Bruegel/ESMT Special Lunchtime Seminar
"Entry Regulation and Investment in the Telecommunications Sector:
Empirical Insights from the last 10 years**"**

Presenter: Lars-Hendrik Röller (ESMT Berlin)

Discussants: Bernd Langeheine (DG Infso, European Commission)
Patrick Legros (ULB)

On Thursday 13 December 2007, Lars-Hendrik Röller, President of the European School of Management and Technology (ESMT) and Professor of Economics at the Humboldt University, Berlin presented an expert report on investment in the telecommunications sector. This report[1], co-authored with Hans W. Friederiszic (ESMT) and Michal Grajek (ESMT), analyses the relationship between entry regulation and infrastructure investment in telecoms, contributing to the ongoing debate on how to reshape the regulatory framework for eCommunications. Based on a new dataset, the authors are able to distinguish different effects of entry regulation in telecommunications. They distinguish short-term and long-term effects, effects in fixed-line telecommunications and those in mobile telephony, as well as effects on incumbents and effects on entrants.

The main results of their analysis are the following: First, by relying on a richer and more appropriate statistical approach, the authors show that using simplified approaches for policy advice can be misleading. Second, they find differential effects of entry regulation on the fixed-line and mobile segments, as well as on the incumbents and entrants. In fixed-line telephony, entry regulation discourages infrastructure investment by entrants but not by incumbents. In mobile telephony, entry regulation does not discourage infrastructure investment of either incumbents or entrants. Overall, the report highlights the importance of using robust methods for policy advice. Their results are, indeed, different from the ones currently used for assessing the effects of entry regulation. Namely, the authors do not find a positive impact of entry regulation on investment. On the contrary, and in line with the theoretical literature, they find a negative effect of entry regulation on the incentives for entrants to invest.

Before explaining the mechanisms through which regulation can impact investment or exploring the empirical difficulties to measure the net effect of regulation on investment, the author highlighted the policy relevance of the topic. He sees two reasons why the effect of regulation on infrastructure investment is important. First, the regulatory framework for eCommunications is under review by the European Commission. Room for improvement and risk for mistakes therefore exist. Second, most commentators believe that facilities-based competition is superior to service-based competition in terms of product variety, prices and innovation. If the goal of regulation is to generate facilities-based competition, how access regulation affects infrastructure investment is the key question policymakers need answers to in order to make appropriate decisions. While this question is crucial, existing related empirical evidence lacks robustness and could, therefore, be misleading.

The main idea of the report is to gain a more complete picture of the relationship between competition and welfare. To do that, the authors start their report with a literature review assessing the link between competition and investment. While the static gains from competition are undisputed, the literature review reveals an important trade-off between regulation and investment for both incumbent and entrants. Indeed, two contrary effects are at work. On the one hand, more competition reduces post-entry (or post- investment) rents and thereby reduces the incentives of firms to enter a market or to invest in new products or better processes; this effect is called the *Schumpeterian* effect. On the other hand, increased competition reduces a firm's pre-innovation rents thus enhancing the incentive to escape competition through innovation; this effect is called the *escape from competition* effect.

The authors then turn to empirical analysis in order to determine the net effect of competition in the telecommunication sector. They start their analysis by reviewing the results and shortfalls of previous studies on the subject. According to them, the results have been mixed so far (some studies find that regulation increases infrastructure investment while others find that it decreases it) partly because these studies did not address properly the issue of endogeneity. In fact, all regulatory outcomes - including unbundling policies and mandated access prices - are the effect of political and administrative

[1] ESMT Competition Analysis, « Analysing the Relationship Between Regulation and Investment in the Telecom Sector », available at http://www.esmt.org/fm/13/ESMT_report_telecom_sector.pdf

processes, which can interact with firms' investment decisions. If this is the case, econometric results can be biased and thus difficult to interpret.

Correcting for endogeneity problems, the authors find differential effects of entry regulation on the fixed-line and mobile segments, as well as on the incumbents and entrants. In fixed-line telephony, entry regulation discourages infrastructure investment by entrants but not by incumbents. In mobile telephony, entry regulation does not discourage infrastructure investment of either incumbents or entrants. Overall, the report highlights the importance of using robust methods for policy advice. Their results are, indeed, different from the ones that are currently used for assessing the effects of entry regulation. Namely, the authors do not find a positive impact of entry regulation on investment. On the contrary, and in line with the theoretical literature, they find a negative effect of entry regulation on the incentives for entrants to invest.

Bernd Langeheine, Director for "Communications services: Policy and Regulatory Framework" at DG Information Society & Media (European Commission) opened the floor to discussions. He acknowledged the report as an important contribution to the ongoing debate and recognised that the key question we need to address is how regulators can influence the level of investment. He, however, considered the stress put on the trade-off between static and dynamic efficiency to be too strong as greater connectivity may also imply higher dynamic efficiency.

Patrick Legros, Professor of Economics at the Université Libre de Bruxelles (Belgium) also considered the report to be a timely study on the issue. As example, he cited the recent proposals to unbundle networks and operations for telecoms and to create a European Telecom Market Authority. Although he thought the main findings are important, he had three specific comments. First, he wondered whether the decrease in investment could actually not come from increased regulation but rather from the way regulation is done. If so, the range of policies available is greater and more complex than simply increasing or decreasing the regulation level. His two other comments dealt with omitted variable problems that could bias the authors' results. The first one he mentioned relates to the role of finance in new investments. If the difference between how incumbents and entrants have access to the financial markets is correlated with regulation intensity, then there may be an omitted-variable bias. By the same token, suppose that regulators consider that the higher the quality of the incumbents' investment stock the more regulation is needed to provide incentives for entrants to invest. As the authors do not control for the quality of the existing stock of investment in their empirical work, they may find a negative correlation between investments by entrants and regulation but this correlation is spurious. Overall, Professor Legros considered the expert report to be of better quality than previous studies, but recognised that some methodological issues still need to be resolved before the results are used for policy advice.