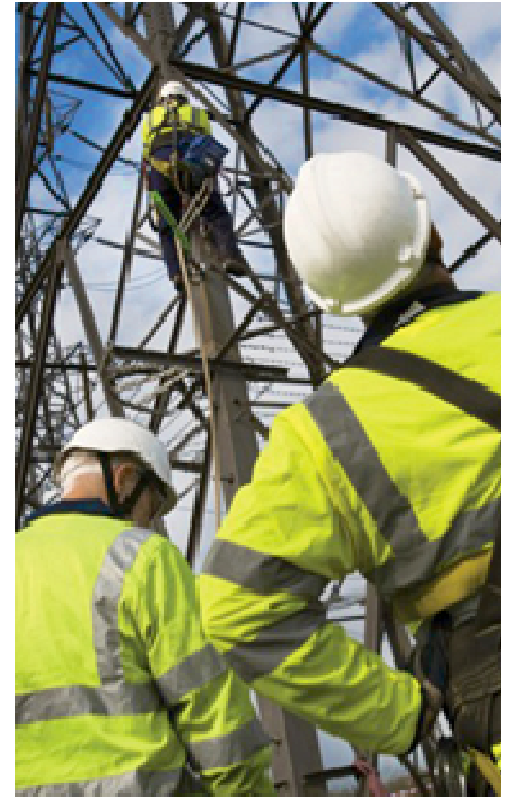


NTS Entry Capacity Competition & the Herfindahl Index

Entry Charging Review - September 2009



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Introduction

- ◆ One of the issues highlighted at the time of the introduction of the clearing obligation was the level of competition at each ASEP
- ◆ *In its decision letter “Ofgem notes that some respondents have raised concerns regarding the potential impact of this proposal on Transco’s revenue. Ofgem however **considers that there is sufficient competition for entry capacity at the majority of beach terminals in the short term auctions to guard against any significant revenue under-recovery.**”*
- ◆ Prior to the introduction of the clearing obligation, the level of competition was proposed to be factored into the NTS charging methodology and the Herfindahl Hirschman Index was the proposed measure.

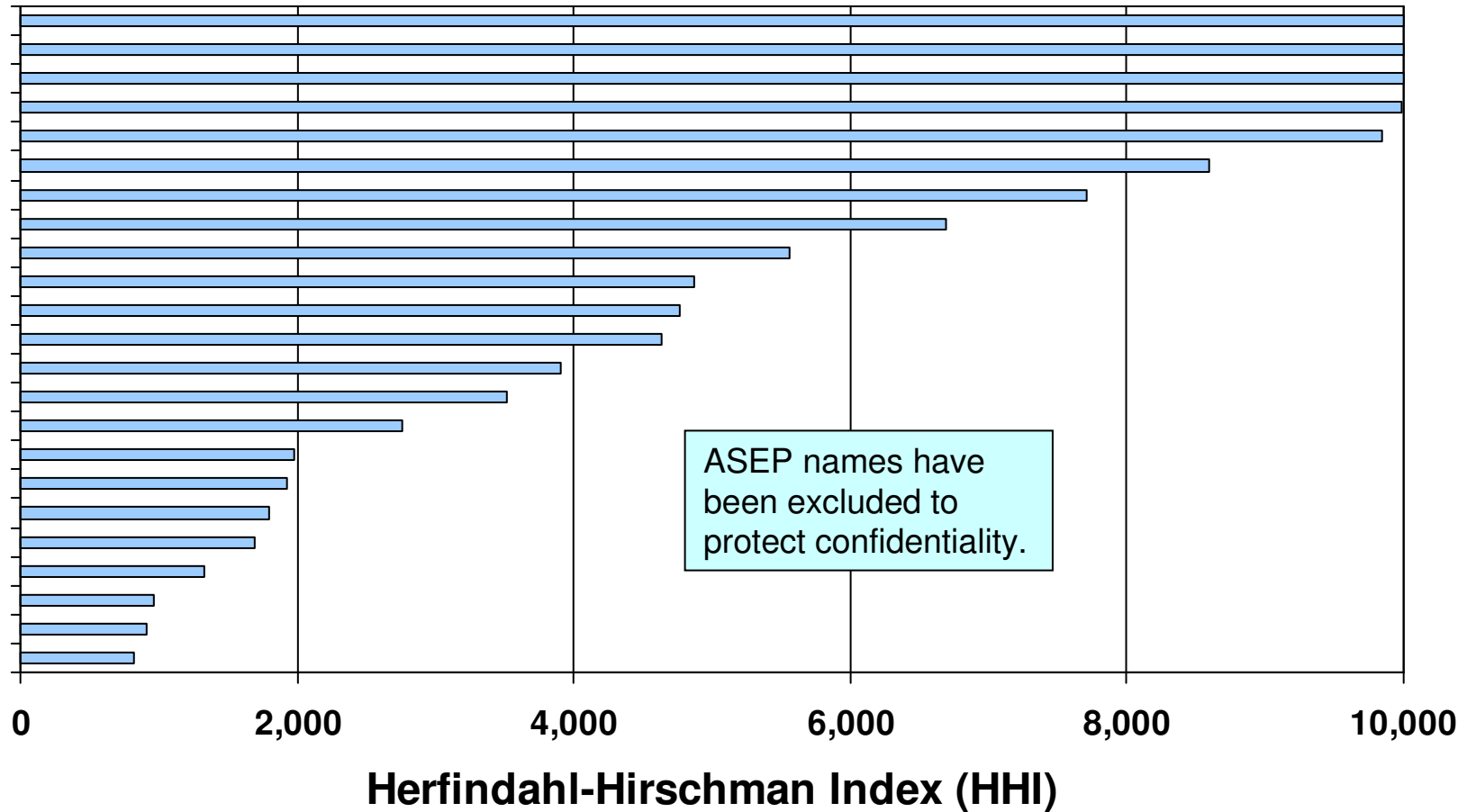
The Herfindahl Hirschman Index

- ◆ The Herfindahl Hirschman index is a measure of the size of firms in relation to the industry and an indicator of the amount of competition among them.
 - ◆ it is an economic concept widely applied in competition law.
 - ◆ It is defined as the sum of the squares of the market shares of the 50 largest firms (or summed over all the firms if there are fewer than 50) within the industry, where the market shares are expressed as percentages.
 - ◆ The result is proportional to the average market share, weighted by market share. As such, it can range from 0 to 10,000, moving from a huge number of very small firms to a single monopolistic producer.
 - ◆ Increases in the Herfindahl index generally indicate a decrease in competition and an increase of market power, whereas decreases indicate the opposite.

Interpretation

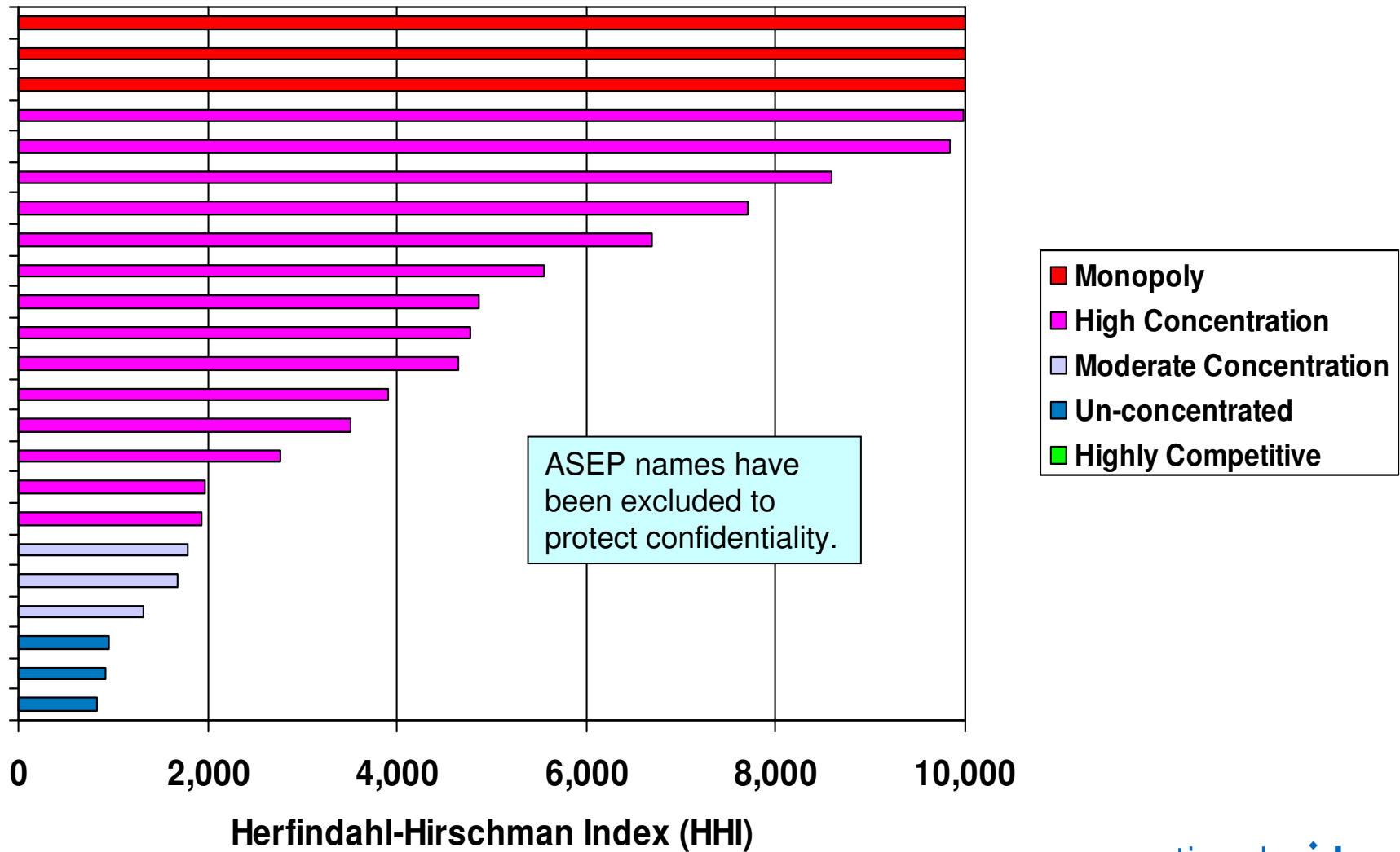
- ◆ A HHI index of;
 - ◆ below 100 indicates a highly competitive index.
 - ◆ 100 to 1,000 indicates an un-concentrated index.
 - ◆ 1,000 to 1,800 indicates moderate concentration.
 - ◆ above 1,800 indicates high concentration.
 - ◆ 10,000 indicates a monopoly
- ◆ A small index indicates a competitive industry with no dominant players.
 - ◆ If all firms have an equal share the reciprocal of the index shows the number of firms in the industry.
 - ◆ When firms have unequal shares, the reciprocal of the index indicates the "equivalent" number of firms in the industry.

Herfindahl Index Entry Capacity 2007/8 to 2009/10

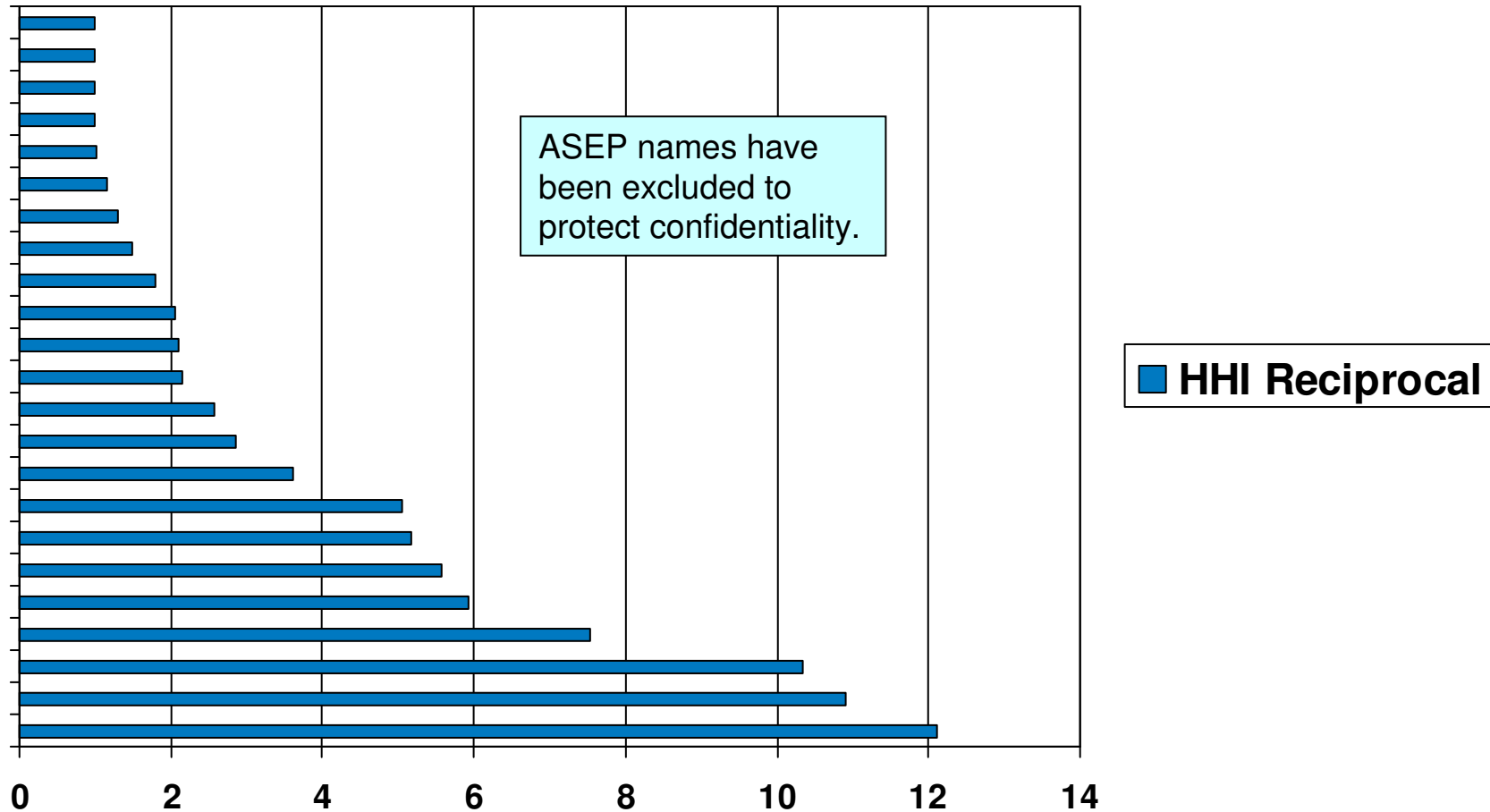


Analysis based on shipper bookings by ASEP for all capacity procured.

Herfindahl Index Entry Capacity 2007/8 to 2009/10



Herfindahl Index Entry Capacity 2007/8 to 2009/10



The reciprocal of the index indicates “*the equivalent number of firms in the industry*” and hence represents the “equivalent” number of equal sized capacity holders at each ASEP.