The uphill battle for the broadband market

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With broadband lines belonging to DSL operators increasing, is it time for a complete deregulation of the telecommunications sector in Spain?

Many countries intend to develop a competitive telecommunications sector that is free from any and all regulation. But this requires operators that have their own networks that give them direct access to the end user. Then, once an acceptable level of infrastructural competition has been reached, a complete deregulation of the sector might usher in improved efficiency, a boost in innovation and the adoption of new technologies.

In their paper "Inversión en banda ancha: competencia en infraestructuras y competencia en servicios" ("Investing in Broadband: Competition in Infrastructures and Services"), IESE Prof. Xavier Vives and researcher Ángel L. López show how infrastructure-based competition makes for greater broadband market penetration than service-based competition.

The ladder of investment

Rolling out a new network entails risks. To reach this optimum level of infrastructure-based competition, regulatory authorities have traditionally promoted what is known as the "ladder of investment."

This ladder consists of giving an initial boost to service-based competition (resale) and bitstream access (Internet connection through the predominant operator). Doing so enables competition to be quickly introduced into the sector, thereby getting somewhat closer to desired levels of infrastructure competition.

The idea is that through service-based competition, operators would be able to quickly start operating in the sector, turn profits and then invest those in infrastructures.

The ladder has four levels, which coincide with the various strategies that can be used by the new operators to supply retail broadband Internet services. Its four rungs, from the bottom up, are:

Resale: the least capital-intensive strategy; offers very little room for differentiation. Generates service-based competition in which new entrants buy broadband services wholesale and resell them to their end users at a retail price.

Bitstream or indirect access to the local loop: intermediate strategy whereby the newly entering operator latches onto that of the incumbent (the dominant operator, in this case, Telefónica) at a particular point, known as PoP (Point of Presence). From there, the operator transports data traffic to the public Internet network through its own network. In Spain, Telefónica offers two bitstream access points.

Full unbundled or shared access to the local loop: allows alternative DSL operators to get even closer to consumer households without having to duplicate the local network. In this setup, operators must be physically present at the local Telefónica exchange and connect the local loop to their equipment and their network. With the local loop completely unbundled, the end user receives no service from the incumbent. This strategy involves heavy investments, although it opens up a world of possibilities in terms of product differentiation. Telefónica is obligated to provide unbundled access to its local loops at cost-based prices.

Direct access or proprietary network: the most capital-intensive strategy; offers biggest margin for differentiation. Direct access to consumer households creates infrastructure-based competition between the incumbent and the new operator. In this setup, the operator can use alternative technologies such as cable modem, radio and fiber optics.

Each of these strategies requires a different degree of investment, which is proportional to the possibilities for differentiation being offered. In other words, those that are more capital intensive generate greater possibilities for differentiation. Thus, every step up the ladder requires a stronger investment push in infrastructure but allows for greater differentiation potential.

There is some debate as to the validity of the ladder of investment. It is presumed that co mpetition in services ultimately creates competition in infrastructures. Yet it is also true that if prices for access to the incumbent's network are especially low, this could discourage

investment in creating proprietary networks. In effect, it might slow down moving up the ladder.

The future of broadband in Spain

Spain currently has one cable provider with significant influence in the sector, called Ono. To date, other DSL operators have been steadily climbing up the ladder. The paper finds that the number of unbundled local loops has increased significantly in recent years. Infrastructure-based competition in Spain is now far greater, and entrants now find themselves better positioned to compete directly with Telefónica.

The short-term benefits of this are already being felt, say the authors. However, in the medium and long term, nobody knows whether alternative operators will take the final step and gain direct access to consumer households by rolling out their own local network via alternative technologies.

It is also necessary to consider the role that will be played by next-generation access networks (i.e., FTTC, FTTH). These networks will have faster speeds and allow new services to be offered. Fast downloads of high-definition television (HDTV), the simultaneous use of applications including peer-to-peer downloads, online gaming or Voice over Internet Protocol (VoIP) - these are just a few examples of how infrastructure-based competition can improve the quantity and quality of services offered.

In short, next-generation networking could be a deciding factor that motivates operators to take that last step up the ladder. But in order to do so, the authors say there must be optimum regulation that provides sufficient incentive - both for new entrants and for the incumbent - to roll out these new access networks properly.