

Final Assessment of:  
“Ex post analysis of competitive effects of the two mergers:  
T-Mobile/tele.ring in Austria and T-Mobile/Orange in the  
Netherlands” \*

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September 30, 2015

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\* I wish to thank Benno Buehler for his time and interest in answering all my questions. Needless to say that all opinions expressed in this report are my own and I am fully responsible for whatever imprecisions or mistakes may still remain.

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This is my final assessment of “Ex post analysis of competitive effects of the two mergers: T-Mobile/tele.ring in Austria and T-Mobile/Orange in the Netherlands,” a joint report from the European Commission, DG Competition, the Netherlands Authority for Consumers and Markets, and the Austrian regulatory authority for Broadcasting and Telecommunications.

DG Competition asked me to provide this assessment and earlier this year I already provided feedback on a preliminary version of this report. I acted as impartial academic expert on the matter as my areas of research deal with the use of econometric methods to evaluate market outcomes in areas of industrial organization related to this report. In particular over my academic career I have written several papers on the empirical analysis of models of nonlinear pricing and price discrimination, many of them with applications to the telecommunications industry.

My comments were numerous and many of them technical, dealing with issues of data selection, definition of price indices, and econometric methods employed. I have to commend the team behind this project for their diligence in addressing my comments. Many of them were included in the final draft and only lack of data of good enough quality prevented them to address the rest.

Empirical economist are split along the structural / reduced form divide, even for the evaluation of mergers. At the center of the dispute is how to evaluate the “but for” scenario: What would have happened to prices, market shares, quality of service, or any other market feature of interest if these mergers had not occurred?

Structuralists such as Nevo and Whinston (2010) suggest building a model based on reasonable assumptions on the behavior of agents that captures the basic features of the industry. The idea is to estimate the model ahead of the merger in order to predict its consequences and help guide authorities to impose remedies, approve, or reject the merger. This approach should be followed with an ex-post evaluation to determine whether the model used for decision making could be validated and thus perfect its application in future merger analysis.

Reduced form economists such as Simpson and Schmidt (2008), Taylor and Hosken (2007), or Tenn (2011) prefer to approach mergers as an exogenous event that modifies the behavior of firms. Needless to say that in the absence of any other data, this approach is not very useful to guide authorities ahead of mergers. How can we know how to modify a merger if we do not have a sense of its consequences if allowed without remedies? The idea behind this methodology is to accumulate experience by studying different mergers and forecast future behavior based on statistical regularities observed across industries and time.

For instance, in the conclusions the report it is argued that the T-Mobile/tele.ring merger did not lead to price increases in Austria because it was sufficiently modified by the commitments

offered. This is just a possible explanation, not a logical consequence of the results presented in the report. We may suspect that this is true but the only way to test this hypothesis is pooling information of many more mergers, some of which have been modified by commitments and some of which don't. Cross-sample variation of relatively homogeneous mergers might serve as a way to confirm our belief on the power of certain policies.

Although I align myself closer to a structural position, I think merger retrospectives using reduced form methods are quite useful. This is true, for instance in environments such as nonlinear pricing and price discrimination where theoretical models remain quite stylized and difficult to solve for anything of practical interest. For instance, the optimal design of an optimal nonlinear pricing along several dimensions of consumer heterogeneity potentially multiple products is not possible except for extremely restrictive preferences and distributional assumptions. In the present report we have to deal with firms selling a bundle of products and consumers differing from each other in many different ways. Figuring out what the optimal nonlinear pricing scheme of firms in the market would be when we go from 5 to 4 firms is beyond the limits of available theoretical models. Thus, having a sequence of studies looking at actual behavior of firms in industries where bundling and discounts is common (telecommunications, cable, electricity, other services) could help authorities guide their future decisions.

The Federal Trade Commission has been building a database of merger cases over the past several years. In a recent book, Kwoka (2015) describe how to use diff-in-diffs methods to evaluate mergers and document a large set of mergers that has been used over the years to evaluate future mergers. I hope DG Competition considers this to be the first of a large number of merger retrospectives. This is needed in order to make informed decisions on future merger cases. This is even of more critical importance in Europe where data sources are frequently collected at national level and not always using a homogeneous methodology. Furthermore, I would recommend to make the documentation and data publicly available so that researchers could explore other specification or econometric methods. All that body of additional evidence should make easier future merger evaluations.

The main weakness of this report is beyond the control of its authors: Data quality. There have been great improvements in the use of scanner and sales data in many industries. The same cannot be said of services such as telecommunications or insurance where even though all transactions are recorded digitally. Figuring out the market share of individuals subscribed to a particular tariff plan, her usage, and perhaps switching across plans or carriers is nearly impossible because it is treated in a quite secretive manner by telecommunications carriers. Requiring firms to provide at least a sample of their data might help authorities and researchers evaluate industry behavior far more easily. Think for instance of the abundant work conducted in the U.S. both in

airlines and health care. These two industries are subject to reporting sales, prices, and utilization of the different services they sell. That has made the evaluation of hospital and airline mergers far easier and more data driven.

Availability of data limits the sample to the two largest carriers in each country. To evaluate the merger the authors of the report collect additional information for Austria and Holland as at least one of the merging firms in each country is not among the two largest. Evidently, not including smaller carriers in the rest of European countries induces some sample selection in the definition of the control groups. There is nothing that the authors could have done to remedy this shortcoming other than collecting the tariffs for each carrier across all carriers and countries, which is not neither a realistic or cost-effective approach.

I do not particularly agree with the use of the four cheapest tariffs per operator to evaluate the evolution of prices after the merger. The danger here is that the price of one of the dominated tariffs for a given usage level drives the results. In the appendix the author show that even when considering only the two cheapest plans, results stand. I would have focused on the lower envelope of the different tariff plans.

Notwithstanding these minor comments I am quite confident that the results of this report are very robust. They indicate that in Austria the T-Mobile/tele.ring merger did not lead to price increases. In the Netherlands though, the T-Mobile/Orange merger slows down the price reduction trend of the control countries. The authors of the report acknowledge this effect but conclude that it is not possible to conclude that it is caused by the merger.

The report does a tremendous effort to convince the reader that whenever the data allowed it, the best technique available was employed to obtain the most efficient estimates. The authors describe the need to control for trends in the pricing behavior of this industry, the construction of a single-dimensional price index that summarizes the pricing of a bundle of services, the alternative set of tariff options and usage levels employed, consideration of countries that will define the control group, the evaluation window, *et cetera*. The report is easily readable precisely because the numerous robustness checks are well organized in appendices, thus sparing the reader with information overload while documenting every single alternative that authors might think reasonable. Results are for the most part robust and while the numerical value of estimates of alternative specifications reported in the appendices might vary slightly, overall, they convey a very convincing argument that the T-Mobile/tele.ring merger did not have major effects on price increases of telecommunications services in Austria. This robustness analysis also show that while the T-Mobile/Orange merger in the Netherlands was accompanied of small but significant price increases, between 5% and 15%, although ultimately it is not possible to establish that this price increase is caused by the merger.

The report should be a good guideline for future work. It offers a way to address similar merger retrospectives in an effective and comprehensive way.

## References

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