Appraisal of "Economic impact of enforcement of competition policies on the functioning of the telecoms markets in the EU" by Lear, DIW Berlin, and Analysys Mason

Christine Zulehner, Goethe University Frankfurt, Telecom ParisTech, WIFO Vienna and CEPR, Address: Theodor W. Adorno Platz 3, D-60323 Frankfurt am Main, Germany, Email: zulehner@safe.uni-frankfurt.de.

Overview

This study investigates the effectiveness of competition policy in the EU and joins the endeavor of the European Commission (EC) to assess their competition policies by ex-post analyses. In particular, it focuses on the telecommunications industry in the EU and assesses the impact of competition policy enforcement on the functioning of this market. The core of the study are three cases studies, where each case study reflects one aspect of competition policy that is important to the telecoms markets. The three cases are:

- T-Mobile-Orange merger case in the UK: In recent years, several mergers have been proposed and cleared by the EC. In 2010, the T-Mobile-Orange merger was cleared with remedies. This case study evaluates the effect of the merger (including the remedies imposed) on prices and investment. In particular, it concentrates on assessing the specificity of a five-to-four merger in a larger country at the forefront of innovation and affecting a significant number of consumers in the EU.
- Telekomunikacja Polska antitrust case: The number of antitrust cases in the European fixed telecoms markets is numerous. Most of them are investigated by National Competition Authorities. This antitrust case is one of the larger and more recent cases investigated by DG competition. In 2011, the EC fined the Polish incumbent operator on fixed lines because it engaged in practices that prevented or delayed the entry of competitors. The case study evaluates the effects of the incumbent's behavior on broadband penetration and retail prices.
- Broadband state aid schemes in Germany: National and regional state aid schemes have been introduced in Bavaria and Lower Saxony to support the deployment and development of telecoms infrastructure. This case study evaluates the effect of these state aid schemes by focusing on high-speed broadband coverage -- measuring the effectiveness of state aid schemes -- and the number of entering firms -- measuring potential distortions on competition through state aid schemes.

To investigate the three competition cases and the effectiveness of the decisions by DG competition, the study applies a difference-in-difference approach and constructs a counterfactual situation to each case. It compares treated and non-treated countries (merger, antitrust violation) and municipalities (state-aid) to obtain a causal effect of the treatment (merger, antitrust violation, state aid) on outcome variables such as prices, broadband penetration, internet coverage and firms' investment reflecting the performance of telecoms markets. To obtain unbiased and consistent estimates for the treatment effect, we have to assume that there is no selection into treatment on unobservables, there is a common trend, ie., pre-trends are similar, and the control group is not affected by the treatment. Broadly, the results show that the three decisions taken by the EC were efficient and did not distort the competitive environment in the fixed and mobile telecoms markets.

The task of this report is to review the study with a focus on the methodological issues of the ex-post evaluations of the three EC decisions covered by the three case studies. In particular, it should provide an assessment of the typology of competition policy interventions in the telecoms sector, type of data collected, methods used to conduct ex-post evaluations of the decisions taken, quantitative methods...
applied (identification approach used and the underlying assumptions, selection of the control group, approach used to address data issues and autocorrelation in a pre-post setting), and interpretation of the quantitative results.

My general view on this study is a very positive one. First, I think this kind of studies is very important. Ex-post analyses let us not only assess the effectiveness of antitrust authorities’ decisions, but also evaluate the effectiveness of the employed methods. They may then provide useful insights for the future decision making process and future research. Second, this study including the three case studies was very carefully conducted, is state-of-the-art and a thorough investigation of competition policy in the EU telecoms markets. I also made comments on an earlier draft of this study and many of them were considered in the final draft. The study is also very careful interpreting the empirical results. Based on the quality of how good the causal effects can be identified, more cautious conclusions are drawn.

In the following, I describe each case study in more detail and provide my assessment. The quality of ex-post evaluation studies heavily depend on data quality and the identification of the causal effect of the treatment on the outcome variables. I comment on each case study along these lines and concentrate on what I consider the main threats to identification. Finally, I give some conclusions.

**T-Mobile-Orange merger case in the UK**

This case study evaluates the causal effects of the merger between T-Mobile and Orange in the UK on prices and firms’ investment by using difference-in-difference methodologies. First, it compares treated and non-treated countries before and after the merger and second, it uses a synthetic control group to account for pre-event differences in countries. The regressions provide an average treatment effect of the merger (including the remedies imposed) on prices and firms’ investment.

Prices are constructed based on Teligen data including tariffs from the two main operators in each country and are calculated using OCED baskets. This generates expenditures for different types of consumers. Firms’ investment is measured by CAPEX also based on Teligen data. The difference-in-difference approach is augmented with control variables and the control group is chosen to include countries that were not affected by a merger. In addition, following Abadie, Diamond, and Hainmueller (2015) a synthetic control group is constructed. This case study finds that after the merger (including the remedies imposed) prices go down with estimated coefficients to lie between 2% (not significant) and 18%. Results on investment are hardly significant. There is however heterogeneity in the estimated effects. The estimated effects of the merger (including the remedies imposed) on the investment of EE, the new brand created by T-Mobile and Orange, lie for the main specification between 2% and 30%, but are also negative in some specifications.

In this case study, the main threats to the identification of unbiased and consistent estimates might be the quality of the data and dissimilar pre-trends. For example, the construction of the prices is based on OECD baskets that assume the same consumption pattern across countries. If there is a lot of variation in consumer behavior across countries, the constructed prices may not reflect consumers’ actual individual bills. Or, as only the tariffs of the two largest providers of a country are available, the constructed price index may not reflect actual price developments. Further, the CAPEX data exhibits seasonal spikes, which were also smoothed by aggregating the data to the biannual and the yearly level, but yielded insignificant results probably due to a thus reduced sample size. Additionally, the pre-trends of the treated and the control group proved to be not equal. To overcome these shortcomings and to substantiate the results, the report includes many robustness checks, provides a
thorough discussion of the potential biases, and is very careful in the interpretation of its empirical results.

Telekomunikacja Polska antitrust case

The second case study investigates the impact of an antitrust case (abuse of dominant position) in Poland. Telekomunikacja Polska S.A. is the incumbent operator in the Polish fixed telecom market and it has a nation-wide fixed telephone DSL network. The case study evaluates the causal effects of the abuse on broadband penetration and retail prices by using difference-in-difference methodology: i) it compares treated and non-treated countries during and after the incumbent’s abuse of its dominant position and ii) it uses synthetic control group to account for pre-event differences in countries. The empirical analysis provides a measure of the average treatment effect, i.e., additional variation experienced by the Polish market compared to the control countries and prior to the EC’s intervention.

The outcome variables are measured at the country level. The difference-in-difference approach is augmented with control variables and the control group is chosen to include countries that were not affected by an antitrust case. The study shows that the abuse had negative effects on broadband penetration and a positive, but not significant, effect on prices. i.e., in the abuse period broadband penetration was lower and prices were higher. Thus, the results also provide justification for the intervention by DG competition.

While the threats to identification are rather severe for the merger cases study, they are only a few objections that can be raised in the antitrust case. I consider this case study to be very carefully conducted as well. It utilizes appropriate data and has a clear identification. The data of the empirical analysis include broadband coverage and retail prices at the EU country level. It could be, however, interesting to see such a case study using regional data as well. Additionally, I would find it interesting to include other treated countries as well compared to the current case study where only one country is considered as treated. Such an analysis would be closer to Genakos, Valletti, and Verboven (2015) and would investigate more the overall effects of such cases.

Broadband state aid schemes in Germany

The third case study investigates the impact of a national and subsequent regional program in Bavaria and Lower Saxony that both got approval from the EC. Scheme N115 was issued in July 2008 with 141 million EUR to provide incentives to private operators to offer affordable broadband services in rural areas of Germany that did not have -- or had limited -- coverage. Amendments were created with the schemes N368/2009 and N299/2010. The schemes were approved between summer 2008 and end of 2010.

The aim of this case study is to evaluate the causal effects of the different state schemes on broadband coverage and entry of new firms by using difference-in-difference methodology and comparing treated and non-treated municipalities before and after the state-aid was distributed. The control group was selected to consist of municipalities within Germany as they follow the same institutional and regulatory trends. To assess the effectiveness of state-aid, the effect on high-speed broadband coverage is investigated. To check that no negative effect on competition is observed, the number of internet service providers (ISP) is analyzed.

Matching is based on observables variables and then the difference-in-difference regressions are run. As control group not affected regions are matched to the municipalities in Baveria and Lower Saxony.
Three different possibilities for the control group are chosen: i) municipalities from West Germany, ii) municipalities from the same state, iii) municipalities from similar states (Bavaria vs Baden Wuerttemberg). This case study finds a positive effect on broadband coverage and entry of new firms. The estimation results show that coverage increases through the subsidy scheme by 12-21%, more for higher speeds. They also show that 0.21 more entrants are observed in treated municipalities compared to non-treated municipalities. The results show that effects are heterogeneous. The effects for Lower Saxony are smaller than those found for Bavaria. We also observe that the effects are larger in municipalities with a below-median DSL penetration and high industrialized areas profit more than low industrialized areas as the investment in high industrialized areas might be a more profitable.

This case study provides the most reliable results. First, the data is very detailed and exhibits regional variation. Second, the identification through matching and selection of appropriate control groups is very convincing. Still, there might be some objections against the identification of the causal treatment effect, as there might be selection on unobservables into treatment. For example, treated municipalities might have a more efficient administration that is also helpful to firms (that demand broadband) or to ISPs to help them enter the market. These municipalities might have implemented broadband internet anyhow and the measured effect of the state subsidy on broadband coverage and entry is then biased measuring the administrations' efficiency rather than the effect of state aid. An appropriate instrument may account for this unobserved selection. Additionally, there might be spillovers from treated to close-by non-treated municipalities resulting perhaps as well in biased results. Otherwise, the results are most robust.

Conclusions

I strongly support the effort of EC to conduct ex-post analyses. This study including the three cases studies is a big contribution, in particular, for the telecoms markets. Still, I think a more systematic analysis of all merger and antitrust decisions would be of great interest and guidance for future decisions. Such studies would, for example, also allow to assess the effect of merger decisions depending on the kind of remedies that have been imposed. When evaluating one merger or one antitrust decision, per definition there is no variation. I also think that not only the effectiveness of state subsidies should be investigated on a larger scale, but one could also shed more light on potential windfall gains. For many of such studies, the quality of the data has to improve and the EC could aim to demand more data from the involved parties. Otherwise the identification of causal effects becomes unnecessarily more involved.

Referees
