Web Appendix: Tests of the Model Assumption (Competitive Reactions)

Targeting specific ranks: If a provider pursues the strategy of always targeting a specific rank, we should observe this provider (apart from some potential interruptions due to other competitors) repeatedly at this rank. Consequently, only one or few competitors should be found at such a target rank. However, as a target rank must be defended in the case of attacks (a new provider at the rank) only, the outcome may also be driven by the number of provider changes at a rank. Because of the impact on high sales, we expect providers to engage in defensive activities to a greater extent at top ranks than at lower ranks. We tested this assumption for 12 consecutive weeks (weeks 39-50 in 2012) across 8,217 regions for a specific usage group by calculating the probability that a change in a provider's rank is caused by a provider who has owned this rank at least twice during the 12 observation periods, as such a change is an indication that the provider (repeatedly) targets the rank after losing it. The results confirm our assumption that strategies aiming at a certain rank are most likely to occur at the top ranks. At rank 1, for instance, we found, on average, 1.73 different competitors across 12 periods, whereas we found 8.19 distinct competitors at rank 20.

Figure A1: Probability That a Provider Defends a Specific Rank on a Price Comparison Site

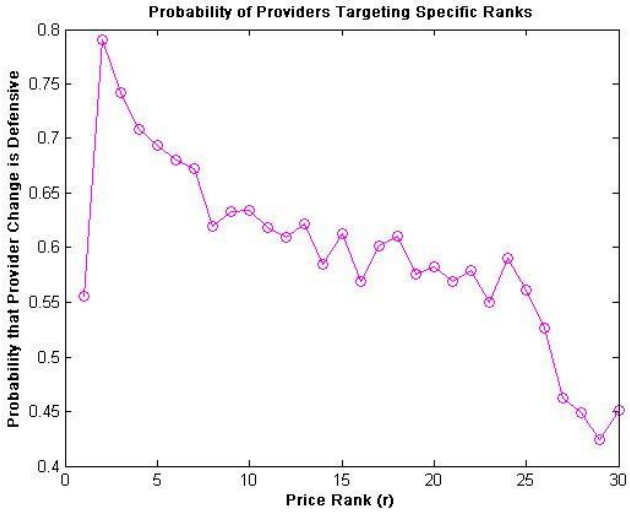

Figure A1 shows that the likelihood that a provider defends a rank increases at the top ranks. The first rank, however, seems to be an exception. The few providers who attack the first

rank often did not return to the first rank within the 12 periods if the previous leader took defensive measures. Rank 2 was the most-defended rank in this market.

Regional Price Differentiation: Our second test aimed to further investigate providers' pricing practices and the potential for regional competitive reactions. As ECO sets regionally different bonuses, effective competitive reactions can only be implemented by competitors who also vary their prices regionally (otherwise, they could only change their bonuses in all regions simultaneously, which can be very costly). We therefore calculated the number of providers who actually vary bonuses regionally. From 237 providers among the top 20 ranks (in week 39 of 2012), only 9 competitors with flexible bonuses were identified. The average rank of these competitors was 4.79, indicating that competitors who regionally vary their bonuses target the top ranks.

Dynamics in the Price-Rank Relationship: As ECO assumes constant rankings over the planning horizon, we estimate the change in rankings from one week to the next for a constant price (and bonus combination) in a third test. For this purpose, we searched for all periods in our data in which the price of a provider does not change relative to the previous week. For these periods, across the 237 providers, we found a very low average change in rankings (-.206), indicating that, on average, ECO's model assumption of maintaining the same rank for 1-4 weeks with a constant price and bonus combination seems acceptable. Because of the high cost pressure in this market, this result indicates that, on average, a constant price leads to even slightly better rankings over time. In addition, we calculated the average absolute change in rankings, which was .796. This result indicates the presence of some ranking volatility. However, the low average change across all regions does not seem to be very systematic.