

France Telecom Orange Discussion Papers on Bill & Keep

The Economics of Bill and Keep – A Short Summary

The academic paper by Professor Mason reviews the arguments that have been put forward in support of bill-and-keep (BAK) as the basis for termination charges between mobile operators in Europe.¹ It shows that there is currently no evidence to support any move from cost-based regulation towards a bill and keep regime.

Basic economic principles

Economic theory tells us that it is generally efficient to set price equal to cost unless there is market power in a related market or there are externalities. Setting price equal to cost sends the right price signals to consumers to ensure an efficient level of consumption. For example, when the caller pays the full price of the call, as under a calling party pays regime (CPP), the price of the call should equal the cost of the call which includes the cost of origination and termination. If the price of the call were set above the cost, then the caller would not make as many calls as efficiency would allow and conversely if the price of the call were set below cost, then the caller would make more calls than efficiency would allow. Where price differs from cost, either above or below, traffic inefficiencies will result. By setting too high a price, operators will not reach the efficient level of traffic over their networks and conversely by setting too low a price, operators will experience too much traffic over their networks and will not be able to cover cost. Therefore price should be set at cost unless there is market power in a related market or call externalities.

If there was evidence of market power in a related market and retail prices were set well above cost then there would be an argument to set wholesale prices away from cost but mobile retail markets in Europe are competitive and so operators find it difficult to set prices above cost. It is the wholesale market which is deemed uncompetitive as operators have significant market power in termination on their own network.

So the question then is, are externalities a reason to set prices away from cost? We consider here network and call externalities. Network externalities imply that the social benefit from a new subscriber joining a mobile network is greater than the private benefit as the new subscriber does not internalise all the benefits to others who are now able to contact that subscriber. Network externalities imply that termination rates should be set above cost to provide an incentive to operators to attract and retain subscribers.

Call externalities can be either positive or negative depending upon whether a caller or receiver receives more or less benefit from the call than they pay for. Efficiency then requires that the caller or receiver pays the cost of the call related to the benefit they receive from the call. So if only the caller receives benefit they should pay the full cost of the call or if both parties benefit equally from the call then they should split the cost of the call.

BAK is only efficient if both parties share equal cost and benefit of the call so that the price of termination is borne by the receiver and is not included in the call price to the calling party. In this way the benefits of the call are split exactly in the same

¹ Some refer to BAK as “net payment zero” (NPZ). NPZ may well require BAK, especially if the neutral net revenue position is required for all mobile network operators (MNOs), whatever their traffic (im)balance. Strictly speaking, however, BAK and NPZ are not the same.

proportion as the costs of origination and termination. So for example, when the costs of origination and termination are equal, then benefits to caller and receiver should be equal. So if the cost of origination is 5€ and the cost of termination is 5€ then the caller should pay 5€ to make the call and the receiver should pay 5€ to receive the call and the termination charge should be set at zero. But if the benefits do not equal the costs and the two parties to the call cannot pay for their respective benefits then setting the termination rate at zero will not achieve an efficient level of traffic.

The analysis suggests that if both sides benefit equally from a call then BAK is efficient if either there is a traffic balance between these callers or each side can pay for the cost of the call. However, there are many reasons why both sides do not benefit equally from a call. Indeed, there must be some benefit to a receiver otherwise they would not receive the call but conversely they cannot benefit too much from the call (or as much as the caller) because otherwise they would have initiated the call and everyone would be callers rather than receivers. Some calls are pure marketing calls which are unwanted by the receiver and sometimes the receiver may be unable to identify the caller when deciding whether to take the call or not. Call externalities, if large, are also likely to be internalised by the individuals in the call.

As yet, there is no empirical evidence about the size of call externalities and until there is evidence which proves that call externalities are significant and that termination rates should be set away from cost to enable to efficient number of calls to be made, then termination rates should continue to be set at cost.