dimensions of competition in the airline industry is unit cost. Quite simply, a low unit cost is a competitive advantage as it allows airlines to be profitable at low fares. One of the difficulties in comparing unit costs is that they vary according to average trip length.

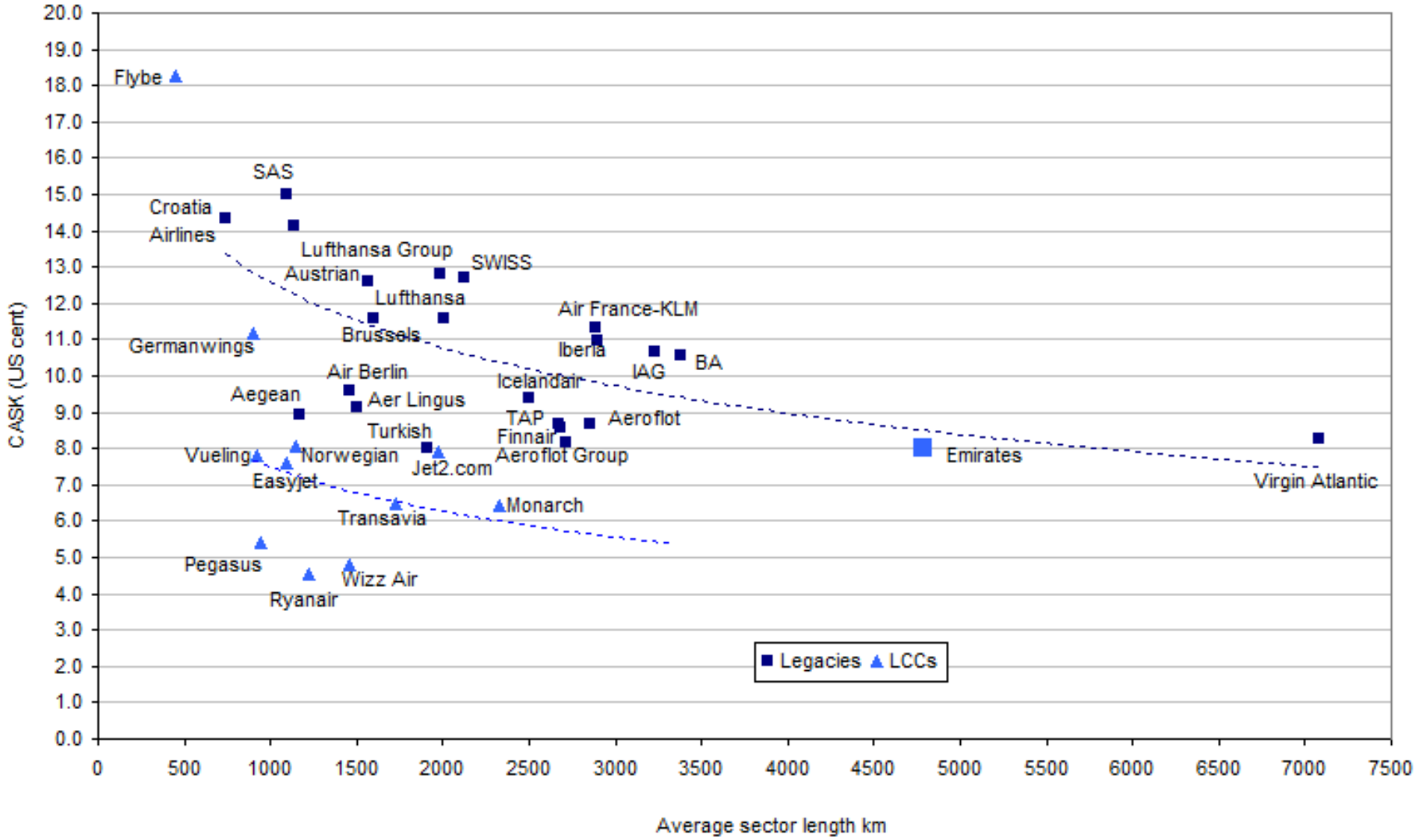
In general, the cost of producing a seat-kilometre falls as average sector length increases since the fixed costs are amortised over more seat-kms and variable costs such as fuel are more efficiently consumed in longer flights.

Plotting Cost per Available Seat Kilometre (CASK) vs sector length allows the relative cost efficiency of different airlines to be compared visually. The chart below should be familiar to many CAPA readers. It shows CASK, denominated in UScents, against average sector length for a number of European airlines and for Emirates.

The chart shows that Emirates' unit cost is lower than that of every European legacy carrier, but, since it also has a longer average trip length than almost every one of them, its unit cost 'should' be lower.

Nevertheless, the chart shows that Emirates' CASK is below the trend line for European legacy carriers and is also lower than that of the ultra long-haul Virgin Atlantic (the only European airline with this route profile). This suggests that, compared to European legacy carriers, Emirates is a cost efficient operator, although it could not be described as an LCC. This does not consider unit revenue differences and note also that we do not include Asian and other competitors on this chart.

Cost per ASK, CASK, (US cent) and average trip length for selected European legacy and low-cost carriers and Emirates: 2012*


CASK (US cent)
Average sector length km
Flybe
SAS
Croatia Airlines
Lufthansa Group
Austrian
SWISS
Lufthansa
Brussels
Air France-KLM
Germanwings
Iberia
IAG
BA
Air Berlin
Icelandair
Aegean
Aer Lingus
TAP
Aeroflot
Turkish
Finnair
Vueling
Norwegian
Jet2.com
Aeroflot Group
Emirates
Virgin Atlantic
Easyjet
Monarch
Transavia
Pegasus
Wizz Air
Ryanair
Legacies
LCCs

*Financial year ends as follows: Jet2.com, Ryanair, Emirates Mar-2013; Virgin Atlantic Feb-2013; Aeroflot, Pegasus Airlines, Air Berlin, Turkish Airlines, Lufthansa, Aer Lingus, IAG, Iberia, BA, Air France-KLM, Finnair, Norwegian, Vueling Dec-2012; Monarch, SAS Oct-2012; easyJet Sep-2012; Wizz Air Mar-2012.
Source: CAPA analysis of airline company traffic and financial statements and press releases

**Unit cost comparison needs to be based on a similar average trip length**

Emirates appears particularly to have a significant CASK advantage compared with the major European legacy groups (which all sit above the trend line on our CASK chart) and these are the carriers that have been hardest hit by Gulf carrier competition.

So, what are the sources of Emirates' unit cost advantage? A straight comparison of its unit cost with any one European group would run into the problem of different average trip lengths. In order to circumvent this problem, we note that Emirates' average trip length falls between those of IAG and Virgin Atlantic. If a European airline existed that consisted of equal parts IAG and Virgin Atlantic, its average trip length would be similar to that of Emirates and its unit cost could meaningfully be compared with Emirates.

**Cost per ATK better takes account of cargo traffic**

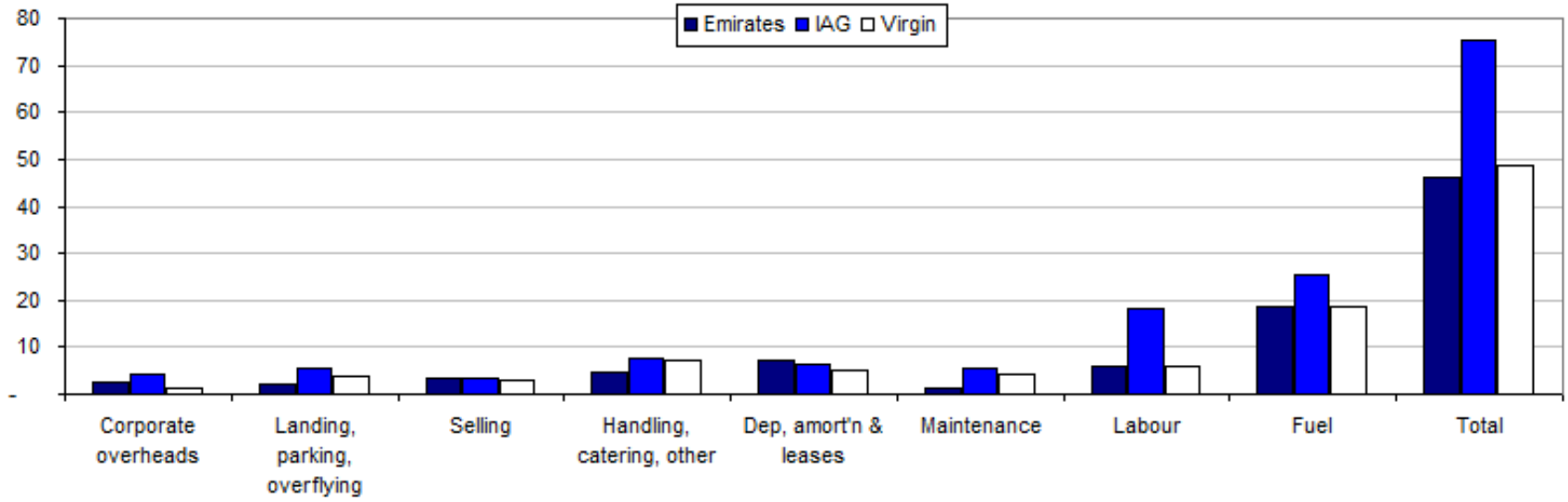
Before getting into such a comparison, we switch to an alternative measure of unit cost. Emirates has a fairly significant amount of cargo traffic and so looking at costs per available seat kilometre compared with a carrier that has a lower proportion of cargo traffic could result in some distortions. Some of the costs relate to the carriage of freight and so dividing costs only by ASKs will flatter airlines with a small cargo business.

Total available tonne kilometres (ATK) take account of cargo and passenger traffic and unit costs measured as cost per ATK is the measure we will now adopt for this analysis.

**Emirates' average trip length is between those of IAG and Virgin Atlantic**

Virgin Atlantic has a similar, but slightly higher, unit cost to Emirates, in spite of a longer average trip length. IAG has significantly higher unit cost than Emirates, but this is partly due to its shorter average trip length. A comparison of cost per ATK by cost category for the individual groups is blurred by these sector length differences.

Cost per available tonne kilometre (USc) by cost category for Emirates, IAG and Virgin Atlantic: 2012*



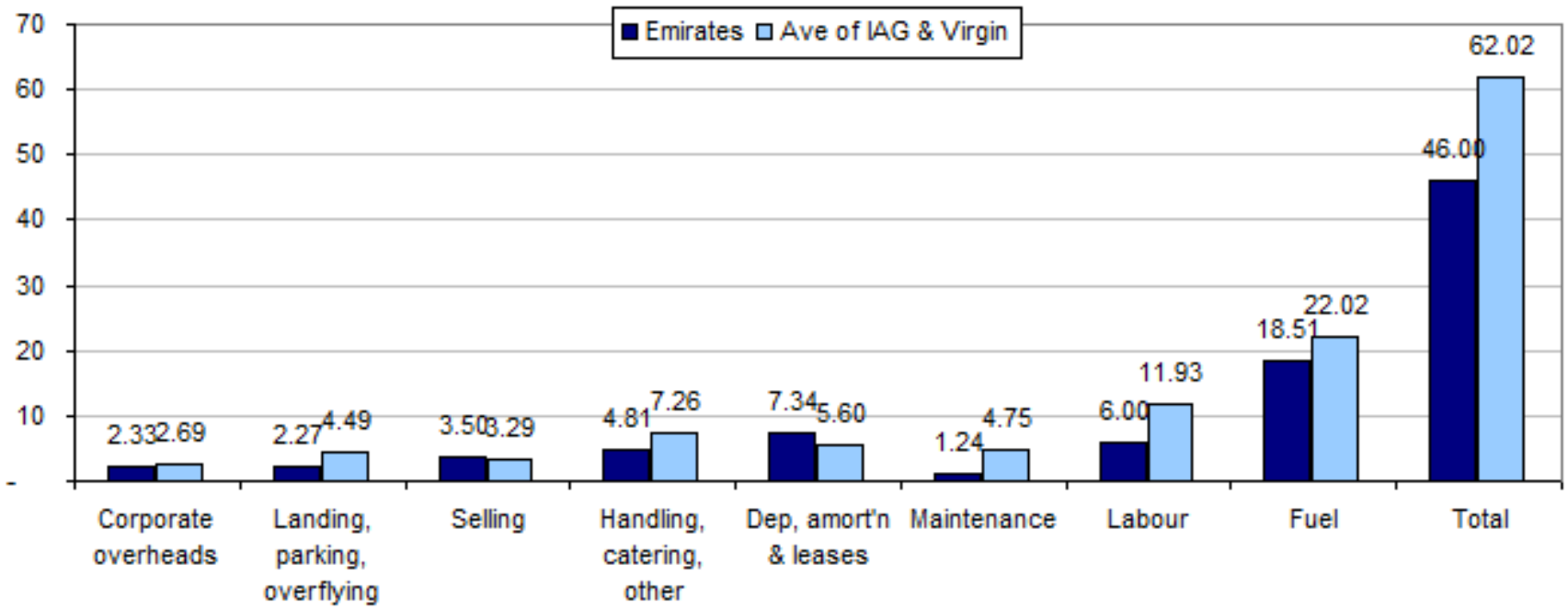

*Year end: Dec-2012 for IAG, Feb-2012 for Virgin Atlantic, Mar-2013 for Emirates
Source: CAPA – Centre for Aviation, company reports, CAA

As noted above, however, we can compare Emirates' unit costs by cost category with the average unit cost of IAG and Virgin Atlantic, since the average trip length of the latter two approximates to the average trip length of the former.

**Emirates' cost per ATK is 26% below the average of IAG and Virgin Atlantic**

A glance at the chart below shows that Emirates' total cost per ATK is below the average cost per ATK of IAG and Virgin by US16 cents, or 26%. Moreover, Emirates has an advantage in almost every cost category. The exceptions are selling costs and aircraft ownership costs (depreciation, amortisation and operating leases), where Emirates' cost per ATK is higher.

Cost per available tonne kilometre (USc) by cost category for Emirates versus the average of IAG and Virgin Atlantic: 2012*




*Year end: Dec-2012 for IAG, Feb-2012 for Virgin Atlantic, Mar-2013 for Emirates
Source: CAPA – Centre for Aviation, company reports, CAA

**In which cost categories does Emirates gain its advantage?**

Looking in more detail at each cost category, and assessing where Emirates derives the greatest advantage, the chart below shows the difference in cost per ATK between Emirates and our fictional business, whose cost per ATK is the average of IAG and Virgin Atlantic.

Emirates actually has a significant cost-per-ATK disadvantage in the cost of aircraft ownership

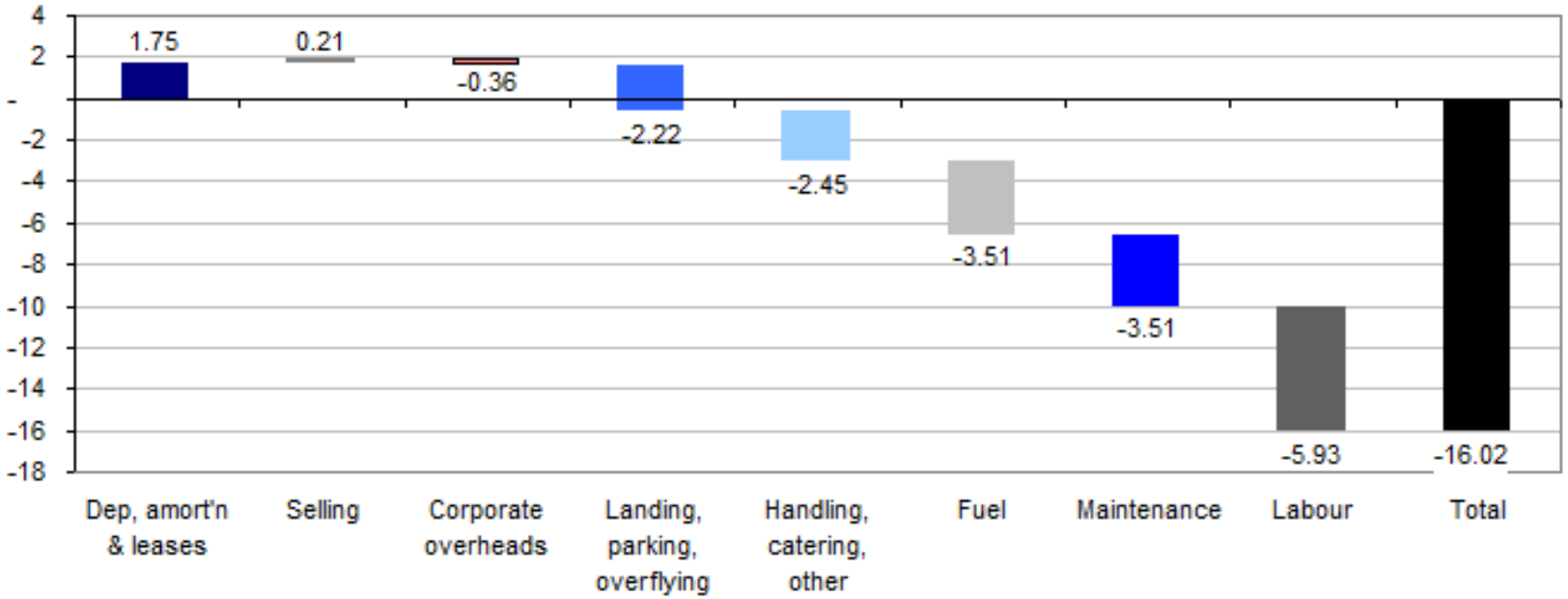
**Depreciation, amortisation and operating leases**. Emirates actually has a significant cost-per-ATK *disadvantage* in the cost of aircraft ownership. This is due to its policy of investing heavily in new aircraft and its significant use of operating leases. This tends to fly in the face of arguments that Emirates profits unduly from Exim financing, where US airlines in particular prefer to fly very old aircraft. It is worth noting, however, that what Emirates loses in this category, it more than makes up with lower maintenance cost per ATK (see below).

**Commercial and selling costs.** This is the only other category in which Emirates has a higher unit cost than the IAG/Virgin average. Although the difference is not very large, it illustrates the crucial importance of reaching as wide a customer base as possible, both by making use of all distribution channels and also by promoting the Emirates brand globally.

In parts of Emirates' catchment area, such as India and Africa, direct distribution channels are not as prevalent as in Europe and so this can lead to higher distribution costs.

In addition, it is essential for a carrier based in a small city state, whose strategy involves connecting long-haul destinations across the planet, to ensure that its brand name and product are well known globally. This involves extensive promotional expenditure, such as high profile sponsorship of most sports, including Arsenal, AC Milan, Real Madrid Football Clubs (some of Europe's leading teams), the US tennis open, the Japanese golf open, the rugby world cup and many others.

Difference in cost per available tonne kilometre (USc) by cost category for Emirates versus the average of IAG and Virgin Atlantic: 2012*



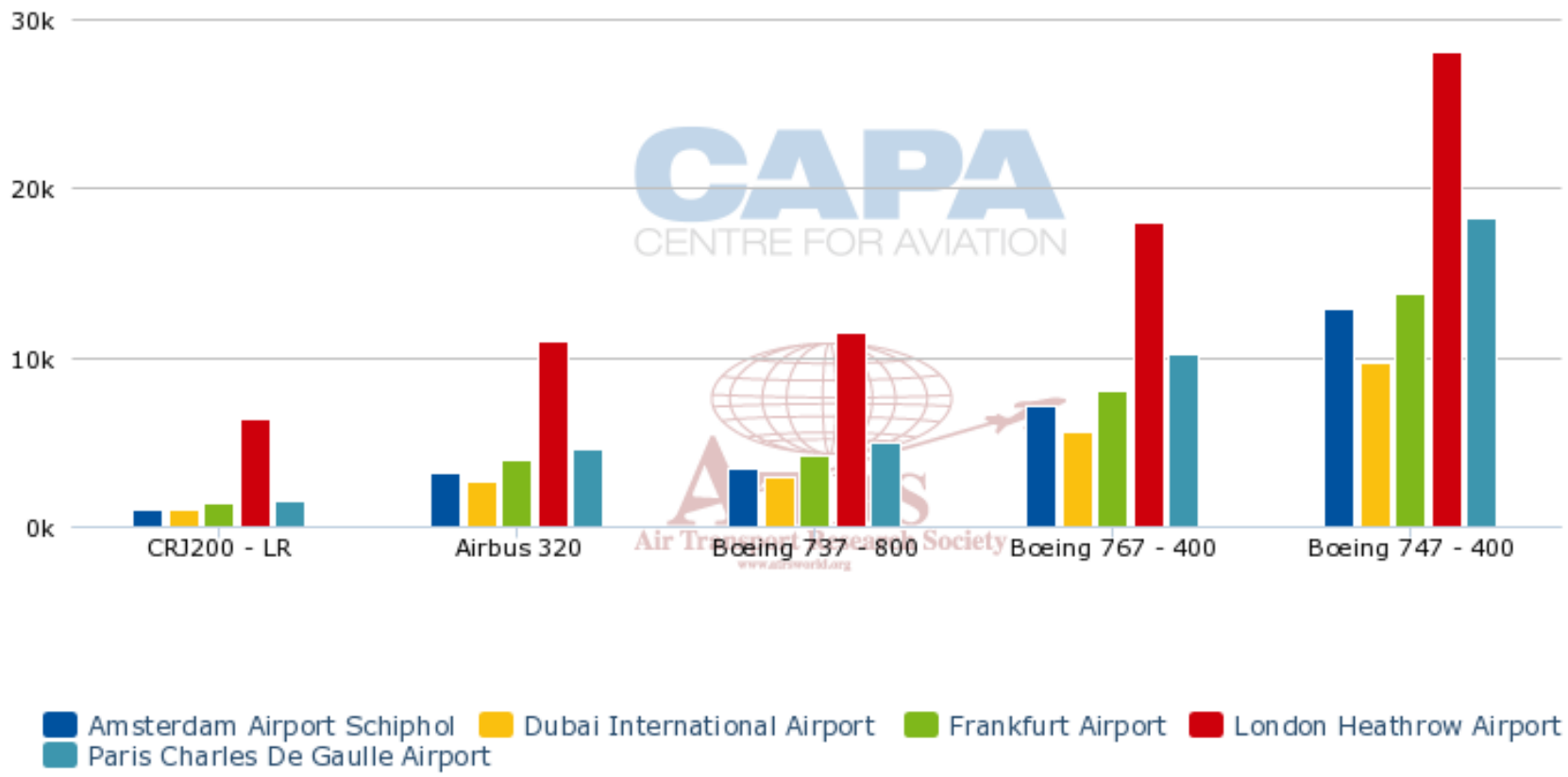

*Year end: Dec-2012 for IAG, Feb-2012 for Virgin Atlantic, Mar-2013 for Emirates
Source: CAPA – Centre for Aviation, company reports, CAA

**Landing, parking and overflying**. Emirates' cost per ATK in this category is almost half that of the IAG/Virgin average, mainly because it benefits from relatively low airport charges at its Dubai hub. These charges are non-discriminatorily available to other airlines operating to Dubai - but they are only half of the equation and Emirates must also pay airport charges at the destinations to which it flies. Overflying and navigation fees, which are the larger part of this cost category, are charged globally and Emirates does not have any great advantage in this part of its cost structure.

Nevertheless, with roughly half of its aircraft movements taking place at Dubai, where airport charges are significantly lower than at the major European hubs (in particular, compared with the London Heathrow hub of IAG and Virgin Atlantic), Emirates has an advantage in this area. For the two long-haul aircraft types illustrated in the chart below (747-400 and 767-400), Dubai's landing and

terminal charges with baggage and check-in are around one third below Heathrow's and two thirds below the average of Paris DCG, Frankfurt and Amsterdam.

Combined Landing/Terminal Charges with Baggage/Check-in (USD) for Dubai International Airport, London Heathrow Airport, Paris Charles De Gaulle Airport, Frankfurt Airport, Amsterdam Airport Schiphol




Source: CAPA - Centre for Aviation & Air Transport Research Society airport database

**Handling, catering and other**. Emirates' unit cost in this area is around one third lower than for IAG/Virgin. This is a broad category, involving a number of different items and in which levels of outsourcing and the cost of outsourced labour vary considerably. As a result, pinpointing the precise source of advantage is not simple, but local labour rates probably play an important part.

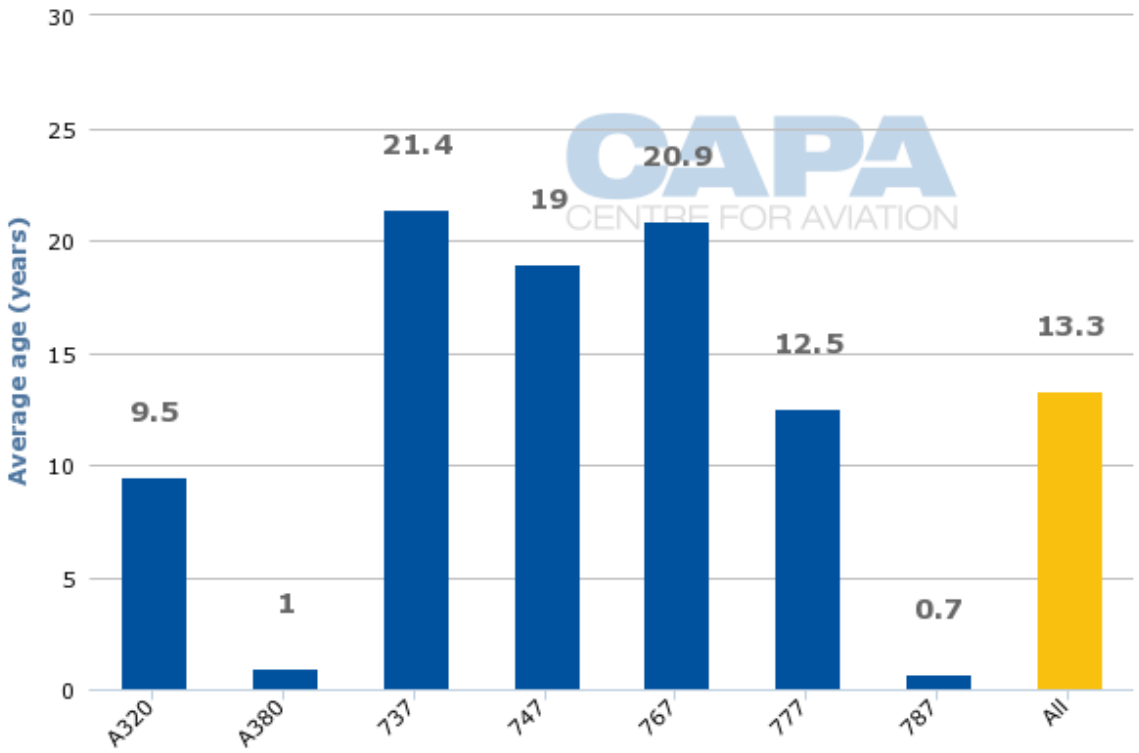
**Fuel**. Emirates has a 16% fuel cost per ATK advantage versus the average of IAG and Virgin. Contrary to what some observers still claim, this does not reflect any clandestine price discount provided to Emirates arising from its domicile in an oil-rich region (a claim that conveniently ignores the fact that the emirate of Dubai is actually not an oil producer).

Emirates paid USD1,064 per tonne for fuel and IAG paid USD1,060 per tonne in FY2012-2013

In fact, a simple calculation involving the division of annual fuel costs by volume of jet fuel consumed (taking figures from the respective annual reports) shows that Emirates paid USD1,064 per tonne for fuel and IAG paid USD1,060 per tonne in FY2012-2013. Emirates' advantage in fuel cost per ATK comes from the greater fuel efficiency of its fleet, which have a larger number of seats and modern engines.

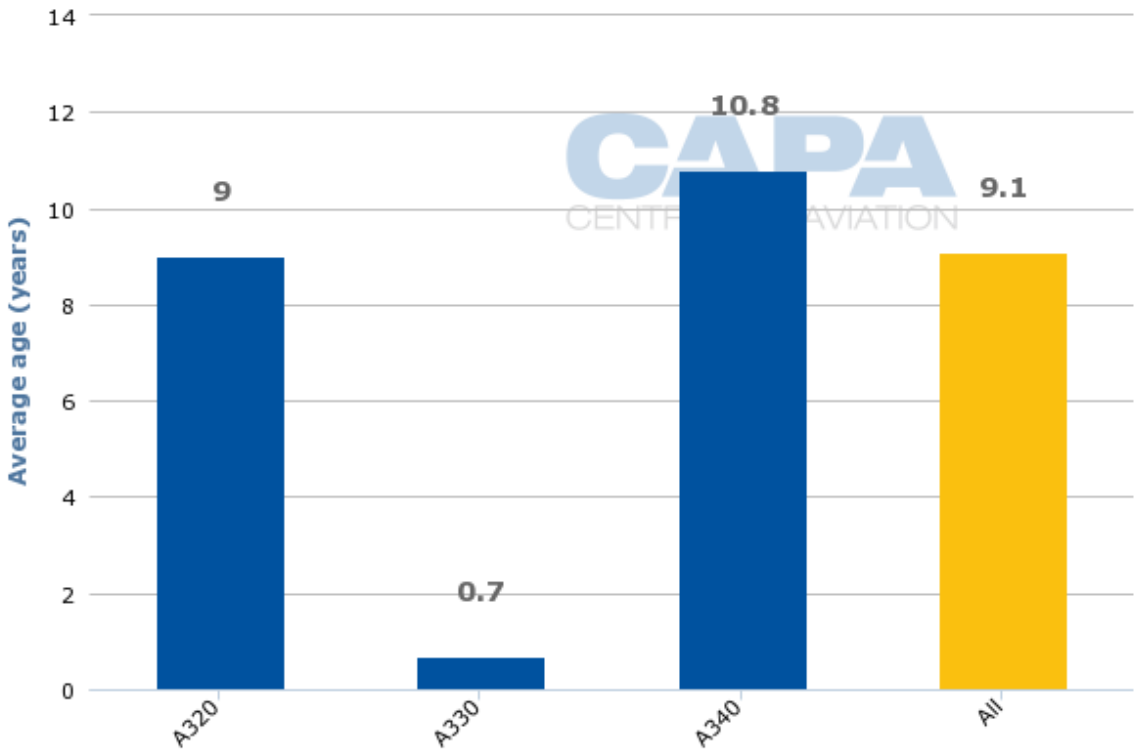
**Maintenance.** As noted above, Emirates' modern fleet provides a cost advantage in terms of maintenance cost per ATK and this is enhanced by the use of large aircraft with high seat density. Not only does Emirates have a lower average fleet age than IAG and Virgin, but it also has a greater focus on newer aircraft types. Taking aircraft ownership and maintenance costs together, Emirates has a 17% lower cost per ATK than the IAG/Virgin average in this area.

British Airways average fleet age



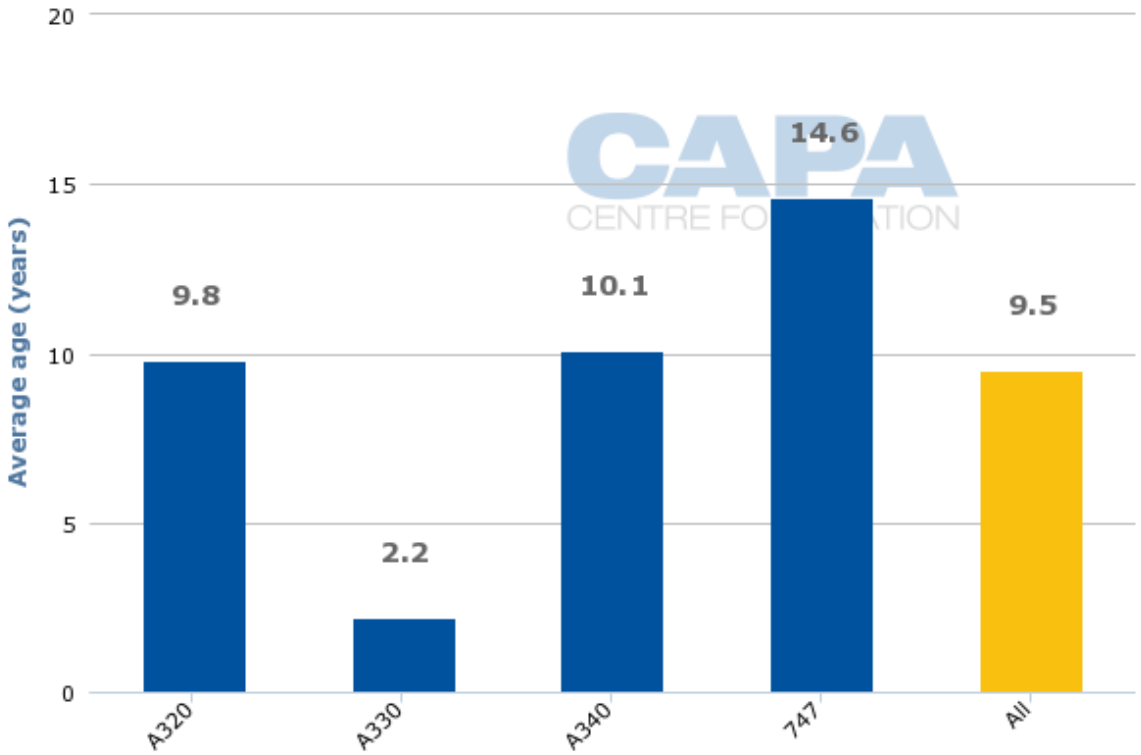

Source: CAPA Fleet Database

Iberia average fleet age



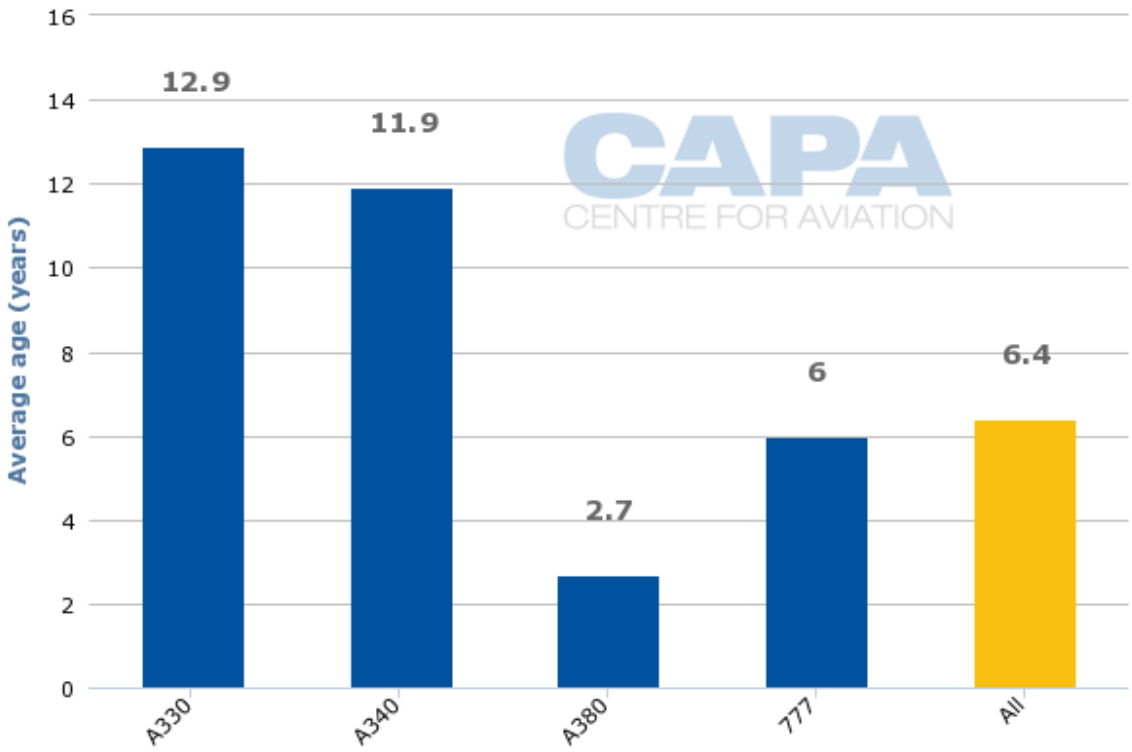

Source: CAPA Fleet Database

Virgin Atlantic Airways average fleet age




Source: CAPA Fleet Database

Emirates average fleet age




Source: CAPA Fleet Database

**Labour**. The biggest source of unit cost advantage for Emirates is in labour costs, which account for almost US6 cents out of the total US16 cents cost per ATK advantage enjoyed by Emirates over the average cost per ATK of IAG/Virgin. Emirates' labour cost per ATK is half that of the IAG/Virgin average.

Most of this advantage comes from having a lower labour cost per employee. IAG's average labour cost per employee, almost USD94,000, is more than 80% higher than the figure of USD51,500 for Emirates, while Virgin Atlantic pays 9% more than Emirates. The average of the IAG and Virgin figures is USD75,000, which is 45% higher than the Emirates figure. Of course, Emirates benefits

enormously in this area from the absence of income tax in Dubai. The IAG/Virgin average would be well below USD60,000 after UK tax and social security deductions.

In addition to the tax benefits, Emirates operates in a union-free environment and does not have significant legacy pension costs. All this suggests that IAG may need to consider more ways to contain wage rates if it is to remain competitive. Furthermore, Emirates has a higher level of labour productivity, in terms of ATK per employee, than the IAG/Virgin average (probably due to larger aircraft), although not compared with Virgin alone (whose longer flights increase the km element of ATKs). In the important area of pilot costs, a CAPA analysis in 2012 showed that Emirates' pilots on average were up to 40% more productive in ASK terms than Qantas' long haul pilots.

Labour productivity measures for Emirates, IAG and Virgin Atlantic: 2012*

| | Emirates | IAG | Virgin | Ave of IAG & Virgin |
|---|---|---|---|---|
| Labour cost per employee USD | 51,548 | 93,699 | 56,250 | 74,974 |
| ATK per employee | 859 | 520 | 966 | 743 |
| Employee cost per ATK US c | 6.00 | 18.03 | 5.82 | 11.93 |

*Year end: Dec-2012 for IAG, Feb-2012 for Virgin Atlantic, Mar-2013 for Emirates
Source: CAPA – Centre for Aviation, company reports, CAA

**The operating efficiency of the long-haul to long-haul model**

An over-arching feature of Emirates' unit cost advantage against European legacy carriers is its operating efficiency. While some argue that Dubai-specific advantages such as low airport charges and the absence of income tax are unfair and represent a form of subsidy, this misses the point that Emirates' long-haul to long-haul business model is inherently efficient. Each of its aircraft flies a similar total distance annually to those of IAG and Virgin Atlantic.

Emirates' aircraft, on average, carry nearly 40% more passengers per day than both IAG and Virgin Atlantic

However, the average Emirates aircraft makes more flights per day than the average Virgin aircraft and has more seats than the average IAG aircraft. Compared with the average of IAG and Virgin, Emirates' aircraft make a similar number of daily flights, but they have 27% more seats per departure. As a result, Emirates' aircraft, on average, carry nearly 40% more passengers per day than both IAG and Virgin Atlantic.

Aircraft operating efficiency measures for Emirates, IAG and Virgin Atlantic: 2012*

| | Emirates | IAG | Virgin Atlantic | Ave of IAG & Virgin |
|---|---|---|---|---|
| Ave trip length km | 4,788 | 3,223 | 7,194 | 5,209 |
| Ave. daily departures per aircraft | 2.2 | 3.2 | 1.5 | 2.4 |
| Utilisation hours per day | 13.55 | 12.20 | 13.73 | 12.97 |
| Ave. seats per departure | 309 | 155 | 333 | 244 |
| Passengers carried per aircraft per day | 548 | 397 | 392 | 395 |

*Year end: Dec-2012 for IAG, Feb-2012 for Virgin Atlantic, Mar-2013 for Emirates
Source: CAPA – Centre for Aviation analysis, Airline Monitor

**Normalising the two areas of 'subsidy' would still leave Emirates with a significant unit cost advantage versus IAG/Virgin**

The higher number of seats per departure, reflecting Emirates' widebody-only fleet strategy, is a significant factor in its unit cost advantage against the average of IAG and Virgin. This has an impact on every cost category mentioned above and is far more important than the so-called 'unfair subsidies'.

If the two 'subsidies' were normalised, so that Emirates' labour costs were higher by, say, one third and its landing and parking fees were doubled, its cost per ATK would increase by 6%.

Emirates' cost per ATK would still be 21% below the average of IAG and Virgin.

**European airlines and regulators can do more to improve Europe's competitivity**

Rather than complaining of unfair subsidies, European legacy airlines - and regulators - should look to their own failings.

Sticking for now to a discussion of costs (we have not considered revenues in this analysis), this implies European carriers must push their current restructuring programmes as hard as possible and then take them yet further, with a particular focus on labour productivity. They must also seek to acquire modern, fuel efficient aircraft as soon as possible, although this is not always straightforward when balance sheets are stretched and cash flow is tight.

For European governments and regulators, the conclusions are also clear:

Much to the regret of some, an abolition of employee income tax and dramatic cuts in airport charges cannot be expected. Nevertheless, governments should be reducing or removing all additional taxes and levies on air transport and easing any legislative restrictions on labour productivity.

They should also help to minimise infrastructure-related costs and inefficiencies, both on the ground (for example by simplifying the planning process for new airport capacity) and in the air (for example by speeding up the European Single Sky, a massively costly albatross around airlines' necks).

Until these government/regulatory related issues are resolved, talk of creating a "level playing field" means no more than aiming to removing the efficiencies of a new model that has clearly shown itself to be successful. Analysing each aspect of this new model should be the starting point for every government's travel strategy.

"It is the nature of a man as he grows older, a small bridge in time, to protest against change, particularly change for the better."

Yearning for the inefficiencies of the past may offer a level of nostalgia, but provides a poor roadmap to the future. "It is the nature of a man as he grows older, a small bridge in time, to protest against change, particularly change for the better." (John Steinbeck)

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