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UPP – frequently asked questions

Jan Peter van der Veer (RBB Economics) · Tuesday, December 4th, 2012

In contrast to e.g. the UK Office of Fair Trading, the European Commission so far has not applied UPP-type approaches in phase I merger enquiries. However, a Commission submission to the OECD earlier this year indicates that it is keeping its options open. This post discusses frequently asked questions regarding the concept of UPP and its use.

What is UPP?

UPP (Upward Pricing Pressure) is a tool with which it is possible to estimate the risk of a merger giving rise to unilateral effects. Unilateral effects may result from a merger between A and B because customers that would switch between A and B in response to a price increase are, post-merger, "internalised" by the merged entity. Because some volumes that otherwise would have been lost to rivals now stay within the merged entity, price increases become less costly than before in terms of the resulting volume losses. This may give the merged entity an incentive to increase prices. UPP-type approaches are directly based on this logic. The two main "ingredients" of UPP-type approaches are diversion ratios and profit margins, discussed below.

What is a "diversion ratio"?

Diversion ratios are one of the two principal inputs into UPP-style approaches. A diversion ratio from product A to product B is defined as the proportion of all customers switching away from product A in response to a price increase of A that are captured by product B. For example, if 100 customers switch away from A following a price increase of that product and 60 of these switch to product B, the diversion ratio from A to B is 0.6 (or 60%). A high diversion ratio indicates that two firms are close competitors. The higher the diversion ratio, the greater the risk of a merger between A and B giving rise to unilateral effects.

Diversion ratios are often estimated through consumer surveys. For example, in the context of a merger between two supermarkets in a given city, diversion ratios may be derived from the responses to the question "what alternative supermarket would you have used today if this store was closed"? It may also be possible to estimate diversion ratios on the basis of data from both merging parties, for example by seeking to relate volume losses by firm A following a price increase to volume gains by firm B at the same time.

What role do profit margins play in the application of UPP?

All else equal, UPP-style approaches predict a greater risk of price increases in markets

characterised by high gross margins. Within the context of the unilateral effects logic outlined above, this can be explained by noting that customers who are "internalised" following a merger will be more valuable if gross margins earned on these customers are high. The greater the value of sales that are internalised, the more a merger between A and B may impact on pricing incentives.

It is also often suggested that high gross margins indicate inelastic demand, making price increases following a merger more attractive. However, care is required in this context. In industries characterised by low marginal costs and high fixed costs, gross margins will necessarily be high. In such cases, high gross margins are the result of the cost structure of the firm and need not indicate that demand is inelastic. The same is true in industries characterised by high levels of innovation, where high margins serve act as returns on (risky) innovation efforts. As the Commission has put it in an earlier submission to the OECD:

> "In particular, the UPP is not applied in a mechanistic way as its interpretation may depend on the specifics of the market concerned. For example, gross margins may be higher in industries with high innovation, leading to higher UPP measures everything else constant; however, such measures may not reflect the key factors of competition in such industries."

Does UPP predict the amount by which prices are likely to increase?

In their basic form, UPP-type approaches do *not* predict the level by which prices are expected to increase, but merely provide an indication of the "impetus towards a price rise". For example, the "GUPPI" approach (see below) as applied by the UK Office of Fair Trading identifies the value of diverted sales between the merging parties (in proportional terms). To obtain a predicted price increase, it is necessary to multiply this value by a "pass-through" factor: the extent to which the firm in question is likely to pass on specific changes in its costs in its prices.

(The intuition behind this can be explained as follows. In a sense, a merger between A and B results in sales of A becoming more "costly" than before. The reason for this is that selling additional units of A may reduce the number of units of B sold, implying a "cost" in terms of a margin foregone on B. A would not be concerned about this effect pre-merger, but will take this into account after the merger. To assess the extent to which A's pricing decisions will be impacted by this, it is necessary to consider to what extent A ordinarily passes on specific increases in its input costs.)

Does UPP take account of efficiencies?

Early proposals in the economic literature suggested that a standard 10% efficiency credit could be factored into the assessment. This was intended to overcome the "problem" that UPP-type approaches in their basic form will always predict price increases to result from horizontal mergers. However, the approaches on which authorities tend to rely in practice (discussed below) do not take account of efficiencies. Nevertheless, one could argue that some efficiency threshold is implicit in the thresholds that authorities use to assess predicted price increases. By using e.g. a 5% threshold, some standard efficiency allowance is arguably taken into account. Alternative explanations for the use of such thresholds are also possible, however, for example as significance threshold or as way of dealing with measurement errors (see below).

What different UPP-style approaches exist?

A distinction can be made between three main approaches: “UPP” (upward pricing pressure), “GUPPI” (gross upward pricing pressure index) and “IPR” (illustrative price rise). These approaches all rely on diversion ratios and margins, but differ in their detailed implementation. As the name suggests, the IPR approach produces predicted price increases – the other two approaches do not. The flipside of this is however that the IPR approach requires much stronger assumptions than the other two approaches. The difference between the UPP and GUPPI approaches is that UPP takes account of efficiencies whereas GUPPI (as well as IPR) does not. In practice, authorities (e.g. in the UK and the US) tend to use GUPPI and/or IPR.

How does UPP differ from merger simulation?

At a high level, UPP and merger simulation are similar approaches – both can be used to directly estimate the effect of a proposed merger on prices. In essence, UPP claims to do so in a simple, “rough and ready” way – by making a large number of simplifying assumptions. Merger simulation claims to provide a more accurate answer but is more complex to apply in practice. UPP and related approaches are often promoted as Phase I, filtering instruments, whereas full merger simulations are typically used in Phase II cases.

If some of the simplifying assumptions underlying UPP are relaxed, the UPP analysis can however rapidly become more complex. This applies in particular if an attempt is made to empirically estimate pass-on. The extent to which firms are likely to pass-on changes in their input costs depends on a number of factors, including the nature of competition in a particular market, the shape of demand, the structure of costs etc. Empirically estimating firm-specific pass-on rates is in general very challenging and any attempt at doing so will remove much, if not all, of the apparent simplicity of UPP.

What are the pitfalls?

Being simplified versions of reality, the results of UPP and related approaches are to a significant extent dependent on the assumptions on which these approaches are based. In particular, given the difficulties involved in empirically estimating pass-on, pass-on is in practice often assumed rather than estimated. But since predicted price increases are heavily dependent on the rate of pass-on, any such assumption introduces a significant degree of uncertainty into the analysis. In addition, UPP and related models are by definition static approaches. By contrast, real-life markets may be characterized by entry, buyer power, innovation, product repositioning, etc., all of which may mitigate or defeat a hypothetical price increase but none of which are captured by UPP-type models.

Does UPP make market definition redundant?

UPP was initially proposed as a replacement for market definition. It indeed has a number of key advantages over market definition and merger assessment on the basis of market shares, notably the fact that it directly takes account of the closeness of competition between the merging parties. However, since the results of UPP-type approaches are not as easy to interpret as market shares, and are prone to the pitfalls discussed above, UPP is typically used as a complement to market definition rather than as a replacement.

Where is the Commission going?

In contrast to e.g. the UK Office of Fair Trading, the European Commission so far has not applied UPP-type approaches in phase I merger enquiries – it has only revived the use of merger simulation in phase II cases (see this earlier post). The Commission continues to heavily rely on market definition and "traditional" methods to assess closeness of competition.

However, a Commission submission to the OECD earlier this year indicates that it is "open to allow the UPP concept in those cases where it can be a useful additional tool". The Commission states in this context that while the Horizontal Merger Guidelines do not explicitly refer to UPP, they do expressly refer to diversion ratios. The Commission also refers to the comment in the Guidelines that high pre-merger margins may make significant price increases more likely. But the Commission stresses that UPP and related tools can only act as "one additional piece in the puzzle". Indeed, given their inherent limitations, they must always be placed in the context of other evidence.

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