

## The Treatment of Captive Sales in Market Definition – Rules or Reason?

Market definition and market shares play a central and often decisive role in the assessment of mergers. This is recognised by the Commission when it states that:

“...market definition makes it possible to calculate market shares that would convey meaningful information regarding market power...”<sup>1</sup>

If the market definition process is to generate market shares that are generally informative as to the existence of market power then it must result in the inclusion within the market of all of the important competitive constraints on the merging parties and exclude from it all of those products that are irrelevant to the analysis by virtue of having no competitive influence on the merging parties or their competitors.

### The role for rules of thumb

Whilst the market definition process needs to respect these fundamentals as much as possible, at the same time it is helpful to the efficient application of competition law for there to be “rules of thumb” which can be readily applied to cases and which can provide a preliminary guide to firms, their advisers and those working for the competition authorities.

The value of such “rules” lies in their ability to provide quick, predictable and generally accurate indicators of the appropriate market definition to adopt. However, market definition and market share calculation are merely means to the end of identifying market power and the existence of convenient market definition rules or conventions should never cause one to lose sight of this underlying objective. In particular, it is important to recognise when “rules of thumb” should be abandoned and the fundamental principles of market definition re-applied to the specific facts of the case.

In this Brief we focus on the market definition “rule” known as the “merchant market rule”. Under the “merchant market rule” one excludes from the market for the purposes of market share calculation all sales made by suppliers to customers to whom they are linked by full or partial ownership (“captive sales”) and includes only those sales made to independent third parties (“merchant market sales”). Specifically, we consider the analysis of the supply of ethylene in the recently cleared merger of Shell and DEA. This case neatly illustrates the way in which the overly mechanistic application of the “merchant market rule” can generate market shares that seriously misstate the true extent of the market power created by a merger.

### The “merchant market rule” and the Shell/DEA case

In this case the Commission was particularly concerned about the impact of the merger on the supply of ethylene on the ARG+, an ethylene pipeline network linking a large number of ethylene production plants, known as “crackers”, with a large number of plants making ethylene derivatives of various types.<sup>2</sup> Many of the firms that owned and operated “crackers” also owned and operated derivatives plants as well, some of which were co-located with a “cracker” and some of which were located at sites elsewhere on the ARG+.

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The Commission Notice on the definition of the relevant market for the purposes of Community competition law, 1997 (OJ C372).

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The primary impact of the merger was in various oil products markets in Germany. This element of the deal was examined by the Bundeskartellamt after a successful Article 9 application. The Commission also examined a number of other petrochemical markets in addition to ethylene.

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In Europe the key raw material in the production of these products is ethylene, whilst in the US it is ethane.

The analysis of the relevant product and geographic market definition for this part of the deal was very straightforward. All agreed that there were no effective substitutes for ethylene in the production of ethylene derivatives, such as polyethylene, ethylene glycol and ethylene oxide.<sup>3</sup> Similarly, the decision of the Commission to define the geographic market as the area covered by the ARG+ network was defensible on the grounds that the risks and the costs associated with moving ethylene other than by dedicated pipeline were very significant. However the way the Commission calculated market shares became a contentious element of the case because of its application of the “merchant market rule” and its consequent exclusion of “captive sales” from the market for the purposes of calculating market shares.

Of course, the “merchant market rule” makes sense in some situations. Sales made to third parties can normally be diverted elsewhere if another customer is prepared to pay more, whilst a firm may be reluctant to cease supplying a subsidiary simply because a better price could be obtained in the “merchant market” in the short run. For this reason “captive sales” may often legitimately be seen as a less potent competitive discipline on a supplier with a high share of the “merchant market” than would other “merchant market sales”.

## Flaws in the “merchant market rule”

Whilst it may be appropriate to apply the “merchant market rule” in the preliminary phase of an investigation to establish whether a merger should be subjected to in-depth analysis, in any more detailed investigation it is inappropriate to discount the ability of captive sales to discipline pricing in the “merchant market” without a proper analysis of the facts. First, it may well be much easier for a firm currently making only “captive sales” to enter the “merchant market” than it would be for a firm to enter the “merchant market” from scratch. Secondly, in many cases firms may be perfectly willing to divert “captive sales” to the “merchant market” if it is more profitable for them to do so. Finally, if there is downstream competition between “merchant customers” and “captive customers” then the price set in the downstream market by “captive customers” may limit the extent to which prices could profitably be raised to customers in the “merchant market”. In the light of these possibilities only careful analysis of the specific facts of a case will enable one to judge whether it is more appropriate to include or exclude “captive sales” from the market share calculation.

## The “net merchant market rule”

In the Shell/DEA case, not only did the Commission choose to apply its “merchant market” rule and exclude “captive sales” from its market share calculation, it chose to go further still and calculated market shares on a “net merchant market” basis. Using this method the total “merchant market” supplies of ethylene of each firm were identified, from which were then deducted “merchant market” purchases made by that firm, or its associated companies, to create “net merchant market” shares. Aside from the potential flaws inherent in the “merchant market” approach, the use of “net merchant market” shares has some additional potentially misleading consequences. For example, because the majority of ethylene transactions were excluded under the Commission’s method either because they were “captive sales” or were “merchant sales” netted off against “merchant purchases”, the “net merchant market” represented just a small part of the total ethylene supplied on the ARG+. This meant that relatively small changes in the overall supply and demand position on the ARG+ had potentially dramatic consequences for market shares on the “net merchant market”. A relatively modest capacity addition to a cracker, if not matched by an expansion in derivative capacity, could substantially increase the market

share of a firm with a previously modest “net” position on the merchant market, as could a relatively minor change in a firm’s derivative plant capacity or the divestment of a small derivative plant. The year-on-year volatility of market shares calculated on this basis is alone sufficient to show that in this case a methodology that ignores the competitive potential of captive production is probably failing to identify enduring market power of the kind that should concern competition authorities.

## Equivalent treatment of equivalent sales

However the main objection to the market definition method used by the Commission arose from its insistence that all “merchant market” sales should be included in its share calculation, even when some of those sales were economically equivalent to “captive sales”. In the supply of ethylene, third party supplies covered a wide array of supply arrangements, some of which were far closer in economic effect to “captive sales” than they were to other “merchant market sales”. However, the mechanistic application of the “merchant market rule” failed to recognise this economic reality.

At one extreme small volumes of ethylene were purchased on a spot basis. Far greater third party volumes were supplied under contracts which varied in duration from, mainly, one to five years. These contracts were periodically renewed and, at the point of renewal, the volumes were, in principle, available to others. Moreover, the quarterly prices negotiated in these contracts helped to determine the quoted quarterly market price which in turn influenced subsequent negotiations.

However there was a further class of “merchant market sales” that had almost all of the economic characteristics of the captive sales which the Commission had chosen to exclude from the market. These supplies were those made under very long term contracts, sometimes of 20 years duration, often using a pricing mechanism wholly unrelated to the prevailing market price, and under which the parties were obliged to supply and buy a minimum volume. These contracts were often the result of the de-merger of previously vertically integrated facilities and were deliberately structured to replicate many of the most important economic characteristics of in-house supply (e.g. absolute security of long term supply), often because the company buying the derivatives plant knew that for reasons of location and infrastructure it would be dependent on the previously co-owned cracker for its supplies. In the most extreme cases the customers were totally dependent on a single cracker because the cracker owner also owned the pipeline which linked that customer to the ARG+. In these cases, in particular, it is clearly incorrect to talk of that customer forming part of a wider merchant market.<sup>4</sup>

Nonetheless, whilst content to exclude captive sales, presumably on the basis that they were unavailable to the merchant market for the foreseeable future and had no impact on the quarterly market price, the Commission remained unwilling to exclude third party sales that were economically almost identical to those that it had excluded. In defence of its decision the Commission wrote:

“...a different treatment of contracts based only on their pricing formula would lead to inconsistent and arbitrary results...”

On the contrary, it is the Commission’s methodology that leads to arbitrary results because it treats as identical fundamentally different types of supply arrangement. Of course, the distinction between “captive sales” and “merchant sales” is legally clear, whereas choosing where to draw the line between “true merchant market” sales and those that are equivalent to “captive sales” introduces an element of judgment and subjectivity. The Commission appears to have favoured a method which is clear rather than one which is relevant to the assessment of market power. In doing so, it fell into

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In addition, some third-party customers had so-called “virtual-cracker” deals, whereby, in return for a lump sum contribution to the construction or expansion of a cracker, the customer was guaranteed a specified volume and profile of ethylene for a period of 10 years or more, at cost. In these cases, the customer has, in reality, leased cracker capacity and should be more properly considered an integrated producer, rather than a third party customer.

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Interestingly, however, the Commission, in discussing potential future restructuring in the industry, went on to state that:

"...if...intra-group supplies of ethylene are replaced by long term supply agreements with third parties...the former captive use is accounted for the merchant market and may generate additional market shares. However, such additional shares may not necessarily be considered as a full reflection of new market power."

This highlights the confusion in rigid adherence to the merchant market rule. If the Commission accepts that future vertical restructuring may lead to market shares that are not necessarily relevant to the assessment of market power, then why should current market shares that are themselves largely the result of past episodes of vertical restructuring necessarily be relevant in assessing the extent of market power prevailing in the market today?

the trap of believing that it is better to measure the wrong thing precisely than to measure the right thing imprecisely.

Whilst the Commission view is capable of creating bright line guidance of the type which appeals to those who value legal certainty above all else, it is nonetheless an approach which could easily lead to innocuous mergers being blocked and anti-competitive mergers being cleared. In the Shell/DEA case the market shares calculated under this flawed methodology allowed the Commission to build a joint dominance case against the parties and to secure undertakings that would not have been justified had the Commission undertaken an assessment based on the equivalent treatment of economically equivalent supplies.<sup>5</sup>

## Implications for joint dominance assessment

These criticisms of the market share calculations of the Commission are particularly relevant in the context of an allegation of joint dominance. This is because the competitive assessment of joint dominance relies on the joint shares of the parties accurately reflecting the extent of their jointly held market power, and on each percentage point of market share reflecting supply of broadly similar product on broadly similar terms. Where the market definition methodology brings together product supplied under a wide variety of supply terms it is no longer the case that each percentage point of market share necessarily reflects supply of an equivalent product on an equivalent basis. With the Commission's method combining everything from spot purchases to quasi-captive sales of the kind discussed above, it is impossible from the shares generated to understand whether joint dominance is a feasible outcome or not.

## Rules or reason?

It is efficient and desirable for the authorities and the parties not to have to re-invent the market definition wheel in every case, but it is important that market definition "rules of thumb" are used with care and that the assumptions that underpin those rules are tested against the facts of a case in any in-depth investigation. In Shell/DEA, the strict separation of captive and third-party sales made for a clear rule, but one that resulted in market shares that failed to reflect the underlying economics and as a result could not perform their basic function of indicating the extent of post-merger market power. This triumph of rules over reason obscured the true competitive effects of the transaction, particularly the analysis of joint dominance in which issues of homogeneity of supply and symmetry in market shares are central to the subsequent analysis.