Henry ERGAS: **ANSWER TO QUESTION ON NOTICE**, 12 October 2009

With respect to vertical integration, it is my view that it is more likely to enhance efficiency and outcomes for consumer than vertical separation.

Thus, there is an extensive economic literature showing that vertical separation can be inefficient. This is borne out by practical experience in the telecommunications, energy and transport industries. Particularly important in this respect are the inefficiencies that arise out of "vertical externalities": that is, situations where each firm in a vertical chain takes decisions which, viewed separately, are profit-maximising, but which are collectively suboptimal for the vertical chain because they do not take account of the interdependencies between the vertical layers.

Four of the most relevant contexts in which vertical externalities can arise are:

- In pricing, 'double marginalisation' can occur where non-integrated vertically-related firms each set a mark-up over marginal cost, resulting in an aggregate mark-up that exceeds the mark-up of a profit-maximising vertically integrated firm.
- The incentives to improve product quality and innovate may be reduced in a vertically dis-integrated structure relative to an integrated one. An important reason for this is that without vertical integration, a substantial part of the benefits of investments by the upstream provider to promote higher quality in the upstream provider's products will not be captured by the provider (given they have to be shared with downstream rivals in the form of higher demand for the products). (The reverse is also possible. That is, a downstream provider's incentives to fund network development for a new service would be inefficiently undermined if it would bear the costs of a failed product launch, while sharing the benefits of a successful launch with copying downstream suppliers.)
- The incentives to invest more broadly can be impeded by 'hold-up' effects as investments which require coordination between upstream and downstream firms are delayed and undermined by strategic bargaining between the parties. Here too, the greater the extent to which the benefits of investments in one layer flow to others, the more severe will be the misalignment in investment incentives.
- Finally, the scope for an industry to adapt to rapid change is compromised by vertical separation where close coordination between network, service and application levels is required for adjustment to occur. These difficulties are aggravated where decision-making structures make adjustment conditional on costly bargaining processes.

There is good reason to believe that telecommunications is even more subject to these externalities than are other infrastructure industries. There is substantial interdependence between network layers in terms of efficient design, investment and ongoing operation. Optimising those interdependencies requires specialised investment in each layer and coordination of the timing of that investment. Moreover, the boundaries between vertical layers in telecommunications are dynamic, shifting over time as technological change alters the optimal location of network functionalities. There is a contrast here to the conventional public utilities, where frontiers between vertical layers are relatively clear (i.e. rail to port, generation to transmission) and have been stable over periods of decades.

All of these effects are documented in the material I have attached.

With respect to integration between copper based networks and other networks (such as HFC, fibre and the various wireless technologies), here too there appear to be substantial efficiencies, i.e. economies of scope. Almost all incumbent carriers operate networks that involve a wide mix of access network technologies, allowing them to adapt service provision to local characteristics. There is nothing particularly special about HFC, which makes it more dangerous for a carrier to operate both a copper network and an HFC network than (say) a copper network and a fibre network. Indeed, with the advent of fibre, most carriers have access to all the capabilities and more than could be provided over HFC. As a result, and adopting a forward looking perspective, it is difficult to see any rationale for placing special emphasis on the HFC per se.

Attachments:

Henry ERGAS: Vertical Integration, Vertical Separation and the Efficiency Consequences of the G9 SAU, 2007

Serge MORESI: Technical Attachment to Henry Ergas: Vertical Integration, Vertical Separation and the Efficiency Consequences of the G9 SAU, 2007