



**TC02835**

**Appeal number: TC/2010/01089**

*VAT – self supply of cars used by car manufacturer in its business-Art 5(7)  
Sixth directive – value of supply: purchase price or cost- meaning of cost  
and purchase price – effect of UK provisions – determination of purchase  
price and cost – use of macroeconomic data to estimate cost in periods in  
which no direct evidence available.*

**FIRST-TIER TRIBUNAL  
TAX CHAMBER**

**GENERAL MOTORS UK LTD**

**Appellant**

**- and -**

**THE COMMISSIONERS FOR HER MAJESTY'S      Respondents  
REVENUE & CUSTOMS**

**TRIBUNAL: JUDGE CHARLES HELLIER  
MR MICHAEL JAMES**

**Sitting in public at Bedford Square WC1B on 22, 25, 26, 27, 28 and 29 June,  
19and 20 July, and 29 and 30 October 2012, with later written submissions.**

**Roderick Cordara QC instructed by KPMG for the Appellant**

**James Puzey and Joseph Millington, instructed by the General Counsel and  
Solicitor to HM Revenue and Customs, for the Respondents**

## DECISION

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### Introduction

1. The appellant, “GMUK”, is the well-known UK manufacturer of Vauxhall cars. It is part of a worldwide group of companies all ultimately held by GM Inc in the USA. It has sister companies in Germany, France and other European countries. In the period relevant to this appeal it sold and manufactured cars and car parts in the UK, and imported them from, and exported them to, sister companies in Europe. In the UK

it sold its cars to individual retail purchasers and to corporate entities through a network of dealers. It also used some of the cars it produced or imported to provide cars for its own staff and business.

2. Article 4 VAT (Cars) Order 1980 and its successor, Article 7 (1) VAT (Input Tax) Order 1992 (the "blocking order") provided that, with certain exceptions which are not relevant to this appeal, input tax on the acquisition (using that word colloquially) of a motorcar was excluded from input tax credit. Without any other provision this order would have placed car manufacturers at an advantage over other traders as regards the credit for input tax on self manufactured vehicles used in business which had not been purchased and so bore no (or little) input tax. The field was kept level by Article 5 of the VAT (Cars) Order 1980 and its successor Article 5 of the VAT (Cars) Order 1992 (the "Cars Orders") which provided that when a car manufacturer took a car it had manufactured into use in its business it should be treated as subject to a "self supply": it was to be treated as "both supplied to him for the purposes of the business carried on by him and supplied by him for the purposes of that business."

3. The various statutory instruments had the same effect for cars imported by a car trader for which input tax credit had been given on initial importation.

4. Thus when GM UK took into its own use a car which it had manufactured or imported, it became liable to pay VAT on a deemed supply of the car but was not able to reclaim that VAT because of the blocking order.

5. The central question in this appeal is for what consideration that deemed supply should be treated as having been made.

6. From 1978 onwards GMUK says that it accounted for tax on this self supply by applying VAT to an amount equal to 2/3 of the retail list price of each car so used. GMUK now says that two thirds of the list price exceeded the amount on which VAT should properly have been charged on the self supplies in that period. It claims repayment of the overpaid tax for in the period 1987 to 1996 (the "Claim Period").

7. We shall return to the question of the proper notional value of the deemed supply but for present purposes it is enough to note that 2/3 of the list price was a proxy for the cost of the cars to GMUK, and its use commenced when the UK legislation required that the deemed supply be treated as made at cost.

8. In this decision we use "HMRC" to include its predecessor custodians of VAT and other taxes.

### 35 **The Law, the Relevant Statutory Provisions and their effect.**

#### *(1) The Sixth Directive.*

9. Article s 5 (6) and (7) of the Sixth Directive contained two provisions by virtue of which a deemed self supply could arise. The first was mandatory, the second at the option of the Member State

5           "(6). The application by a taxable person of goods forming part of his business assets for his private use or that of his staff, or the disposal thereof free of charge or more generally their application for purposes other than those of his business, where the value-added tax on the goods in question or the component parts thereof was wholly or partly deductible, shall be treated as supplies made for consideration. However, applications for the giving of samples or the making of gifts of small value for the purposes of the taxable person's business shall not be so treated.

"(7) Member States may treat as supplies made for consideration:

10           (a) *the application by a taxable person for the purposes of his business of goods produced, constructed, extracted, processed, purchased or imported in the course of such business, where the value-added tax on such goods, had they been acquired from another taxable person would not be wholly deductible;*

15           (b) the application of goods by a taxable person for the purposes of a non-taxable transaction, where the value-added tax on such goods became wholly or partly deductible upon the acquisition or upon their application in accordance with subparagraph (a);

20           (c) except in those cases mentioned in paragraph 8, the retention of goods by a taxable person or his successors when he ceases to carry out a taxable economic activity where the value-added tax on such goods became wholly or partly deductible upon their acquisition or upon their application in accordance with subparagraph (a)."

10. The italicised paragraph 5(7)(a) is the provision applicable in this appeal.

25 11. Article 6(2) and (3) provided broadly equivalent provisions in relation to services:

"(2). The following shall be treated as supplies of services for consideration:

30           (a) the use of goods forming part of the assets of the business for the private use of the taxable person or of his staff or more generally for purposes other than those of his business where the value-added tax on such goods is wholly or partly deductible;

            (b) supplies of services carried out free of charge by the taxable person for his own private use or that of his staff, or more generally for purposes other than those of his business.

35 Member States may derogate from the provisions of this paragraph provided that such derogation does not lead to distortion of competition.

40           “(3). In order to prevent distortion of competition and subject to the consultations provided for in article 29, Member States may treat as a supply of services for consideration the supply by a taxable person of a service for the purposes of his undertaking where the value added tax on such a service, had it been supplied by another taxable person, would not be wholly deductible.”

12. We shall use the shorthand “private use” for the situations which bring Article 5(6) and 6(2) into operation, and “non taxable business application” for those which may bring Article 5(7) and 6(3) into operation, with the warning to the reader that the situations in which the former applies are much broader than simply private use. What these provisions share in common is that the facilities of the business are used for providing benefits which do not find their way into the outside world for consideration.

13. Article 11A(1) specified the consideration which was to be treated as passing on the supplies deemed to take place under these provisions:

- “(1). The taxable amount shall be:
- (a) in respect of supplies of goods and services other than those referred to in (b), (c) and (d) below, [all the consideration received by the supplier];
  - (b) in respect of supplies referred to in article 5(6) and (7), the purchase price of the goods or of similar goods or, in the absence of a purchase price, the cost price, determined as [at] the time of supply;
  - (c) in respect of supplies referred to in article 6(2), the full cost to the taxable person of providing the services;
  - (d) in respect of supplies referred to in article 6(3), the open market value of the services supplied.”

14. The combined effect of these provisions is summarised in the table:

Deemed supply	Notional consideration
Art 5(6) : Private use - goods	Art 11A(1)(b): purchase price/cost price
Art 5(7): non taxable business application –goods	Art 11A(1)(b): purchase price/cost price
Art 6(2): Private use - services	Art 11A(1)(c): “full cost”
Art 6(3) non taxable business application – services	Art 11A(1)(d): open market value

15. We note two elements of the notional consideration provision (Art 11A(1)(b)) which is relevant to the non business application self supply by GMUK:

“the purchase price of the goods or similar goods or, in the absence of a purchase price, the cost price, determined at the time of supply”;

these are: first the words “determined at the time of supply”: the preceding comma indicates that those words apply to both purchase price and cost price. Second, the fact that cost price is to be resorted to only if there is no purchase price, even for similar goods.

*Article 11A(1) Discussion*

16. Article 11 A (1) uses four different expressions: purchase price, cost price, full cost, and open market value.

5 17. We considered whether "purchase price" was intended to mean: (1) the actual price paid by the taxpayer for the goods if there is one, or (2) the price which would have been paid by the taxpayer had the goods been purchased by it at the time of supply.

10 18. At first sight it appears that purchase price is to be associated with "purchase" (and possibly "imported") in article 5(7)(a), and "cost price" with the remaining categories by which goods are obtained – production, construction, extraction or process.

15 19. But this approach ignores the words which follow “purchase price”, namely, "of the goods or of similar goods". If purchase price is intended to be associated only with goods which have been actually purchased then there is no room for investigating the price "of similar goods".

20 20. Article 11A(1)(b) also applies for the purposes of article 5(6). Thus there might be a circumstance relevant to Article 5(6) in which taxpayer obtains goods which is absent from the categories in 5(7)(a) and to which "the purchase price ... of similar goods" could be relevant. But Article 5(6) simply fastens upon the application or disposal of business goods. There is no categorisation in that paragraph of the means by which they were obtained. And we can see no means by which they could have been obtained which is not included the list in Article 5(7) (a).

25 21. Thus if meaning is to be given to "of similar goods", "purchase price" cannot be restricted to meaning the original price at which the taxpayer actually purchased the goods.

22. The purpose of the private use provisions has been considered by the ECJ, and that of the non business supply provisions has been considered by the Advocate General.

30 23. In *Wollny v Finanzamt Landshut* [2008] STC 1617, the ECJ (at [31 and 32]) recognised that the object of the private use provisions was “to ensure equal treatment as between a taxable person and a final consumer by preventing the former from enjoying an advantage to which he is not entitled by comparison with the latter who buys goods and pays VAT on them”.

35 24. The purpose of the non-taxable business application provisions may be subtly different from that of the private supply provisions: the Advocate General said in *Staatsecretaris van Financien v Gemeente Vlaardingen C-299/11*:

"45. As regards the aim of article 5(7)(a) of the Sixth Directive, which relates to the supply of "goods", I would say that - just like the aim of the similar provision regarding self supply of "services": article 6(3) - it is to prevent

distortion of competition. The taxable person who carries out exempt activities may either purchase the goods used for those activities from third parties, and pay on that purchase VAT which is not deductible, or he may produce those goods himself, in which case, under article 5(7)(a) of the Sixth Directive, he must pay VAT, likewise not deductible, on the value of those goods. ... [A] taxable person who carries on activities exempt from VAT ... would by producing those goods in the course of his business, enjoy an economic advantage over a trader who carries out the same non-taxable activity but who cannot - or does not want to - produce the goods necessary for that purpose himself. Provision was therefore made for the taxable person producing the goods in the course of his business to be subject to VAT also.

“46.... the Second Directive makes it clear that ... article on 5(7)(a) of the Sixth Directive... seeks to ensure equality of taxation between, on the one hand, goods purchased and intended for the needs of the business, and in respect of which there is no entitlement to immediate or complete deduction, and, on the other hand, goods produced or extracted by the taxable person or on his behalf by a third person, which are also used for the same needs ...

“47. Indeed the above clearly constitutes the application of the principle of fiscal neutrality, which is inherent in the VAT system and constitutes nothing less than a fundamental principle of that system. The primary purpose of that principle is to ensure the equal treatment of taxable persons.”

25. Thus it is clear to us that the same object is in view in both of the non taxable business use provisions, 5(7) and 6(3). That would suggest that the same solution – the same notional consideration - should apply in each case. But for 5(7), the Directive prescribes the purchase price/cost price in the language of 11A(1)(b), and for 6(3) the open market value language of 11A(1)(d).

26. Mr. Cordara said that since the object of 5(7)(a) is to cancel out the VAT advantage which would otherwise accrue on a self supply of an asset to be used in a non-wholly taxable activity, the policy of the provisions must be to remove the advantage of the self supply. Thus the provisions seek to move the self supplying taxpayer into the position of a final consumer of the thing he manufactures; what distinguishes a final consumer is that he does not generate a VAT charge on supplies and suffers the VAT built up in the chain of supply which leads to him. The language and policy of the provisions thus look back at the expense incurred in either making the thing or paying a third party for its purchase. Mr. Puzey agreed with this analysis: he says that the purpose of the provision is to place the manufacturer in the position of notional final consumer who suffers the input tax built up previously in the chain of supply.

27. We had several difficulties with this analysis:

- (1) as we have noted above, it accords little meaning to the words "or similar goods" in paragraph (b);
- (2) it leaves the words "determined at the time of supply" in article 11A(1)(b) hanging. It seems to us that these words, coming after the comma, are intended

to apply both to the purchase price limb and to the cost price limb of the subparagraph. Indeed it seems to us that they naturally have greater relevance to the purchase price limb since cost is always cost, and will not vary with time (save perhaps for the accumulation of interest costs on funding). These words indicate by contrast that the taxable amount is not historical purchase price;

(3) a policy of putting the self supplier on the same economic footing as the purchaser from a third party would be better served by using the market purchase price for goods or similar goods since that would ensure that the VAT burden borne by both was more equal - serving the principle of neutrality and the elimination of distortion; and

(4) a market purchase price policy is clearly present in relation to the parallel provision of article 6(3) where open market value is dictated (and is clearly intended to be different from, or at least wider than, cost because of the immediate contra position in (c) of "full cost"). Mr Puzey suggests that the policy is pragmatism: it is easier to determine market value for a service than a cost for goods. We do not see one as easier than the other.

28. These considerations would lead us to conclude that "the purchase price of goods or of similar goods" in article 11A(1)(b) is intended to refer to the price at which such goods (or similar goods) could be purchased at the time of the deemed supply from a third party. That construction does not deny meaning to the remaining part of the paragraph: "or in the absence of a purchase price, the cost price": there will be occasions - such as where the goods form part of a unique production method - when there will be no third party from whom the goods could be purchased: where that is the case cost price is the only available metric.

29. But there is one consideration which lies in the path of reaching such a conclusion. This is the comparison between the supply consideration relevant to 5(6) and to 6(2) (which both relate to be deemed supplies arising on private use). For an article 5(6) supply article 11A(1)(b) provides the same purchase price/cost price formula as for article 5(7), but article 11A(1)(c) provides that the consideration for an article 6(2) deemed supply is the "full cost to the taxable person of producing the services". If the subparagraph (b) purchase price/cost price formula has the meaning suggested above - the price at which the goods (or similar goods) could be purchased at the time of supply if there is one- then the Directive has adopted a metric which is inconsistent between non-business provision of services and non-business provision of goods.

30. Overall, we do not think that the inconsistency in relation to the consideration applicable to non-business use deemed supplies is enough to oust our earlier conclusions in relation to subparagraph (b). We conclude that, although the position is not wholly clear, subparagraph (b) directs attention to the price at which the goods could be purchased at the time of the deemed supply and if, but only if, there is no realistic probability of such a purchase of the goods or of similar goods, to the cost price.

31. (However, the use of "full cost" may shed some light on "cost price". It suggests, if private use of goods and of services are to be treated as similarly as

possible, that cost price should be the equivalent to the full cost of the provision of the goods: determined by considering all the costs incurred by the taxpayer in providing the goods.)

*(2) Implementation of the Directive in the UK.*

5 32. The UK took advantage of the permission granted by Article 5(7)(a) in enacting  
the Cars Orders 1980 and 1992, being able to do so because the input tax on purchase  
would not be deductible because of the blocking order. The UK also enacted  
statutory provisions for setting the notional consideration on such self supplies  
(although it is not clear that these provisions conformed fully with Article 11A(1)).  
10 For a period up to 1978 the domestic provisions required (or HMRC regarded sections  
6 and 10(3) FA 1972 as so requiring) the use of open market value. Then it changed to  
cost. In the period 1987 to 1993, the first part of the Claim Period, the relevant  
statutory provision was paragraph 2(7) Schedule 4 VAT Act 1983 which provided  
that:

15 "Where there is a supply of goods by virtue of --

(a) [the Cars Order] ...

the value the supply shall be taken to be the cost of the goods to the person  
making the supply except ...".

20 33. For the remaining part of the Claim Period the UK legislation determining the  
value of the self supply was paragraph 6 Schedule 6 VAT Act 1994 which came into  
force on 1 September 1994 (s 101) and provided that:

"(1) Where there is a supply of goods by virtue of --

(a) [the Cars Order]...

25 then, except where paragraph 10 below applies [irrelevant to this appeal], the  
value of the supply shall be determined as follows.

(2) The value of the supply shall be taken to be:

30 (a) such consideration in money as would be payable by the person  
making the supply if he were, at the time of the supply, to purchase goods  
identical in every respect (including age and condition) to the goods  
concerned; or

(b) where the value cannot be ascertained in accordance with paragraph  
(a) above, such consideration in money as would be payable by that  
person if he were, at that time, to purchase goods similar to, and of the  
same age and condition as the goods concerned; or

35 (c) where the value can be ascertained in accordance with neither  
paragraph (a) nor paragraph (b) above, the cost of producing the goods  
concerned if they were produced at that time."

VAT in the purchase price was to be ignored (by subparagraph (3)).

34. On our construction of Article 11A(1)(b), the provisions of Schedule 4 did not comply with the directive: rather than requiring attention to the price at which the goods could be purchased at the time of the supply, they related solely to the cost of the goods.

5 35. On the other hand Schedule 6 VATA 1994 correctly implemented the directive.

36. As noted above, the Claim related to the period from 1987 to 1996. The period 1987 to 1993 was thus affected by Schedule 4, and the period from 1994 to 1996 by Schedule 6.

1994 to 1996 (the later period)

10 37. In relation to this later period the effect of the domestic legislation is the same as that of the Directive. Thus the question for us in this period is what price would have been paid by GMUK for the cars if, at the time of appropriation to its own use it had purchased identical (or similar) cars, or if there is not such a price the cost of producing the cars.

15 38. These are not alternatives between which GMUK or HMRC may choose. It is only if there is no purchase price that cost price is relevant.

39. Mr. Puzey and Mr. Millington say that there is no purchase price to the appellant for UK manufactured vehicles, and GMUK did not, and did not seek to purchase similar vehicles. GMUK was a manufacturer, not a purchaser. They say that  
20 it is not apparent that a manufacturer could or should be subject to the provisions of Schedule 6 paragraph 6(2)(a) and(b) in respect of goods which it manufactures and self supplies. The purpose of the provisions is to place the manufacturer in the place of a notional final consumer who suffers the input tax built up previously in the chain. Where no one else makes the goods the recourse must be to cost.

25 40. We disagree. The Directive appears to us to require the determination (if possible) of what the purchase price would be if the taxpayer were to purchase the goods or similar goods at the time of the notional supply. The domestic provision asks the same question (and if it did not it should be so construed). The object is to  
30 equalise the external purchaser with the manufacturing consumer, not to deal only with the input tax built up in production. It is irrelevant in addressing that question whether the taxpayer has or has not purchased or sought to purchase: the only issue is whether he can be treated as making a purchase when the only person he could directly or indirectly be purchasing from would in reality be himself since he is the only producer of those particular goods. In our view however the object of the  
35 Directive and the UK statutory fiction are the same: namely to put the manufacturer in the position of a purchaser. That object, where a taxpayer is the only manufacturer, requires it to be assumed, if necessary, that he is to be treated as purchasing from a third party such as a dealer.

41. Thus we consider that merely because the taxpayer is a manufacturer of the  
40 relevant goods, it cannot be said that there is not a purchase price. We have accepted that for some objects, perhaps those made in the course of the manufacture of others,

it will not be possible to purchase them or something like them because they are never sold: in that case cost will rule. But where the goods in question are produced to be sold and routinely purchased and sold, the legislation intends that there will be a price at which they may notionally be bought.

5 42. Thus in our view in this period (1994 to 1996), the question for us is what price GMUK could have purchased the relevant cars from a third party. If that price is less than that on which GMUK accounted for VAT, it will have overpaid VAT. We shall address the circumstances (the number of units and the conditions attached) of that notional purchase later.

10 1987 to 1993 (the earlier period)

43. There is no doubt that if the provisions of a Directive are unconditional and sufficiently precise those provisions may be relied upon as against any national provision which is incompatible with the Directive.

15 44. It is also well established that in considering a national measure which is intended to give effect to the provisions of a Directive, we must seek to construe the national measure so far as possible so that it conforms to the Directive.

45. It does not seem possible for us to construe paragraph 7 Schedule 4 so that it is in conformity with the Directive: its terms relate only to the second, "cost", limb of Article 11A(1)(b). "Cost" might be either above or below what the purchase price could be, yet the Directive requires purchase price (if there is one) in precedence to cost whether it is less or greater than cost.

25 46. The provisions of Article 11A(1)(b) are unconditional and do not leave any discretion to the member state in their implementation. They are precise. Thus it seems to us that GMUK may rely upon them as against Schedule 4. But because the provisions of the Directive do not create any obligation upon the taxpayer and are not capable of being read into Schedule 4 so as to limit its effect to being consistent with the Directive, GMUK may also rely upon Schedule 4 as against HMRC where that result is more advantageous to it.

30 47. Thus in this earlier period GMUK can succeed in its appeal to the extent that the VAT actually accounted for exceeds the lower of:

- (1) the cost of the cars to GMUK; and
- (2) the purchase price which would be payable if GMUK were, at the time of the deemed supply, to have purchased the cars that it appropriated to its own use.

35 48. For the reasons set out under the heading 1994 to 1996 above, it seems to us that in determining the notional consideration for the deemed supply under the second of these limbs, it may be taken that GMUK could have purchased the cars at the time of supply.

Application in the remainder of this decision

49. In the remainder of this decision we address the evidence in relation to both purchase price and cost for the whole of the Claim Period. We do so in relation to the period 1994 to 1997 in case it is later held that we are wrong in our conclusions above, and the "cost" is relevant to that period.

5 (3) *The meaning of "cost price"*

50. There was some debate as to what should be included in cost. Mr Bacon described cost accounting as an art rather than a science. Dr Holweg described it as a very political issue. In his witness statement he suggested that "due to the arbitrary assignment of overhead costs and the practice of transfer pricing it is [not] possible to  
10 calculate the cost price". Nevertheless the cost or the cost price is what the legislation requires to be computed.

51. It was plain that there were different measures of "cost" and that the term had no single clear common meaning in the context of a manufacturing enterprise. There was broad consensus as to the meanings of variable cost, fixed cost, manufacturing  
15 cost and operating costs, but in each case there would be some debate as to whether particular expenses, or what proportion of a particular expense fell within the various headings.

52. In this section we use :

(1) 'variable costs' to mean the specific extra cost of producing one extra car; this excludes any cost which the business would bear if it did not produce that  
20 one extra car: the costs of the buildings, equipment and tools, the costs of employees other than those paid only for that piece work, and the costs of design and development,;

(2) "manufacturing cost" to mean variable cost plus an attributable portion of  
25 the fixed costs directly connected with manufacture;

(3) 'operating cost' to mean manufacturing cost plus the costs of design and development together with their own fixed costs, plus marketing and selling costs, and

(4) "total cost" to mean operating cost plus costs such as those of long term  
30 finance costs and superior (strategic) management overheads.

and variable profit or loss, operating profit or loss and total profit or loss accordingly.

53. Mr Cordara suggested at one point that "cost price" might mean variable cost (although he acknowledged that this was not the way GMUK put its case). That he said had the advantage of being a bright line test which does not leave one asking  
35 where to stop when considering the absorption of other costs. For the reasons which follow we disagree.

54. In *Wollny v Finanzamt Landshut* [2008] STC 1617 the ECJ held (at [26]) that in the context of Article 11A(1)(c) the interpretation of the expression 'full cost' could not be left to the discretion of each member state. It must equally be the case

that “cost price” is an autonomous EU concept although there is no case in which the Court has given guidance on its meaning.

55. In *Wollny* the ECJ held that “full cost” did not preclude a member state requiring that a fixed annual proportion of the cost of a building be treated as part of the full cost of the provision of an asset.

56. Given: (1) that the purpose of Art 5(7) is to achieve equality of taxation between a manufacturer and a purchaser, (2) that cost price is applicable when there is no purchase price, and that purchase prices will in general be fixed so as to ensure that the sale of an asset will make some contribution to the net profit of the business after all operating costs, and (3) that in relation to “full cost”, where the object of the Directive is the similar one of preventing an advantage accruing from the deduction of input tax on private use (rather than equalising the VAT borne by purchaser and manufacturer) the ECJ found that term able to encompass a portion of fixed costs, it seems to us that “cost price” should be given a meaning which includes all the expense of the business attributable to bringing the product to its condition and location at the time of appropriation. Thus it should include:

- (1) The costs of the purchase and transport of materials
- (2) The direct expenses which are attributable to the production including direct labour costs and subcontract costs,
- (3) Overheads, labour and services for the production of the goods including the depreciation of assets used in production,
- (4) Other overhead costs attributable to the production including those relating to the design of the product and the means of production.

57. The attribution of the fixed costs of the business to individual units of production will require some element of judgment for inter alia: (1) fixed costs may benefit more than one product; and (2) the greater the production in a particular period the less the attributable cost of the overhead, and where a cost benefits production over a number of years (such as the costs of a building or the development of a product) a judgment will need to be made as to future sales. It seemed to us that when a manufacturer makes such an apportionment, the proper apportionment is that which the manufacturer adopts for its own commercial purposes. That judgment reflects the manufacturer’s assessment of what he has been willing to pay for what he is treated as supplying.

58. On the other hand it seemed inherent in the idea of cost that expenses incurred in the marketing of the product should not be taken into account even though the price at which a product was sold would normally be set to recover those costs and a purchaser would thus normally have to bear the VAT on that element of the price paid. The requirement to use cost price only where a purchase price was not available indicated that it could provide a limited exception to the broader general principle.

59. We considered that the same principles should apply in construing “cost” in the domestic legislation as “cost price” in the Directive given the presumed intention of the legislation at least in this respect to implement the Directive.

*(4) The standard of proof*

5 60. The appellant suggested that in the case of appeals in relation to periods which stretched back many years there may be an emerging practice of accepting a lesser level of proof or at least of being more lenient to the appellant.

61. We cannot accept this. Were there any such principle, it would have to apply both to appeals where the onus was on the appellant, and those (such as penalty  
10 appeals) where the onus of proof was on HMRC. The proposition that HMRC should be given an easier time when seeking to prove fraud or default in the distant past than they would have in relation to a more immediate time needs only to be stated to be dismissed. The standard must be the same: evidence to persuade the tribunal that one set of facts is more likely than not.

15 *(5) The V&A Case*

62. *Victoria and Albert Museum Trustees v Commissioners of Customs and Excise* [1996] STC 1016 related to a claim by V&A under section 24(5) Finance Act 1989. That section applied where VAT had been paid to the Commissioners “by reason of a mistake”. The claim had to be made under regulations which provided that “if a  
20 person makes an error in accounting for tax he shall correct it in such manner as the Commissioners may require.” V&A made its VAT returns calculating its allowable input VAT on a particular method. It later concluded that this did not give the most favourable result. In the High Court Turner J said that “No error of fact or law had been made [by V&A], simply an incorrect assessment of what would have been most  
25 advantageous” and dismissed the claim.

63. HMRC say that in this appeal the situation is similar because it is difficult if not impossible to arrive at a precise result, in particular a precise calculation of cost. The appellant cannot establish any overpayment by substituting one inherently uncertain method for the method in use at the particular time.

30 64. The appellant’s claim in this appeal is under section 80 which contains no language equivalent to the error or mistaken words applicable to the V&A appeal. So, as HMRC accept, the reasoning in that case is not directly applicable here. We accept that there are some similarities between the two situations but it seems to us that the only question we have to address is whether the appellant can prove that it is more  
35 likely than not that it overpaid VAT.

*(6) Approximations and materiality*

65. Regulation 37 VAT General Regulations 1995, which relates to section 80 claims, requires the claim to be made in writing and to state the method by which the amount claimed is calculated.

66. Because the computation of trading profits for corporation or income tax purposes relies on GAAP and there is inherent in GAAP the concept of materiality, the process of determining such profits is permitted a degree of latitude for judgement and uncertainty. There is no direct translation of this principle into the world of VAT.

5 67. In this context Mr Cordara refers us to the judgement of the ECJ in *My Travel plc v CCE* Case C-291/03 where the court considered apportionment of consideration between two parts of a package. He says that the principle to be taken from that case is that in determining cost we should adopt an approach which reflects the spirit of the Directive in ensuring equality of treatment even if that involves an element of  
10 arbitrariness or the mixing of techniques. What was required was a practical solution which might, where necessary, involve the use of averages where there is significant variation in prices.

68. Mr. Puzey says that this appeal is different from that in *My Travel*. Here the valuation of the supply is governed by express legal provisions; in *My Travel* there  
15 were two potentially lawful valuation methods. The ECJ did not simply require the domestic court to muddle through: what had to be achieved by the use of either method was an outcome as close as possible to that which would result from the general VAT scheme. But he accepts that averages are not precluded.

69. It seems to us that there might in theory be an absolute answer to the question  
20 "if GMUK paid too much VAT, how much did it overpay?", but we are not called upon to answer it; instead we have to answer the question "in the VAT periods in the Claim Period what, by reference to the nature of the claim made under reg 37, is the maximum amount of tax which GM UK is likely to have overpaid". Where a particular variable fluctuates in period, the right sort of average will assist in an  
25 answer to that question. Where we have to determine "cost price" the object of the Directive will point to the costs to be included. Where we have to determine purchase price those objects should guide us to determination of the likely figure.

(7) *Section 80 and 83 VAT Act 1994*

70. GMUK makes its claim under section 80 VAT Act 1994: a claim that it has paid  
30 HMRC an amount by way of VAT which was not VAT due. Section 121 FA 2008 permits such a claim to be made outside the three year time limit in section 80(4) if the claim relates to a period ending before 4 December 1996 and is brought before 1 April 2009.

71. Section 83(1)(t) permits an appeal with respect to a claim for repayment of an  
35 amount under section 80.

72. It seems to us that in determining such an appeal the jurisdiction of the tribunal is not limited to allowing or dismissing the appeal. It has a duty to determine the amount of the claim. Otherwise for example small inaccuracies in the claim could make an otherwise good claim ineffective and the right of appeal would be all but  
40 illusory; indeed a taxpayer would not have an effective route to obtaining those rights afforded to him by EU laws in relation to the repayment of overpaid output VAT.

73. GMUK ask us to adopt a two-stage approach to this task. To ask first "has GMUK overpaid tax?", and then to ask "by how much?". HMRC challenge that approach: they say that the appellant must prove that tax had been overpaid in an identifiable sum; unless such a sum is demonstrated there is no claim.

5 74. It seems to us that we cannot conclude that tax was overpaid without concluding  
that it was likely that at least a particular amount was overpaid. A conclusion on the  
evidence that it is likely that at least £X (where X is greater than zero) was overpaid  
means that the appellant's claim would succeed as to £X. But it is a conclusion which  
shirks the tribunal's duty to settle the appeal, because it leaves open the question of  
10 whether it is likely that more than £X was overpaid. Our duty must be to determine, or  
at least, having found all relevant facts on the evidence before us, to set out the  
principles for determining, how much tax (if any) was likely to have been overpaid.

### **The History of the Appeal**

15 75. As we have explained, in 1978 there was a change in the UK provisions for  
calculating the notional consideration on self-supplies: the change was from open  
market value (for which HMRC accepted a proxy of 75% of list price) to cost. In  
anticipation of the change HMRC corresponded with the Society of Motor  
Manufacturers and Traders ("SMMT") explaining the changes. Correspondence  
ensued about the practicalities of determining "cost". Reports were received by  
20 HMRC from manufacturers including GMUK of the percentage which their  
calculation of costs represented of the retail price of their cars. GMUK provided a  
weighted average cost as a percentage of list price of 66.23%. HMRC accepted the  
practical and theoretical difficulties involved in the determination of cost and wrote to  
SMMT on 1 February 1978 saying that the use of the retail list price less 33 1/3%  
25 would be acceptable as the basis of tax on self supplies of cars by volume  
manufacturers. The annex to that letter said:

"The following are acceptable basis of value for self supplies motor cars -

1. Self supplies by manufacturers

30 (a) Volume car manufacturers (Chrysler, Ford, Leyland, and Vauxhall) -  
retail list price (exclusive of VAT and car tax) less 33 1/3% plus  
car tax;

(b) Others: cost of manufacture of the car, including overheads ...

2. Self supplies of cars by other traders

35 (a) Importers  
CIF UK cost ...

(b) Others  
the purchase price ...".

40 76. GMUK's case is that throughout the period from 1978 to 1996 it used the 2/3  
proxy for cost for all cars, whether imported or manufactured, which were taken into  
its own use.

5 77. The cars which GMUK took into its own use in its business were used as demonstrator cars, press cars, pool cars and cars for GMUK's staff. After they had been so used for a while (on occasion it appears even for less than six months, and generally for periods not much longer than a year) they were sold as second-hand cars.

10 78. Until the decision of the ECJ in 1997 in the case of *Commission v Italy* C-45/95 [1997] STC 1062 (the *Italian Republic* case), it had been assumed by the UK legislature (and accepted by GMUK) that GMUK's sales of the "second-hand" cars were subject to VAT. Article 6 of the 1980 Cars Order and Article 7 (4) of the 1992 Input Tax Order provided that the VAT should be charged on the excess of the consideration received on the sale of the second-hand car over the value of the self supply.

15 79. Thus until *Italian Republic* if a car had a list price of £100, GMUK says it accounted for VAT on £66 2/3 when it took into its own use, and when it then sold it "second-hand" for, say £80, it would account for tax on a further £13 2/3. GMUK say that it was rare for a car to be sold after its own use of it at less than the equivalent of £66 2/3.

80. After *Italian Republic* it was recognised that the sale of such a second-hand car was in fact exempt from VAT as a result of article 13B(c) of the Directive.

20 81. This case sparked a claim by GMUK for repayment of the VAT it had paid on the sale of the second-hand cars. The claim was made in 2005/6 and, after verification, was agreed by HMRC and paid in 2007. The making of the claim involved the presentation of schedules estimating the numbers of cars which had been sold second-hand in each year from 1973 until the formal recognition of the exemption for the second-hand car sales.

25 82. GMUK say that before the settling of the *Italian Republic* claim it did not matter much what amount was used for the value of the self supply. If the amount under the relevant legislation properly construed was VAT on £50 rather than on £66 2/3, then the difference would have been picked up when the car was sold. The only effect was that some of the VAT would have been payable earlier: there would be a continuing cash flow disadvantage. But when the *Italian Republic* claim was agreed it became clear to GMUK that the VAT on any excess of the 2/3 proxy figure over the proper figure had been a real cost.

30 83. On 30 March 2009, the day before the deadline imposed by Finance Act 2008 for the making of claims more than 3 years old, GMUK wrote to HMRC making a claim for the repayment of overpaid VAT in relation to self supplies of cars in the period from 1 January 1978 to 31 October 1996. The claim was made on the basis that the self supply charge should have been calculated by reference to the cost of the cars used and that that cost was less than the 2/3 proxy. The letter explained that there were no longer records of actual cost and set out a method for estimating actual cost on the basis of the information available to GMUK.

84. HMRC rejected this claim and GMUK appealed. Following the making of the appeal there were further exchanges of information and discussions between HMRC and GMUK. GMUK amended the basis of its claim. By the time of the hearing GMUK had limited its claim to the years 1987 to 1996. (Mr Puzey suggested that the  
5 limitation of the claim to those years may have arisen as a result of a conclusion that VAT may have been underpaid in some earlier years, but HMRC did not contend before us that any set off under section 81(3A) VATA should apply.)

85. HMRC accept that the amendments to the claim did not constitute fresh claims which would be out of time. This decision therefore relates to GMUK's claim that,  
10 between 1987 and 1996, VAT was overpaid in relation to the self supply of cars.

### **The Evidence**

86. We heard oral evidence from the following (the dates we record of the witnesses' activities are limited to the Claim Period of 1987 to 1996 and the date of the SMMT agreement):

15 (1) John Fulcher, the chief financial officer of GMUK. Mr Fulcher had worked for General Motors entities since 1974. In 1993 he had been responsible for collating the group's internal profitability report, the "FIN 51", between 1994 and 1996 had worked on transfer pricing in Europe and then, after a year in Ireland as Chief Financial officer, had returned to Luton as financial  
20 controller.

Mr Fulcher prepared calculations of the costs of the self supplied cars which formed the basis for the appellant's claim in this appeal.

25 (2) Maurice Howkins, the Fleet Sales Customer relations Director of GMUK. He had worked for GMUK since 1984, he had been Fleet Operations manager from 1991 and Fleet Sales Director from 1996; prior to that he had been involved in fleet sales in the remainder of the Claim Period. He gave evidence on the Fleet Sales process and the discounts given to Fleet customers.

30 (3) Edward Sabisky, who was financial controller of GMUK from 1989 to 1991, and finance director from 1994 to 1997. From 1991 to 1994 he had been in the US. He gave evidence on Fleet Sales discounts and the group's profitability.

(4) Andy Gilson, who from 1989 had been the manager of Vauxhall's forecasting and business planning team and from 1992 to 1997 in Vauxhall's marketing strategy team. He gave evidence of dealer margins and pricing.

35 (5) Peter Milbourne, who from 1996 had been GMUK's VAT specialist, and gave evidence as to the reporting of the self supply charge.

(6) Chris Hancock, who joined GMUK in 2006 and had been responsible for the negotiation of the *Italian Republic* claim. His evidence was relevant to the numbers of cars self supplied in the Claim Period.

(7) Michael Bacon, who from 1990 to 1998 had been GMUK's European Regional tax counsel. In 1998 he left to become a partner at KPMG, who act for GMUK in this appeal.

5 (8) John Davison, who had no direct connection with GMUK but had worked at Caterpillar and Nissan between 1970 and 2005 and had experience of costing methods and of changes in the industry in the period since 1978.

10 (9) Bill Robinson, head of economics at KPMG. Mr Robinson had extensive experience in economic forecasting. He provided a model based on macro economic indicators which estimated how the cost/price ratio of GMUK's cars had moved between 1978 (when the SMMT formula was settled) and 2003, linking his model to the results for cost and list price obtained by Mr Fulcher from the FIN 51 data for the period 1998 to 2003.

15 (10) Matthias Holweg, Reader in operations management and Director of research at the Judge Business School in Cambridge. Dr Holweg had considerable expertise of the economics of the car manufacturing industry. He gave his opinions on the method used by Mr Fulcher and the economic model used by Mr Robinson.

87. Reports on the car industry were produced by the Competition Commission in 1992 and 2000. These recorded findings in relation to GMUK.

20 88. We did not have evidence of the accounting records of GMUK in the Claim Period. We accept that GMUK's policy is to retain records for 10 years and then to destroy them, and that records from the Claim Period were therefore no longer available. Although we had published accounts for the period, figures for cars sold by model, and there were one or two other bits of paper before us which had slipped  
25 through this net, we had no contemporaneous records of costs.

89. We make our findings of fact in the sections which follow: a statement that something is the case is our finding that it is.

30 90. Where we say that a certain percentage should be increased or decreased by X% we mean that X% should be added to it or subtracted from it (rather than that the percentage should have X% of it added to it or subtracted from it).

### **Fleet Discounts**

35 We start by considering the evidence in relation to fleet discounts, not because the claim was made principally by reference to them, but because they seemed to us to be particularly relevant to the determination of purchase price which, on our approach to the legislation was to be considered in all the Claim Periods.

#### *(a) Background*

40 91. In the Claim Period GMUK rarely sold a new car at list price. Customers obtained discounts on list price from dealers (who themselves acquired the cars wholesale from GMUK at a discount of up to 18.5% of list price), and if they were fleet purchasers (who generally bought from dealers, and received some discount

from the dealer) additional discounts in the form of direct subsidy or ‘rebate’ from GMUK.

5 92. Dr Holweg and Mr Robinson agreed that the main mechanism for adjusting supply and demand for new cars was by giving discount or rebates to dealers and fleet customers.

10 93. Fleet sales were a significant part of GMUK’s sales in the Claim Period, forming for example in 1990 more than 60% of cars sold and up to 73% for certain models. A fleet purchaser we take as being, broadly, a customer which had more than 25 vehicles of any make on the road. Some large corporates, and in particular the rental companies and driving schools had many thousands of cars.

15 94. GMUK say that evidence in relation to discounts from, and rebates of, retail list price given to large fleet purchasers is relevant for two purposes: (1) had GMUK been a purchaser of the cars it used it would have been accorded the discount normally given to a large fleet purchaser; that discount will therefore determine “purchase price” if relevant; and (2) because it says that it never sold cars at below cost, the cost price of the cars cannot have been greater than list price less the maximum fleet discount (we call this the “upper bound” argument).

20 95. The fleet customers’ discount deals were generally negotiated over a period of several months. The terms would generally specify different discounts for each type of car. The contracts lasted for up to 3 years when they could be renewed. In some cases slower moving cars might be added to rental contracts and, we inferred, benefit from a higher discount.

*(b) the size of and variation in discounts and rebates*

25 96. The 2000 Competition Report estimated that in 1998, private customers obtained, on average, a discount from the dealer from whom they bought of about 12%, and that fleet customers received an additional subsidy from the manufacturers the level of which depended inter alia on: (1) the number of cars being bought (it said that those who bought large numbers such as rental companies tended to obtain the highest level of total discount), (2) the use to which the cars were put (an advertising benefit being claimed for the use of cars by rental companies, and we believe by driving schools), and (3) negotiation between the parties.

35 97. We accept also that the length of the contract, the models of the cars (because, as we accept under “*Rich Mix*” below, the higher the specification cars had list prices which were at a greater margin over manufacturing cost), and minimum car retention times were relevant to the total discount given. In this context we also noted that all the sample contracts exhibited by Mr Sabisky imposed a minimum retention period of 5 months or 12,500 miles.

40 98. The 2000 Competition report estimated that in 1998 the average total (manufacturer’s and dealer’s) discount given to fleet customers by 10 manufacturers varied between 18% and 38% (although not all the figures included the discount ceded by the dealer). The variation from the mean was not given. A Table showing

5 weighted average fleet discount given by the manufacturer only across six manufacturers between 1994 and 1998 showed a range of between 10% and 19.3% with information from four manufacturers showing total weighted average discount of between 16.3% and 37.7% in that period. Again no figure for variation from each manufacturer's mean was given.

10 99. Table 7.38 of the 1992 Report shows the distribution of the levels of the aggregate fleet of discounts and rebates (respectively from both manufacturer and dealer) across the major suppliers between 1986 and 1999, the figures for each year representing the percentage of fleet operators who were given the stated total discount:

%Discount Level	1986	1987	1988	1989	1990
0-5	-	-	1	1	2
5-10	1	1	0	0	0
11-15	23	26	16	12	8
16-20	51	46	53	53	54
21-25	2	5	9	10	8
26-30	1	3	3	6	8
31-35	22	17	16	16	8
36-40	-	2	0	1	12
41-45	-	-	2	0	0
46-50	0	-	0	0	0
50+	0	0	0	0	0
Average discount	21	20	21	21	22

15 100. Information from Vauxhall fed into these figures for the years 1989 and 1990 only. The definition of 'fleet' was not necessarily uniform across those supplying the information. It can be seen that a significant percentage obtained total discounts of 31-35%, but there were few above that level.

101. The 1992 report records GMUK's estimate that in 1990 the average discount given by its dealers on fleet sales was 15.8% and that for 'national account holders'

the company gave an additional average discount of 6.1%. Mr Howkins told and we accept that 'national account holders' would include smaller fleets.

102. Dr Holweg told us that the levels of rebate tended to increase over the lifetime of a model. Rebates for fleet buyers would be in the order of 30-40%; the very big rental companies would receive discounts of 40% or more. Rebates were used to push volumes in an industry which required high capacity utilisation.

103. Mr Sabisky told us that from 1989 GMUK pursued a policy of increasing both list prices and discounts. Customers felt that they got a good deal when they got a large discount.

104. Until 1991 GMUK supplied its cars to dealers at a discount of up to 18.5% of list price. As a result of some pressure from the Competition Commission enquiry, when the new Astra was introduced in 1993 this margin was reduced to 13%, and in the following three years the same reduction was applied to other models as they were changed and updated.

105. For the big rental company fleet sales the dealer would pass on all but 2 or 3% of its discount to the customer.

106. Mr Howkins told us that a discount of 40% was at the very top end of discounts given. Such discounts could be given to rental companies taking 40,000 cars a year. He provided his recollection of a number of deals negotiated in the late 80's and early 90's in which significant discounts had been agreed:

Year	Cars per annum	Discount/Rebate	Comment
Late 80's and early 90's	>1,000	59.5%	A 'marginal agreement which was close to not covering variable cost
	750	45%	
1991	5,000	23%	+ceded dealer discount of up to 17% = 40%
1994	5,000	26%	+ceded dealer margin of 10-13% = 36-39%
1990's	7,000	33%	+ additional payments +buy back

			agreement
1982-96	5,000	40%	

107. Data from 2011 GMUK fleet customers showed some customers receiving average direct rebates of over 40%. Mr. Howkins said the picture was similar in the Claim Period. Not all of these customers took very large numbers of cars: in some categories discounts of between 41% and 46% were given to customers taking less than 100 cars. But among the higher rebates were customers taking over 3,000 cars. 25% of customers obtained a rebate of over 35%. Almost all fleets obtained a rebate of over 20%.

108. HMRC say that these figures showed no correlation between the size of fleet and rebate. We accept that a big fleet is not a necessary condition for a big discount, but we find that the evidence showed that a fleet of over 3000 cars was more likely (but not certain) to be given a big rebate (of between 20 and 40%), and although other factors might influence the rebate, that the bigger the fleet, the more likely a discount at the larger end of the range than at the lower end.

15 (c) *What Price would GMUK have purchased its cars for?*

109. It seems to us that in determining the notional purchase price we should treat GMUK as acquiring the cars it actually used on the terms it used them. The object of comparability with a business purchaser is not achieved by determining what it could purchase one car for and then multiplying by the number used. Thus we consider first what discount and rebate GMUK could have agreed as a fleet purchaser negotiating for the acquisition of the cars it used on the terms and for the periods it used them.

110. For the reasons set out in the section below dealing with "N" (see [151ff]), we accept that GMUK took into its own use between 13,000 and 20,000 cars in each year (see paragraphs[161ff] below). These cars we accept would have been of a higher than average specification for the reasons set out under *Rich Mix* Below.

111. The cars were retained generally for less than a year. GMUK's Italian Republic claim related to the excess of the price at which the own use cars were eventually sold over the two thirds proxy. We were told and accept that it was rare that such cars be sold below two thirds proxy. The relative youth of the cars must have contributed to their resale value.

112. Thus it seems to us that if GMUK were to obtain a discount of more than 33 1/3% it could make a gross profit on the resale of its fleet cars if it bought them on the terms it actually used them. This might be something which a seller might wish to take into account.

113. We accept that although there were factors other than volume, Dr Holweg, Mr Fulcher, Mr Sabisky and the Commission Reports all indicated that a purchaser of a large number of cars was more likely to obtain a higher discount. We accept that a

purchaser of 3,000 or more cars would in the absence of special circumstances likely to obtain a direct rebate of at least 30% and would obtain some discount from a dealer too: that discount, before 1991 and on some models until 1993, could be of up to 15% and thereafter up to about 9 or 10 %.

5 114. Mr Howkins and Mr Fulcher said that for a fleet of 20,000 cars a discount of at least 40% would have been agreed. Mr Fulcher was clear that the number of cars a customer would take was the most important factor in setting a discount although there were other factors which would be relevant.

10 115. In any notional negotiation between GMUK and a dealer the following factors would in our view have been relevant: (1) the number of cars per annum which were needed - some 20,000 pa. This would have been a very large fleet customer; (2) no particular mass marketing purpose would be served, (3) it would have been clear that GMUK would not have purchased cars from any other manufacturer for its own use: its negotiating power would have been more limited, (4) GMUK would probably want  
15 more of the higher specification cars which were more profitable and on which a higher discount might therefore be agreed, (5) the period of the contract could be long, and (6) minimum car retention times were short (less than a year) and when GMUK sold the cars they would be likely to reach 66 2/3% of list price at least.

20 116. Whilst we accept Mr Howkins' recollection of the agreements he lists, it seems to us that the variation in discounts indicates that not all large fleet purchasers would receive the level of discount as in his examples. Mr Howkins' figures provide some insight however into the variation of discount around the averages mentioned in the Competition Commission reports. The table reproduced above from the 1992 Report is particularly helpful in this regard.

25 117. It is difficult to imagine all the twists and turns of a 6 month notional negotiation between GMUK and its supplier. We feel that it is unlikely that GMUK would have obtained less than the average discount and rebate, but would not have achieved the same level of discount as the rental companies or driving schools: its use would not have had the same marketing potential. The evidence we shall recount later  
30 suggests that it would have wanted higher specification cars; they were more profitable and a higher rebate might thus have been available. But it would have suffered in the negotiations because it would not in practice have been able to say that it would go elsewhere to take another producer's cars (we were told that GMUK had for reason of its own prestige declined a fleet offer from another manufacturer.).

35 118. Overall we find that it has not been proved that it would have obtained a total aggregate rebate and discount of more than 33.33%.

119. In relation to cars which were or could be imported by GMUK from sister companies different considerations may apply. We address those after the next section under the heading "Purchase Price: imported and importable cars".

40 *(d) Discounted Fleet prices as an upper bound to cost.*

120. We turn to the parts of the evidence relevant to this question.

No sale at a variable loss.

121. We accept Dr Holweg's evidence that a manufacturer could sell cars below variable cost to boost sales, clear excess stocks or attract specific business. Indeed Mr Sabisky told us of that practice by another, less successful, manufacturer for which he had worked.

122. Mr Fulcher and Mr Howkins asserted that a car would never be sold by GMUK at a variable loss, as they understood that term. Mr Sabisky, who had been financial controller in the UK from 1989 to 1991 and 1994 to 1997, and had had oversight of the UK's activities in the intervening period, was clear that his job was to prevent the selling of cars at a variable loss, and that no car had been so sold. On the other hand we note Mr Davison's evidence that aging stock might be passed to employees, included in a package of cars going to a rental company or another large purchaser where a package of discounts might disguise a special rebate.

123. In the table above we record Mr Howkins' example of a 59.5% discount. Mr Fulcher told us that at this level of discount "fixed cost would not be recovered". Mr Fulcher also provided example calculations showing what he meant by variable loss, his example illustrating that a discount of up to 54% could be allowed before a sale would give rise to a variable loss.

124. We take neither of these facts as casting doubt on the assertion that cars were not sold at a variable loss. Mr Fulcher's example was not, and could not have been, based on costing information relevant to the time of the discount concerned; in the same way his oral comment was not based on figures for the Claim Period; but more than that his statement was that fixed costs would not be recovered, not that variable costs would not be.

125. If in Mr Howkins' example transaction of the 59.5% discount the sale price covered variable cost, and if, as Dr Holweg suggests, materials costs represent 65% of operating costs (excluding marketing and selling costs), then the operating costs related to those cars would not have exceeded 60% of list price in relation to the particular cars the subject of that deal. This however was clearly an exceptional transaction (see the table above) and we think that on a transaction in which a discount of 40% was given the margin over variable cost would not have been large. Overall we conclude that Mr Howkins' example does not show that operating cost (less marketing) were less than 66.66% of list price.

#### Competition Commission report figures

126. The 1992 report, as noted above recorded Vauxhall as giving average total discounts in 1990 of about 22% (=15.8 + 6.1). It was not clear whether this average was weighted by volume. If it was, then so long as its operating costs were less than 78% of list price it would have made an operating profit on fleet sales (and its accounts show that it made a total operating profit in the Claim Period which suggest that the fleet sales business cannot have been too much of a drag on profits and that operating costs were somewhat less than 78% of list price). If it was not a weighted

average then, since it is likely that the higher discounts would generally be awarded to larger fleets, the weighted average discount would be higher, but given the paucity of fleets receiving more than a 35% total discount it is unlikely that the weighted average discount exceeds 35%. That would suggest that an operating profit would be made on fleet sales if operating costs were less than 65% of list price.

The 2000 Competition Report included a hypothetical calculation which suggested that the maximum discount which could be given was 25% before the sale would be loss making. We did not find this helpful in relation to the question as to whether cars would be sold at a variable loss since the costs in the calculation were not limited to variable costs. Nor did we find it specific enough to assist in the question of the cost of a car to GMUK.

#### Mr Sabisky's evidence

127. Mr Sabisky told us that during the Claim Period the FIN 51 showed the variable costs of producing vehicles. He said that there had been a lot of debate about precisely what variable cost was. But he recalled that in the 1990s their policy was that the minimum acceptable profit on a fleet deal was the FIN 51 variable cost plus DM400 variable profit. We accept this evidence although we think it possible that there may have been the exceptional sale – perhaps of cars which were not selling well – where something akin to sale below variable cost may have occurred (disguised perhaps in part of a package of other cars). We do not regard Mr Howkins' examples as falling into that category.

128. We note also the evidence that GMUK made a profit on spare parts (which represented 5-8% of turnover), and that each car sale carried with it an expectation of later profit on spares. Thus a sale at below variable cost might be subsidised by later profits on spares.

#### Discounts – an upper bound to costs – conclusion.

129. We accept that fleet deals never, or hardly ever, gave rise to variable losses. We accept that exceptional discounts of up to 59 % were given. We accept therefore that in the Claim period variable costs on such deals would not have been more than 41% of list price, but we are not convinced that this would have been the case for all cars at all time in the period. We are unwilling to conclude that variable costs were less than 50% of list price.

130. But this tells us little about the comparison of operating costs less marketing costs - with list price. We were not able to conclude from the evidence that it was likely that operating costs (less marketing costs) were less than 66.66% of list price.

#### **Purchase Price: Imported or importable cars**

131. For corporation tax purposes section 770 TA 1988 requires that in computing the profits of the buyer from an associated company, goods should be treated as acquired for an arm's length price if the actual price was greater than the arm's-length price. In the same vein the double tax treaties between the UK and Germany, France

and Spain provided that if conditions were imposed between two associated enterprises (which would include GMUK and its sister subsidiaries) which differed from those which would apply between independent enterprises, profits which, but for these conditions, would have accrued to one of the enterprises would be taxed as if they had arisen. As a result of these provisions GM companies negotiated with the fiscal authorities of the jurisdictions in which they operated transfer prices which would be applied to both seller and purchaser on the intra group sale of cars and parts. In the UK those negotiations led to the adoption by GMUK, in at least some of the years of the Claim Period, of a policy under which it agreed to purchase cars for a price which meant that on a sale it made a set percentage profit of the sale price (see “CI%” below).

132. It is clear to us that HMRC and GMUK and the other European fiscal authorities were involved, and that they would all have considered this issue very carefully. It would be likely that the agreed price was not likely to be more than the arm's-length price for the imported cars. We conclude that the purchase price for cars imported or which could be imported subject to these arrangements did not exceed the price agreed under them.

133. As a result for cars which were, or could have been imported, that must be the maximum purchase price.

**20 The amount of VAT claimed as overpaid.**

134. GMUK’s claim was not made on the basis of purchase price but of cost. We now turn to the way in which it put forward its claim to HMRC.

135. GMUK calculated its claim for each year in the Claim Period by estimating for that year the tax it says it had paid, and deducting therefrom an estimate of the tax it says it should have paid. We describe the stages of this calculation and then examine the evidence for the figures used.

136. Both these calculations started with an estimate for the number of vehicles which GMUK took into its own use in any year (N).

137. The weighted average list price for imported (LPI) and UK assembled cars (LPUK) was then estimated for each year.

138. The percentage (I%) of imported vehicles sold by GMUK was estimated for each year.

139. The VAT actually paid was estimated as the relevant rate of VAT multiplied by:

$$\frac{2}{3} \times N \times I\% \times LPI + N \times (1-I\%) \times LPUK$$

35 on the basis that GMUK had used the 2/3 proxy for all the cars it took into its own use – including imported cars.

140. The cost price of UK manufactured vehicles as a percentage of the list price (C% ).

141. An adjustment was made to C% to reflect the "richer mix" of cars taken by GMUK employees. This was a deduction of 3.1%.

5 142. The cost of imported vehicles as a percentage of list price (CI %) was estimated.

143. The total actual cost of the own use vehicles was thus estimated as

$N \times LPI \times I\% \times CI\%$  : i.e. the portion of total list Price of the vehicles used which were imported multiplied by the import cost/price percentage

plus

10  $N \times LPUK \times (1-I)\% \times (C\% - 3.1\%)$ : i.e. the portion of the aggregate list price of the vehicles used which were manufactured in the UK multiplied by the rich mix adjusted UK manufactured cost/price percentage.

144. To the sum of these items was applied the relevant rate of VAT for each year to obtain an estimate for the VAT actually paid.

15 145. Thus it may be seen that the accuracy estimation of the VAT overpaid was dependent upon the estimates for N, LPI, LPUK, I, C, and CI, for each year in the Claim Period, the accuracy of the 3.1% rich mix deduction, and the assertion that GMUK used the 2/3 figure in its VAT return computations.

20 146. In the following sections of this decision we consider the evidence for these estimates, the accuracy of the calculations, and whether the principles of their computation are apt to obtain their objective. But before we do so there are two points to make.

25 147. First, the accuracy of the claim was dependent, not only upon the accuracy of these calculations and estimates, but also upon an acceptance that the method itself is apt to obtain its objective: ie does not introduce inaccuracies or wrong assumptions.

148. Second, our task is to determine on the available evidence what is more likely than not, not simply what is reasonable. We have struggled to avoid saying that because something seems sensible it must be right.

*N: the number of vehicles taken into own use each year.*

30 149. GMUK used the number of vehicles which had been accepted by HMRC as self supplied in GMUK's *Italian Republic* claim.

150. HMRC put the appellant to proof of this number. There was no evidence before us that HMRC had audited figures relevant to the claim, but we accept the evidence that HMRC tested the computation against similar computations of other car

manufacturers and by comparison with SMMT data. But their acceptance of that claim is not, we believe, conclusive of the accuracy of the numbers.

5 151. In that claim, the number of vehicles taken into own use in each year was calculated by multiplying the number of passenger vehicles sold (rather than registered) in that year (taken from GM's records) by a percentage estimate of the proportion of those sales taken into own use.

152. We had some difficulty understanding the precise source of all the figures, but eventually we came to these conclusions:

10 (1) GMUK's accounts for each year set out the number of UK registrations of its cars in that year;

(2) records were also kept by GMUK of total vehicle sales in the year ("GM's sales figures");

(3) because the registrations could lag behind (or be ahead of) sales, the figures were not the same;

15 (4) the SMMT had records of total registrations in each year;

(5) the SMMT figure for total registrations for each relevant year was multiplied by the percentage of GM's share of those registrations (which appears in GMUK's accounts) to give what we will call the "SMMT Vauxhall registrations";

20 (6) oddly, the SMMT Vauxhall registrations figure did not match the figure for registrations in GM's accounts, but was, at least in the Claim Period, higher by no more than about 4%;

25 (7) for the years 1997 to 2006 Vauxhall had precise figures for the numbers of cars used within the business and later sold. For each year in that period this figure was expressed as a percentage of the SMMT Vauxhall Registrations. We call this percentage the "Use percentage".

(8) The Use percentage thus calculated was less than that which would have resulted from using GM's registrations figure;

30 (9) For years before 1997 a Use percentage was estimated. The 1997 Use percentage was 5.64%. So 5% was used for 1990 to 1996, but for 1987 to 1990 6% was used. The logic for the change was that, as Mr. Hancock told us, and we accept, GM introduced an employee car ownership plan in that year so that before that date there had been greater numbers of company cars;

35 (10) the Use percentage for each year was then multiplied by GM's Sales Figure for each year to give an estimate of the cars taken into own use in that year.

153. HMRC raised two concerns with this calculation.

154. First they say that the GM sales Figure included vans (which it did); vans were not subject to the self supply charge.

155. We do not think that this means that the estimate for own use cars is inflated by the inclusion of vans. This is because, in the calculation of the Use percentage, the number of own use cars was divided by sales of cars and vans (because 'registrations' included vans). Thus, when multiplied by a number representing cars and vans, the result represents cars only.

156. Second, they note that the volumes of GM's Sales vary in the Claim Period (for example 290k in 1992 up to 325k in 1993, 312k in 1996 and 277k in 1997). Yet the estimated use percentage is static at 6% in the first 3 years, and 5% in later years, even though employee numbers dropped steadily over the period.

157. We find this a greater concern.

158. The following table shows the number of cars per employee on the basis of the estimated number of own use cars.

Year	Number of employees	"N"	Cars/employee
1987	11,492	17,606	1.53
1988	10,943	20,720	1.89
1989	11,132	23,520	2.11
1990	11,268	18,010	1.60
1991	11,248	13,033	1.15
1992	11,042	14,483	1.31
1993	10,554	16,286	1.55
1994	9,917	16,697	1.68
1995	9,641	15,872	1.64
1996	9651	16,606	1.61

159. (Employees often kept their cars for less than a year; thus the fact that the number of car per employee is greater than 1 does not indicate that each employee had more than one car.)

160. Whilst it is possible that changes in personnel and car policy, and the timings of acquisitions and disposals of cars over the period would result in fluctuations in the numbers of cars per employee used in GM's business, there was no evidence upon which we could reach the conclusion that those changes had the effects shown.

161. We accept that GM's sales figures in the calculation were likely to be correct. We accept that the Use percentage for 1997 was calculated accurately. Had car volumes and employee numbers remained relatively constant over that period we would have accepted that the estimated Use percentages for 1987 to 1997 were likely to have been correct. However the fluctuations in sales volumes and cars per employee shown in the table above gave us concern. But that concern was dispelled by the fact that the figure for appropriated cars drawn from GM's system for 1997 was 18,718 and, with the exception of 1987, 1988 and 1989 (for which there was evidence of slightly higher employee use) the estimates for other years were well below that figure, and were for years with a greater number of employees.

162. We conclude that it is likely that estimates for N are not overstated.

*LPUK and LPI : The weighted average list prices for UK manufactured and imported cars.*

163. The original claim made by GMUK in March 2009 used sales volumes from SMMT records to weight prices of cars obtained from Glass's guide. The method of calculation was later refined, and that which the appellant put before us was compiled on the following basis.

164. GMUK's records were used to obtain numbers of vehicles sold per model in each year between 1989 to 1996, distinguishing between assembled and imported cars.

165. SMMT figures were used to obtain the number of registrations per model for 1987 and 1988. These numbers were used as a proxy for the number of vehicles sold. Registrations may lag behind sales (although, as Mr Davison noted, in a year in which a company wants to improve its statistics it may be the other way round). The Appellant says that the difference does not have a material effect on the weighting calculations. (Registration figures are not used for the more sensitive calculation of N.)

166. This data was used to determine the number of vehicles of each model sold each year in the Claim Period, distinguishing between imported and UK assembled cars. The data does not differentiate between the trim levels of each model.

167. The list price for each of the models was obtained from Glass's guide. The Glass's guide figures differentiate between different trim levels. A straight-line average of those figures was taken for each relevant model.

168. Taking imports and manufactured cars separately, the sales volume by model was multiplied by that average and the total divided by total sales volume to obtain the weighted average list price for each year for imported and for UK manufactured cars.

Commentary

169. No challenge was made to the arithmetic of the calculations. We followed through a few of the figures and were satisfied that they were accurately computed. We concluded that the figures for LPUK and LPI were accurately derived in accordance with the method. No verification of the data on GM's sales was provided.

5 170. But various inaccuracies are inherent in this method:

(1) it is assumed that prices were constant over a year and that sales were not higher in parts of the year when prices were different. There were 10 price increases between 1986 and 1989.

10 We did not have information which enabled us to determine at what time in a year the Glass's Guide information was gathered and what the pattern of sales over a year would have been. On the information before us we were satisfied that LPUK and LPI would not be overstated if the price figures for the preceding year were applied;

15 (2) it is implicit that the mix of cars used by GMUK is the same as the mix of cars sold. Mr. Fulcher's and Mr. Howkins' evidence was that in relation to any model, the cars taken by GMUK staff would have a higher specification than the average sales. An adjustment is made for this factor - the "rich mix" factor at a later stage in the computation in computing the cost/list price ratio for UK manufactured cars. We discuss this below, but in relation to LPI we note that if  
20 the self supply was of a "richer mix" of higher value cars than the average the claim would be understated by  $N \times I \times (2/3 - CI\%) \times (LPI(\text{rich}) - LPI)$ , where LPI(rich) is the weighted average list price of the rich mix cars actually used. We had no information on which to assess this number and conclude that it was not shown that it was likely that there was as a result of any rich mix in  
25 imported cars used for its own purposes any understatement of the claim; and

(3) for 1987 and 1988 SMMT car registration data, rather than GMUK sales data, was used to obtain the numbers for each model.

30 Given our earlier comparison which showed that the figures for SMMT registrations exceed GMUK's figures by no more than 4%, it is clear to us that this would not affect our conclusions at the level of accuracy at which we are drawing them

171. Therefore, subject to any adjustment required by (1) we were satisfied that the calculated weighted average list prices of manufactured and imported cars (LPI and  
35 LPUK) were not likely to exceed the actual weighted average list price of the cars sold any year.

*The use of the two thirds figure from 1978*

172. GMUK's claim is on the basis that it accounted for VAT on 2/3 of the list price of its self supply on both manufactured and imported cars.

173. As we have related, in late 1977 there were discussions between HMRC and SMMT. Various figures for cost/price ratio were supplied to HMRC including a weighted average ratio produced by GMUK which was 66.23%. HMRC then agreed that a 2/3 proxy could be used by the motor industry.

5 174. HMRC acknowledge that this 2/3 ratio was the basis on which volume manufacturers accounted for VAT thenceforth on the cars they manufactured. They do not admit however that such manufacturers also used the same two thirds proxy for imported vehicles.

175. We turn to the evidence.

10 176. The 1978 letter from HMRC to SMMT quoted in the section "History of the Appeal" above distinguishes between the treatment of manufacturers and importers. For volume manufacturers such as Vauxhall the two thirds proxy was accepted; for importers the required basis was cost. It is possible to read the letter as saying that  
15 volume manufacturers such as Vauxhall could use the two thirds proxy for all cars since the terms of the letter distinguish between the types of trader rather than the source of the relevant car; it seems to us, however, that it is intended to require that cars imported by volume manufacturers should be accounted for at cost and not under the two thirds proxy.

177. Mr. Bacon, who joined GM UK in 1990 as European Regional Tax counsel,  
20 told us that he became aware of the use of the two thirds proxy shortly after his arrival. He said that although he was not directly involved in the preparation of the VAT returns, his recollection (although it was 14 years ago and his recollections were not complete) was that the two thirds proxy was used both for manufactured and imported vehicles, and that the use of the proxy had been a long-standing practice.

25 178. Mr. Bacon explained that using actual cost for imported vehicles would have been administratively very difficult. It would have involved tracing each own use car back to its import and then applying the rather complex transfer pricing 'retro' calculation described later. However he said that he had never made any enquiry to determine whether or not the two thirds proxy was actually being used for imported  
30 cars.

179. Mr. Milbourne joined GM in 1996 as a VAT specialist. He told us that the two thirds proxy was then being used for imported manufactured cars and that it was incorporated into GM's systems programming. But he said that he had never investigated the basis for the treatment or seen the 1978 SMMT letter. The self supply  
35 VAT charge was not a significant part of the VAT bill and he had assumed that its operation had been audited by HMRC. He understood that the accounting system automatically generated a two thirds figure for VAT purposes when the cars were appropriated to GM's own use.

180. Mr. Fulcher also told us that two thirds proxy was automated in GM's  
40 accounting systems. He said that he had been aware of the use of the 2/3 proxy and of its use, but could not remember when or how he had become so aware.

181. Mr. Puzey suggested to Mr. Fulcher that whilst the 2/3 proxy had been used in respect of cars manufactured by GMUK, it had not been used for imported cars where the evidence of actual invoiced cost (and customs declarations) was easily available and no documentary evidence was available to suggest that the 2/3 proxy was in fact used.

182. Mr. Fulcher was clear in his response. He had been told that the two thirds proxy was used in the late 80s or early 90s although he had no recollection of precisely when he had been told.

183. Mr. Hancock joined GMUK in 2006. He said that he came to understand the GMUK had used the two thirds proxy in the past.

184. The schedules supporting the revision of the claim on 13 January 2012 indicate that the percentage of imported vehicles sold by GMUK was 26.85% in 1978 and rose to 58% in 1994. We note that by 1996 more than 50% of GM's cars were imported. In 1997 it was about 32%. Thus although the relative importance of imported cars grew, it was unlikely that imports in 1978 were negligible. Thus it is unlikely that imports were initially treated as making no material difference and then later forgotten. For the same reason it was unlikely that there had been a change in the method in later years.

185. We conclude that the two thirds ratio was used by GMUK in the Claim Period in accounting for VAT on its self supply of domestically produced cars.

186. So far as imported cars are concerned, there is a conflict between (1) the impressions gained by Messrs Fulcher, Bacon and Milbourne, their accounts of the administrative complexity which would be involved in the use of import cost, and their evidence that by 1990 the 2/3 proxy was hard wired into the VAT accounting system for self supplied cars, and (2) the requirements of the 1977 SMMT letter, which at first sight it seems likely that GMUK would have followed.

187. On balance we conclude that GMUK used the 2/3 proxy for both UK assembled and imported cars in the Claim Period. It seemed to us that if the import price had been used, the complexity involved in its use would have become known to Mr Bacon or Mr Milbourne, and its use would have become known to persons such as Mr Fulcher who were involved in transfer pricing arrangements, changes in which would have affected it. We conclude that it was more likely than not that the 2/3 proxy was used in the Claim Period for imported cars.

*"I%" : the percentage of cars which were imported.*

188. The percentage, I, of imported cars was estimated from data obtained from SMMT for the period 1987 and 1988 and from GMUK data for 1989 to 1996.

189. The SMMT data was available for the whole of the period 1978 to 1996 and showed the percentage of new UK car registrations which were of imported cars. The GMUK data extended from 1989 to 1996 and showed the percentage of GMUK's UK sales which were of cars it imported. A comparison between the SMMT figures for I

and those derived from GMUK's data between 1989 and 1996 shows GMUK's import percentage is greater than the SMMT percentage in each year, by between 1% and 6%

#### Commentary

5 190. HMRC did not challenge the use of the GMUK or SMMT figures. The comparison with the SMMT figures for 1989 to 1996 supports the GMUK figures. We believe that the GMUK figures are more likely to have been accurate than the SMMT ones. We therefore accept that the percentage figures used in the calculations are likely to have been correct.

10 191. But the import average takes no account of the mix of imported and domestically manufactured vehicles in those used by GMUK: it assumes that GMUK's own use of imported vehicles was in the same proportion to sales as imported vehicles were to sales.

15 192. This issue was not raised in the flurry of issues at the hearing, but was raised by HMRC in a letter to KPMG of 1 August 2012. The appellant replied that it did not have data on the mix between imported and manufactured own use cars, and thus that the percentage split for production was the best figure available.

20 193. Since GMUK did not manufacture in the UK all the models it sold and we were told that some senior employees took cars which were not UK manufactured, it is likely that there was some own use of both imported and manufactured cars. We obtained the impression from GMUK employees who gave evidence to us that although employees took higher specification cars there was generally no marked difference in the models of the cars used by GMUK and those it sold. On this evidence we are unable to reach a conclusion as to the respective proportions save to say that it seems very likely that the percentages imported and UK manufactured were  
25 unlikely to differ by more than 10% from the estimate for  $I\%$ .

30 194. We conclude that the maximum VAT which is likely to have been overpaid is (subject to the other findings in this decision) the lower of (1) that which results from a calculation on the basis that  $I\% + 10\%$  of own use vehicles were imported, and (2) that which results from a calculation on the basis that  $I\% - 10\%$  of own use cars were imported.

*CI %: the ratio of the list price of imported cars to their cost price.*

195. In GMUK's amended claim of 13 January 2012 the cost price of imported self supplied cars was computed as 59.8% of the list price of those vehicles. This percentage was obtained in the following way.

35 196. We have explained the effects of section 770 TA 88 and the double tax treaty provisions applying for corporation tax purposes. GMUK says that it had agreed with HMRC, at least from 1989, that it would acquire cars from sister companies in the GM group (Spain and Germany in particular) at a cost which would result in an operating profit for GMUK of 2.17% of net sales price. Mr. Fulcher told us that  
40 contracts between GMUK and its sister companies provided for the price of imported

cars to be determined on this basis, and that the method of invoicing and payment adopted was for the exporter initially to invoice an approximate price and then at a later stage, when the additional information as to the specific costs incurred in the UK was available, to "true up" by further invoicing and payment. We accept that this procedure was followed for the years in which there was such agreement.

197. Then using this profit figure, Mr. Fulcher used GMUK's "FIN 51" accounting material (of which more later) for the years 1998 to 2003 to estimate the cost price to GMUK of imported vehicles in that period from the sales price in that record. He then added the cost of domestically added materials. Thus his cost/list price calculation for a particular car would be

(transfer price per agreement plus local materials) divided by list price.

198. It may be helpful to say a little more about the derivation of these figures. The FIN 51 data was compiled from inputs from the whole of GM's European operations. The FIN 51 produced, among other things, figures for all the costs incurred by that consolidated operation under various headings such as: materials costs, labour costs, variable costs. But it was also used to assess the profitability of a part of the group - such as GMUK on its sale of imported cars. In order to do so it imputed a transfer price from other companies in the group to GMUK for imported cars. This transfer price was not the actual transfer price. The actual transfer price was determined, at least in later years, by reference to the agreed transfer pricing framework. When cars were imported an estimate of the proper transfer price was invoiced and reflected in the FIN 51 data. But, because the nature of the transfer pricing agreement was that transfer price should be determined by reference to sales price, the precise transfer price could not be determined until the sales had taken place. Thus, at the end of the period, when this information was available, a calculation was made to true up the contractual position. Mr. Fulcher's calculation of "cost" followed this calculation, resulting (for periods when the transfer pricing formula was known and contractually binding) in the purchase price or actual cost of a car (before the addition of local materials).

199. We say "purchase price or actual cost" but the FIN 51 data was not prepared car by car. The FIN 51 data was a snapshot at the time of its preparation. Thus variations in the sale price of imported cars between versions of the FIN 51 are not recorded. We doubt that such variations make a material difference to the ratio, but take this defect into consideration in our overall assessment of CI%

200. Mr Fulcher told us that warranty costs were included in import costs to which the profit percentage applied. In this respect the import calculation differed from his calculation for UK assembled cars in which he did not include warranty costs. It seems to us that this difference does not matter: for imported cars the question is what had to be paid – if the transfer pricing agreement specified the inclusion of warranty cost then that determined the question. It is a different issue whether or not warranty costs should be included in manufacturing cost.

201. This exercise was conducted to determine the cost/price ratio for each imported model (Corsa/Nova, some Astras, some Vectras, Carlton/Omega cars and some others) for each of the years 1998 to 2003. An average was calculated. This showed cost/price ratios for those years as varying between 58.6% and 61.7% with an overall average of 59.8%.

202. For the years 2003 to 2008 GMUK's accounting system permitted direct access to the actual transfer price percentage; for those years the cost/price percentage varied between 58.6% and 62.4% with an average of 59.8%. Mr. Fulcher explained that the lack of material variation in this cost/price ratio for the 11 years after 1998 gave him confidence that it was likely that the same ratio applied in earlier years. Mr. Fulcher said that the period from 2009 was affected by the uniquely global recession and GM's financial difficulties. We did not see figures for 2009 to 2012.

203. On this basis the cost of imported vehicles the claim period was, in the 31 January amended claim, estimated at 59.8% of list price.

204. Mr. Fulcher illustrated the difference between list price and cost with an example based on the Corsa figures for 1999 showing that some 33% of the list price was accounted for by discounts and sales allowances, 5% by domestic advertising and sales costs, 1% by local materials costs, which left an operating profit of 2% on an import cost of 60%. This gave him comfort in the overall accuracy of the 59.8% ratio. The stability of this ratio implied stability over the same period in these items, which he considered warranted an extrapolation back to 1986 would assume similar stability of those items in those years.

205. In discussions between the parties before the hearing it had been mooted that either the average cost/price ratio for 1998 to 2003 could be projected back increasing it by 0.5% per annum over the period 1998 to 1986, or that 5% might be added to the 1998 to 2003 cost/price average to give a conservative estimate over the Claim Period. However, this approach was not reflected in KPMG's letter of 11 May 2012 nor in the appellant's skeleton argument.

#### Commentary

206. Three issues arise: (a) what in fact were the transfer pricing arrangements in the Claim Period? (b) the aggregation of different types of imports under those arrangements, and (c) the extrapolation.

207. We note the economic conditions between 1987 and 1996 were not devoid of fluctuations. The UK left the ERM in 1991 and two periods of recovery were divided by a recession.

(a) the transfer pricing arrangements

208. The extrapolation back from 1998 (or of the 1998 to 2003 average) to 1987 – 1996 is dependent upon the same transfer pricing method being applicable to purchases from sister companies in that period. Mr. Fulcher's evidence was that GMUK had an agreed (by which we took him to mean agreed with HMRC and other

fiscal authorities) transfer pricing method from at least 1989 and more probably since 1984 when the group began operating on a pan-European basis. Mr Fulcher was not able to be certain that the transfer pricing profit percentage was 2.17% prior to 1994 but was fairly confident that it was at that level in the period of his calculations. There was the following further evidence on this issue.

209. The 2000 Competition Report refers to the Transfer Price Guidelines published by OECD in 1995 and 1996 in which three methods of pricing were considered consistent with the OECD model double tax convention. The report indicates that the method in general use in the UK automotive industry was the resale price method which is that described by Mr. Fulcher.

210. In a letter dated 27 August 2002 from GM UK to HMRC International division, which appears to be about a transfer pricing arbitration claim (such a process is likely to involve more than one fiscal authority), under the heading "accruals issue", the writer hopes that the Revenue is likely to reconsider its position:

"with respect to the SUP [single unit of production]/[parts and accessories] Imports Distribution element of the business. Specifically on the basis that the revised total profitability of that segment of 2.17% was sufficiently close to [HMRC]'s target of 2.29% an adjustment was no longer merited. In addition in our meeting you indicated that the Inland Revenue would no longer be seeking the 0.5% uplift in respect of the Vauxhall brand name".

211. These comments appeared to be in relation to the period 1994/1998. The letter then looks forward to settling the figures for 1999 and 2000. Attached to that letter is an analysis of profitability by segment which compares the "Target return per HMIT" of 2.79% with the actual operating profits under US GAAP made in 1994-98. The figure of 2.79% may well be "[HMRC]'s target of 2.29%" mentioned in that letter plus the 0.5% uplift. That suggests that, for the years 1994/1998 the transfer price profit which was acceptable to HMRC was 2.79%. But the reference to "no longer seeking the 0.5% uplift" suggests that in later years that level was 2.29% - or possibly the 2.17% mentioned in that letter.

212. Mr. Sabisky told us that a fixed transfer price profit mechanism had been in place since the introduction of the transfer pricing system developed by A T Kearney. Mr. Fulcher said that the Kearney method was introduced in 1989 but that a fixed profit method had probably been in use since 1984 when GM started to operate on a pan European basis. Mr. Sabisky said that prior to the introduction of the Kearney system the UK's profits on imports had been greater. Mr. Fulcher could not say what the target operating profit had been before 1984.

213. Mr. Puzey says that for the majority of the Claim Period there is no real evidence of what profit GMUK did in fact make on imports. There was no reason to suppose that it was constant. He says that if invoices and import declarations were produced for imported cars, those invoices or import declarations would provide actual evidence of cost or purchase price. He says that an assumption as to the past is not enough.

214. As we have explained, Mr. Fulcher's calculation of cost started with the transfer price in the FIN 51. He then adjusted that cost so that the excess of the sales price over that cost was 2.17% of cost. As a result if the applicable agreed intragroup transfer profit was more than 2.17%, Mr. Fulcher's calculation would have resulted in a lower figure for that cost. That would reduce the cost/list price ratio, and increase the claim (so long as operating cost is more than 50% of sales price, which was very likely given the profits reported in its accounts).

215. This leads us to these conclusions:

- (1) we accept that from 1989 to 1996 a resale price transfer pricing method was in operation between GM group companies.
- (2) after 1998 we accept Mr. Fulcher's evidence that the transfer pricing profit on which corporation tax computations were to be based was 2.17%;
- (3) between 1994 and 1998 a transfer price profit of no more than 2.79% was likely to have been agreed with HMRC;
- (4) the use of a 2.79% rate for 1994 to 1998 would produce a lower cost of acquisition in those years and result in a higher VAT reclaim;
- (5) between 1989 and 1993 we think it likely that rate of at least 2% applied but could not say it was likely to be higher.
- (6) between 1987 and 1988 we do not find it possible to reach a conclusion on what transfer pricing method was used. Although Mr Sabisky said that greater profits were made pre Kearney, we did not hear convincing evidence that this was consistent across the period or that in some years losses were not made.

216. We had a concern which arose in our consideration after the hearing. It was as to how own use imported cars were treated in the transfer pricing calculations. These calculations worked back from sales price less allowances using a fixed operating profit of 2.17% to obtain purchase price (or cost). But if there was no sale price - because of own use, how was this done? We concluded that it was likely that own use cars were not initially put in the calculation and that for transfer pricing purposes profits were grossed up by reference to the cars taken for own use so that the purchase prices of own use cars were the same as those of imported cars which were sold without being used by GMUK first.

(b) Aggregation.

217. Mr Puzey argues that the 2.79% referred to in 2002 letters is related to both the vehicle and vehicle parts and accessories in aggregate

218. We agree with Mr. Puzey that the available documents suggest that HMRC sought a fixed profit on operating costs across the whole of the notional division of the business of selling both parts and single units of production. We accept that such a profit could have been obtained where one part of that division made a profit and another a loss, or the parts made differing levels of profit. But given that these companies were part of a group, that bonuses were determined on group profits, and that division of the statutory accounting profit between entities or types of sale would

have been likely to have been a matter concerning mainly tax advisers, we think it likely that the implementation of the fiscal authorities' requirements in contracts and invoicing between entities did not distinguish between the different products - so that any profit percentage on cars would have been the same as that on parts.

5 (c) Extrapolation

219. We should note that one of Dr Holweg's criticisms of the appellant's calculation was that it effectively assumed that there was a stable relationship between cost and list price. He says that this is wrong because the ability to offer rebates and discounts means that list price is independent of cost. Although that criticism is not relevant to the calculation of C% advanced by the appellant (because it is based on a comparison of actual list price and cost estimated from cost records and transfer pricing policies) it is in our view relevant to the use of CI% which is assumed in the claim to be constant over the Claim Period.

220. Mr. Fulcher extrapolates back from the cost/list price ratio using the available data for 1998 to 2003 to the period 1986 to 1997. Such an extrapolation would be likely to give results reflecting reality if the relevant circumstances were the same in those early years.

221. We have already discussed the likelihood that the transfer pricing profit percentage was the same and set out our conclusions on that issue. In his first witness statement Mr. Fulcher said that he was not aware of any evidence that the level of import cost would have been significantly different in the Claim Period from 1998 to 2003.

222. But there would be other factors affecting the ratio. That there were factors which cause variation is shown in the period of Mr Fulcher's cost/list price FIN 51 calculations: they varied from 61.7% in 1998 to 59.2% in 2003. Indeed in 2008 the ratio increased to over 62%, albeit being affected in that year, we accept, by GM's US bankruptcy and the start of the global recession. Such factors would include those which affected the difference between list price and retail price: the economic climate, the relative consumer appeal of the cars, list price policy (whether to increase list price and with it discounts), exchange rates to the extent they affected GMUK's decisions on selling prices, and, in periods where a Kearney fixed transfer pricing profit on sale method may not have applied, variations in the cost of production abroad. (Mr Fulcher points to the small variation in the figures for 1998 to 2003: we shall return to that later; the point here is that there was some variation.)

223. Further Mr Puzey notes that Mr Fulcher's calculation related to models being sold in the 1998- 2003 period, not all of which were available in the Claim Period. It seems to us that the effects of that difference are captured in the factors described above: whilst the different models would not have had a purchase price determined differently from the method prevailing between 1998 and 2003, different pricing and discount strategies could have applied to different cars.

224. Mr. Robinson explained that the exchange rate of sterling against a weighted basket of other currencies peaked in 1991 just before the UK left the ERM and fell throughout the five years after that. Such a change could have affected Mr. Fulcher's calculation of cost/list price ratio where a Kearney or equivalent mechanism to transfer pricing was in force to the extent that it caused or contributed to a change in list price which was not proportionate to a change in sales price.

225. Mr. Robinson also speaks of an economic recovery from 1982, a recession in 1990, and then a recovery in the years after 1992. These changes in the wider economy must have had some effect on the sales price (but not necessarily the list price) of imported cars. If an equivalent transfer price mechanism had applied before 1994, a decrease in sales price would, assuming a rising list price (and Mr. Robinson's graphs show rising list prices throughout the period save for a pause in 1993), have resulted in a decrease in the cost/list price ratio; and an increase in sales prices would have had the opposite effect.

226. Taking these concerns together we do not feel able to say that it is more likely than not that the cost/list price percentage in years before 1994 was in the same range as that which applied between 1998 to 2003, and in particular that it was more likely than not that it was a number less than 66 2/3%.

(d) imported cars, CI%, Conclusions

227. For 1993 to 1996, we feel able to say that the cost/price ratio was likely to have been close to, or within the range applicable in 1998 to 2003. That is because:

- (1) we have accepted that there was a transfer pricing method applicable to this period which was likely to have been applied to fix import car prices of the cars sold;
- (2) for reasons we shall set out later, we accept that FIN 51 provided a fairly accurate record of the figures in 1998 to 2003 for these purposes;
- (3) thus in the absence of changes such as those mentioned above or the likelihood that in more proximate years they had a lesser effect, the ratios for 1994 to 1996 should be similar to Mr. Fulcher's calculations for the years 1998 to 2003;
- (4) Mr. Robinson's charts of list prices shows no unusual movement in this period;
- (5) Mr Robinson describes the period as being a benign economic environment; and
- (6) the fluctuations in the period 1998 to 2003 are, as Mr Fulcher says, small, and we think it likely that the factors which influenced the ratios in those period would not have changed significantly in periods fairly close to them.

Given the variation in the ratio in the years of Mr Fulcher's calculations and the uncertainties in the method noted earlier, we find for this period that it is shown that CI% is no greater than 61%, but are unable to say that it was less than that amount.

228. For 1987 to 1992 we are not persuaded that the cost/list price ratio was more likely than not to have been close to, or within the range applicable to, 1998 to 2003. That is because:

- 5 (1) the, admittedly small, variations in the ratio between 1998 and 2003 could assume greater proportions in more distant years if the variations resulted from factors which could have had greater significance in those years;
- (2) it was not shown that the discount and pricing strategies were the same in those years;
- 10 (3) we are not convinced that the same transfer pricing method or rate was in existence for all that period; and
- (4) the economic conditions were not stable during that period.

229. There was no challenge to the way in which Mr Fulcher dealt with added materials in his calculations. We accept that it was appropriate and accurate.

15 *C %: the cost of UK manufactured vehicles as a percentage of list price.*

230. As explained elsewhere the appellant had no primary data for this percentage for the years of the Claim Period.

231. In outline, the appellant, through Mr Robinson, estimated C for each year in the Claim Period in the following way:

- 20 (1) for 1978 the figure of 66.66% had been provided by GMUK as part of the discussion between HMRC and SMMT (see “The use of the two thirds figure from 1978” above);
- (2) for each of the years 1998 to 2003 the appellant estimated the cost/price percentage for UK assembled cars by taking data from its FIN 51 accounting system;
- 25 (3) using indices of material and labour costs produced by ONS and adjustments to reflect the change in car specification during the period Mr. Robinson estimated C for each year starting with the 1978 figure and finishing with 2003.
- 30 (4) He then compared the results of the extrapolation with the FIN51 results for the period 1998 to 2003.
- (5) He concluded that the "fit" of the extrapolation from 1978 to the period of the FIN 51 results for 1998 to 2003 validated the extrapolation method so that the percentages produced by the extrapolation from 1978 could be used as C% in the calculation of any overpaid VAT.
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232. This outline hides the iterations of the appellant’s claim. Initially the claim was made assuming that the cost/price ratio for the whole Claim Period was, for domestically produced cars, the average of the FIN 51 results for 1998 to 2003. Then

the claim was refined with the help of advice from Mr. Robinson who used general cost indices to extrapolate the 1978 fraction forwards to 2003. After an exchange of witness statements in which Dr. Holweg questioned the particular indices used, Mr. Robinson recalculated the extrapolation using where possible indices specifically  
5 linked to automotive production. This showed little variation from the earlier figures and produced what we call the "green line" extrapolation.

233. That extrapolation however resulted in lower percentage cost/price ratios for 1998 to 2003 than that obtained from the FIN51 results. Mr. Robinson considered that the shortfall was likely to be the result of increases in the specification of vehicles  
10 over the period and by changes in the efficiency of production. He estimated effect of these changes as an annual percentage (the "Q Factor") which he applied to his extrapolation for C. The result was an extrapolation (which we shall call the "red line"), which for 1998 to 2003 was a close fit to the FIN 51 results (in particular to their variation) in that period. (Because the Q factor was calculated as the amount  
15 necessary to bring the extrapolation up to the FIN 51 figures it is not significant that the red line is on average close to the FIN 51 results for that period: for the purposes of assessing the accuracy of the method what matters is the fit of the red line to the variation in those figures.)

234. In his first witness statement Dr. Holweg provided a source of data from which  
20 the increased cost in real terms of increased specification of cars over the period 1967 to 2006 could be estimated. Mr Robinson used this data to adjust to the Green line extrapolation to produce what we shall call the "blue line" extrapolation. In this extrapolation the Q factor was replaced by Dr Holweg's "Ward" data source. This extrapolation resulted in a fairly close fit of the blue line to the FIN 51 data for 1998  
25 to 2003 both in absolute values and in variation in that period.

235. In the remainder of this decision we proceed on the basis that the appellant's case is that the values of C in the Claim Period are likely to have been either the blue or the red line figures for those years. Whatever else may be the case, it seems to us that the variations in cost/list price produced by these means make it unlikely that a  
30 fixed cost/list price ratio obtained in the Claim Period.

236. These estimates and procedures give rise to a number of issues:

- (1) To what extent to the FIN 51 figures give rise to proper estimates of the value of C between 1998 and 2003?
- (2) How accurate was the 1978 starting point of a 2/3 ratio?
- 35 (3) How reliable - what uncertainties are there and how large are they - is the extrapolation in the blue or red line?

237. We deal with each of these issues in turn in the following sections, but we should first return to Dr Holweg's criticism of the appellant's method which we advertised at [219] above. This is that list price and cost are independent because the  
40 ability to offer discounts and rebates means, at least in theory, that the sky is the limit for list price so that the ratio of cost to list price need not be constant. We accept the premise of this argument but do not think it applies to the appellant's estimation of

C%. That is because the ratio in the Claim Period is calculated using data which separately estimate list price and cost and thus the method does not contain an implicit assumption of a stable link between the two.

5 (1) To what extent do the FIN51 figures give rise to proper estimates of the value of C between 1998 and 2003?

238. The cost/price percentages were estimated using data from the "FIN 51" reports in a four stage calculation for each of the relevant years:

- 10 (1) First, the "cost" of each model and type was extracted. This involved the exclusion of certain costs and the addition of transfer pricing profit on parts and components which was not included in FIN 51;
- (2) second, the average list price and the average cost for the Astra and the Vectra were calculated weighted for actual sales mix in the year;
- 15 (3) third, the average cost/price ratio for each car line was calculated from these figures;
- (4) fourth, the average cost/price ratio across all cars was calculated weighted by volume;
- (5) an adjustment is made for the "rich mix" of cars taken by GM UK employees.

20 239. We address each of these steps below. But first we should say a little about the FIN 51 reports.

240. The FIN 51 reports were produced by GM Europe every six months. They had been produced since the 1970s. They showed for each variant of each model the list price of the model and its various costs of production at the time the report was produced (it was a "snapshot" at the time). The report was produced at a European level - effectively consolidating the activities of the European subsidiaries of General Motors and deriving its data from their accounting systems; and then producing for each national sales company in the group (such as GMUK) the results of their operations on that basis.

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30 241. It was clearly an important management tool – the “core document for much decision making” in the group - and much care would have been taken over its proper and accurate compilation. We accept that it was accurately compiled.

242. The report details costs under various headings: the material costs, labour and other costs that vary with small movements in volume, tooling costs, marketing and administrative costs, sales allowances and so on. It shows operating profit per car and variable profit per car (namely net sales revenue less of variable costs). The FIN 51 however was a snapshot prepared at 6 monthly intervals and did not take account of variations in, for example, material cost, or the effect of volume changes on the allocation of fixed costs, during the period between reports. The report was prepared

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in Euros (or earlier in DM) and the figures translated into sterling at the time of the report.

243. Mr Fulcher explained that some 3,000 to 4,000 parts made up a car. It seems unlikely that the aggregate cost of all the parts, materials, labour and overheads comprising the cost of a car would vary substantially between FIN 51 snapshots in the absence of large changes in exchange rates or volumes manufactured in the intervening period. Some individual costs might vary substantially but it seemed unlikely that there would be a greater movement than between successive snapshots. The maximum difference between Mr Fulcher's ratios for a year was 4% - between 2000 and 2001. We concluded that it was unlikely that the total costs which would have been captured by the FIN 51 had it been prepared at any other time in the year would for any year be more than 2% above or below the FIN 51 figures at the time it was prepared.

Step 1: estimation of the cost of each model

244. Mr. Fulcher extracted figures from this report to determine the percentage which represented the ratio of the "cost" of a car to its list price. In this calculation "cost" comprised:

- (1) material costs
- (2) transfer pricing mark-up on components from sister companies
- (3) manufacturing costs
- (4) tooling costs
- (5) option costs; and
- (6) other local materials costs.

245. These included HR, Finance and IT costs attributed to manufacture, but not such costs attributed to sales and marketing. Mr Fulcher said, and we accept, that the vast majority of the costs of HR, Finance and IT functions related to those functions within the plants and were therefore included in the headings above; only central management costs were excluded.

246. Save for (2) all these figures were extracted from the FIN 51. The result was that: (i) sales, general and administrative costs of central management, (ii) warranty costs, (iii) engineering costs (including research and development), and (iv) other miscellaneous costs were excluded from "costs". We call these three the "excluded costs" and address them below.

247. It seems to us that, on our understanding of the meaning of "cost" the descriptions of the elements of cost at (1), and (3) to (6) above were correctly included in determining "cost".

248. Item (2) arose because, since the FIN 51 reports were prepared on a European consolidated basis, the figures it collated included no amount for profit on the sales by one sister company to another of car parts: such parts would be accounted for in the

FIN51 collation as being materials plus GM labour and GM other costs. Therefore, in order to determine the costs to GM UK Mr. Fulcher added a figure of €328 to represent the sister companies' profit which GM would incur as part of its separate cost. The €328 arose from a document found by GMUK (or provided by Opel) which  
5 showed for the years 2004 to 2009 the difference in cost between Astras assembled in Germany and those assembled in the UK. For those years the average part profit per car was £277 (Euros 328) and the range £91 to £480. This Mr Fulcher took as an estimate of the intercompany mark up on parts in each of these years.

249. Mr. Fulcher explained to us that, although there was no audit trail to enable  
10 these figures to be checked or to determine whence they derived, the figure of €328 was about right because: (a) for an average car about two thirds of the cost was imported parts, (b) the proportion of imported parts (from sister companies and from others) had not varied greatly, and (c) a transfer price profit of 5% had been agreed in relation to such parts with the exporting countries' tax authorities; thus the figure  
15 could be checked thus: the sister companies' profits in a car with an average cost of €9000 was 5% x two thirds x €9000 = €300. That check calculation suggested that €328 was perhaps a little on the high side and therefore would underestimate the true claim.

#### Our Evaluation of the €328 transfer pricing addition

20 250. Mr Puzey and Mr Millington say:

- (1) this figure is based on information relating only to the Astra;
- (2) the provenance of the document from which the average is taken was vague and unsupported;
- (3) no documentary evidence of the margin applicable to parts has been  
25 offered;
- (4) there is no evidence that can be tested as to the proportion of cost represented by imported parts;
- (5) the Astra figures demonstrate wide fluctuations – from £91 to £480: there is nothing to suggest that it would be right to apply an average from 2004 to  
30 2009 to each of the years in the period 1987 to 1996.

251. Mr. Fulcher told us, and we accept, that currently 25% of the content of an Astra is purchased from group companies and currently its materials cost is 6000. That would mean an intragroup profit of 5% x 25% x 6000 = 75. In the Claim Period he said some 60 to 70% of material was imported. Half of that he thought would have  
35 come from sister companies, but even if 100% had, the intragroup profit would have been only 180. That indicated that €328 was no understatement.

252. Our conclusions are these:

- (1) It is right to make an addition to “cost” for the transfer price profit made by sister companies on parts since the FIN 51 data does not capture such profit.

5 (2) Although Mr Fulcher told Mr Puzey that he could not provide information about the proportion of cost represented by imported parts in the Claim Period, he had previously said that 60-70% of cost was represented by imports and that would not have varied to a great degree. Mr Fulcher had been intimately concerned with costing in the latter part of his career and we think it likely that no more than 70% of the cost was represented by imported parts.

(3) Mr Fulcher was transfer pricing manager in Europe from 1993 to 1996. We accept his evidence that at that time a 5% profit to the parts manufacturer was adopted.

10 (4) We had no direct evidence relating to the transfer pricing policy for 1987 to 1992. The 2002 correspondence with HMRC is of no assistance since it relates to the sales of imported cars and imported spare parts, not parts for the assembly of cars in the UK. But we feel it unlikely that in these years that a transfer price profit of more than 10% was earned in those countries.

15 (5) In Mr Fulcher's check calculation the transfer pricing percentage has been applied to his extraction of cost. As explained elsewhere that figure does not include certain costs which we believe should be included from the perspective of the VAT legislation. We had no evidence as to what costs were relevant to the European countries' transfer pricing profit. We find it not proven that they should not be included. It seems to us, on the basis of the discussion in the following section, that their inclusion would increase the transfer profit by no more than 5% but it is not possible to say that it would be likely to be less than that.

25 (6) Mr Fulcher's ratios for 1998 to 2003 involved only the Astras and Vectras – since they were the only models assembled in the UK. The Vectra was a more expensive model, with an average list price some 20% greater than that of the Astra in 1996. Mr Fulcher's check calculation relates only to the cost of the Astra since his schedules show an average cost for the Astra of €1,109.

30 (7) If, in Mr Fulcher's check calculation an average figure of euro €1,000 (to allow for the more expensive models and the additional cost lines) is used with 70% imported parts (of which say 60% came from sister companies), and a 5% transfer price profit, the profit is €231; if a 10% profit is used the profit would be €462.

35 (8) Taking all this together with the range of difference in the document from which the €328 was drawn, we find that as a comparative for the period 1986 to 1992 it is likely that the transfer pricing profit was no more than, but was not shown to be less than €735, and the comparative figure for the period 1993 to 1996 is €225.

The excluded items.

40 253. The next question is whether the excluded costs were properly excluded. The first is R&D.

254. Dr. Holweg estimated the cost of development of the new car model at some £1 billion. Mr. Fulcher did not dissent from that figure. A new model lasted about seven years. R&D was a significant part of the costs of GM's business.

5 255. We have concluded that the costs of the design and preparation for production of a new car are part of the cost or cost price of a vehicle. In our view they should not be excluded from the calculation of "cost" for our purposes.

10 256. Dr. Holweg's data on the R&D expenditure of major car manufacturers between 1975 and 2010 showed that all had expended between 3% and almost 6% of their sales revenue on R&D in the period. These figures showed that GM's expenditure was an average 3.9% of sales revenue. These figures appear to have been for GM as a group rather than for GMUK and were averages which did not indicate variation within the period.

15 257. In a "traffic light" summary chart Mr. Fulcher indicated that if R&D costs were added to his costs figure his cost/list price ratio would increase by 2% of list price, if sales and General Administration costs were added the figure would increase by a further 5%; warranty costs would add an additional 2%.

20 258. Mr. Fulcher's figures (JF6(a)) estimate net selling price as 68% of list price. On that basis, if R&D costs represent 2% of list price, they will represent some 3% of selling price; and costs representing 3.9% of sales price will be about 2.7% of list price. Mr Fulcher's figure of 2% of list price is taken from column BQ of the FIN 51. The comparison and Dr. Holweg's figure of 3.9% suggest that not all the R&D expense of GM is included in the BQ figure

259. The column BQ is explained as being "research and design costs involved in developing the specific vehicle model".

25 260. Mr. Fulcher distinguishes between:

- (1) R&D involved in developing a specific vehicle (which we understood to be the BQ category in the FIN 51);
- (2) general R&D; and
- (3) wasted R&D - expenditure on research aborted prior to exploitation.

30 261. Dr. Holweg says that for a European manufacturer one should not expect significant deviation from a cost structure in which 8.5% of the list ("retail") price comprises "product development and overhead", with cost as 69% of list price. If as his earlier data suggested GM spent 3.9% of sales revenue on R&D, and, on his model cost is 69% of list price (with as he suggests 30% of list price made up of discount and profit) then of the 69%, 5.8% of the selling price would be R&D  
35 (leaving only 2.7% of the 8.5% for general overhead). That 5.8% of list price exceeds the 2.7% drawn at [258] from the combination of Dr Holweg's data and Mr Fulcher's JF6(a) estimate.

262. A letter from KPMG to HMRC of 12 April 2012 assesses the effect to the inclusion of a vehicle specific R&D as being to increase costs by an average of 4.1% in the 1998 to 2003 period (varying from 2.7% to 5.1% in that period).

5 263. One of the reasons for these differences in relation to R&D expenditure is likely, in our view, to be in the detail of the allocation to specific categories in the FIN 51. The FIN 51 heading from which Mr. Fulcher draws his data is product specific R&D: his other categories of R&D must be included in general and administrative overheads. Dr. Holweg's R&D is we believe all three categories of R&D. Other reasons may be inconsistencies in the way in which fixed costs are allocated between  
10 the various categories which will affect the percentage figures, and differences between periods and between the expenditure of GM group and that of GMUK.

264. Mr. Cordara says that wasted R&D expense is not part of the cost of the car, and in any case he says that VAT is recoverable as R&D expense, so to include any of it in the self supply is anomalous. We agree that if no use *at all* is made of a particular  
15 R&D expense in making a particular model of car then it is not a part of the cost of that car. But whether or not that is the case may be a matter of delicate judgement; a similar judgement may be needed in relation to general R&D. We had no evidence as to how such judgements were made in computing the FIN 51 figures. We do not accept Mr Cordara's argument about the recovery of VAT on R&D. The object of the  
20 self supply provision operates at a different stage in the chain of supply: the purchaser of the new car will have bought it from a manufacturer who recovered the VAT on the R&D in relation to it; that does not prevent all the purchaser's VAT being blocked.

265. Taking together: (1) KPMG's range of 2.7% to 5.1%, (2) Dr Holweg's expectation of a figure of 5.8%, and (3) GM's average figure of some 2.7%, we  
25 conclude that it is not shown that R&D which is reflected in the cars sold does not exceed 5% of list price, but that it is likely that it is no more than that.

#### Other Excluded Costs

Mr. Fulcher's FIN 51 traffic light summary suggests 7% of list price for general overheads, 5% for sales and general administration and 2% for warranty costs.

30 266. So far as warranty costs are concerned we do not consider them to be part of the cost of the car. When the car is taken into GMUK's use no such cost has been incurred, and GM has no obligation to incur it. Such costs arise only on the later sale of the car to a third party. It is true that such a conclusion effectively places the manufacturing trader of a car in a better position as regards VAT borne than a  
35 purchasing trader; but that, it seems to us, is the result of having to descend to the use of cost rather than using purchase price; and having taken that step the result is less coherent with the policy of the provision.

267. We agree with the appellant that costs incurred in selling and marketing a car are not part of the cost price of the car. It is true that without marketing fewer cars  
40 might be sold and that, as a result, the portion of fixed overheads attributable to a

particular sale might be higher, but that does not make the marketing expense part of the cost of the car.

268. So far as general and administrative costs are concerned we have already discussed the question as to whether any element of wasted in general R&D is included and if so on what basis the judgement was made. Mr. Fulcher told us and we have accepted that so far as the costs of management of group companies are concerned, only the costs of the very highest levels of management were included in this figure; the costs of the factory management (including IT and HR) being included in the fixed costs spread across the cars in the FIN 51. We accept that the cost of strategic management and long-term finance of GMUK are not part of the cost of a car even though the car may not have been made without them.

Summary –excluded items

269. We conclude that R&D costs should be added to the calculation of cost and that it was not shown that they would be less than 5% of list price.

15 Summary – Step1 estimation of “cost”

270. Subject to:

- (1) the addition of 2% to the ratio to reflect our concerns in relation to variation of costs between FIN 51 snapshots;
- (2) the addition to the ratio of 5% to reflect R&D costs; and
- 20 (3) the adjustment of the intragroup parts profit described in [252] above,

we conclude that the “cost” as calculated by Mr Fulcher was likely to represent “cost” for our purposes.

25 Step 2: the calculation for the Astra and the Vectra of the average list prices and average cost of sales

271. An average list price (weighted by numbers sold) and an average cost (similarly weighted) was calculated for Astras and Vectras sold in the period from the FIN 51 data (derived as explained in the previous section).

30 272. We accept Mr. Fulcher’s evidence that only Astras and Vectras were produced in the UK between 1998 and 2003.

273. In computing the list price an adjustment was made to include revenue from factory fitted options. A corresponding adjustment was made to cost. HMRC did not dispute these adjustments and we believe they were properly made.

35 274. We accept that Mr. Fulcher accurately extracted the figures for list prices, costs and sales volumes from the FIN 51 reports.

275. Mr. Fulcher weighted the actual sales volume of cars sold "at the time of the report". We believe that to refer to a period of six months ending with the date of the report. To the extent that this weighting represented the weighting of cars taken into its own use by GMUK, this method would accurately give for each period the appropriate average list price and average cost for the Astra and Vectra cars taken into GMUK's own use. GMUK however contended that this was not the case. The effect of that contention, and the adjustments made to deal with it, are discussed under "rich mix" below.

276. We accept that the weighted averages so produced accurately reflected the underlying figures and that, subject to the concerns in relation to sales mix, were compiled on a basis apt to determine cost/price ratios for Astras and Vectras sold in the 1998 to 2003 period (subject of course to the questions relating to "costs" discussed above).

Step 3: calculation of the cost/price ratio for Astras and Vectras

277. The average cost (determined at step 2) was divided by the average list price (also as so determined).

278. We accept, subject to the caveats in relation to "cost" and sales mix, that the method adopted was apt to obtain this figure and was accurately calculated. (Because each of list price and cost price were weighted by the same volume there was no need to adjust for volume in the calculation).

Step 4: calculation of the average across all cars (Astra and Vectra)

279. The average, weighted by volumes sold, of the cost/price averages for the Astras and the Vectras was computed.

280. We accept that the calculation was accurate, but we do not think that the overall calculation - by producing weighted averages of weighted averages - delivers an appropriate figure. What is needed is a figure which, when multiplied by the number of cars sold and the average list price (weighted by number of each type of car) delivers total cost. The effect of striking an average list price and an average cost price by car at an early stage in the calculation is that, when multiplied by actual numbers and actual weighted list prices, it will not deliver the actual cost for the period. The average cost/price ratio should instead be calculated as:

$$\frac{\text{Av cost price (Astra)} \times \text{number (Astra)} + \text{Av cost (Vectra)} \times \text{number (Vectra)}}{\text{Av list price (Astra)} \times \text{number (Astra)} + \text{Av list price (Vectra)} \times \text{number Vectra}}$$

281. This may or may not produce a material difference.

Summary: cost/price ratio calculations

282. Subject to the following matters, in our opinion the calculation of C% in the years 1998 to 2003 produced figures which, when multiplied by the aggregate list

price of cars taken into own use would provide an estimate for the cost of those cars which was likely to be no less than the “cost” of those cars for our purposes:

- (1) the addition of 2% to the ratio to reflect our concerns in relation to variation of costs between FIN 51 snapshots;
- 5 (2) the addition to the ratio of 5% to reflect R&D costs;
- (3) the adjustment of the intragroup parts profit described in [251] above; and
- (4) the adjustment to the calculation to the weighted average suggested at [280] above.

10 The “Rich Mix” adjustment

283. Some 13,000 to 23,000 cars per annum were taken into own use by GMUK. Many of these were supplied to senior GMUK employees – higher supervisors, managers and directors. Both Mr. Fulcher and other GM witnesses attested to the preference that GMUK employees had for a higher specification vehicles (and its  
15 realisation). We can well understand that an employee of a car manufacturer would want, and would be provided with, a model at the top end of the range. We accept that there would have been a rich mix. A similar rich mix we accept existed in relation to sales to many fleet customers.

284. We accept that for different reasons cars used as demonstration and pool  
20 vehicles may well also have been of a higher specification.

285. Mr Fulcher told us, and we accept, that between 1998 and 2003 the ratio of costs to price was smaller at the top end of the range because a greater profit was made on the higher specification cars.

286. Mr. Fulcher compared the cost/price ratio of eight higher specification Astra  
25 and Vectra cars with the average cost of each model. The average ratio for the period 1998 to 2003 was 2.8% lower for Astras and 3.2% lower for Vectras. The average was 3.1%. This 3.1% was applied to the percentage to reducing C% by 3.1%.

Mr Cordara argues that this calculation has a conservative result because the effect of the rich mix is a lower cost/ price ratio and a higher list price; a corresponding upward  
30 adjustment to average list price was not made, thus understating the claim.

287. Mr. Puzey notes that Mr. Fulcher said that some more senior employees drove higher end imported cars such as the Senator and Omega. He said that no allowance has been made to the presence of these vehicles within Mr. Fulcher's calculations.

288. It seems to us that the presence of these imported vehicles in the self supply  
35 population did not affect the logic of Mr. Fulcher's adjustment. Those vehicles which were imported were not subject to the 3.1% reduction because their cost was determined solely by the transfer pricing profit formula (this concern transmutes into our earlier concern over the mix in the calculation of LI%). Thus the question was

what effect the rich mix had in relation to the UK manufactured self supplied vehicles. The evidence here was clear: employees took higher specification vehicles from among those UK manufactured vehicles available to them. Thus, if warranted by the figures, an adjustment was proper.

5 289. Our concerns with this reduction are these:

10 (1) Mr. Fulcher's sample is based on the cost/price ratio difference between high-end and average specification vehicles in the years 1998 to 2003. His calculation shows variations in that difference for Astras of between 1.2% and 5.4%, and for Vectras of between 1.7% and 5.2%, with a range in the average over both cars of between 2.5% and 3.5%.

(2) The estimate of 3.1% is effectively used (because it forms part of the figures which anchor the extrapolation described below) to represent the difference and the cost/price ratio is occasioned by the rich mix in the Claim Period.

15 (3) There was no evidence to show that the composition of the high end sample used by Mr Fulcher matched the cars actually taken into own use either between 1998 and 2003 or in the Claim Period.

20 (4) Mr Davison told us that some manufacturers moved aging stock into the market by having them used briefly as employees' cars, and that occasionally registration numbers might be inflated by passing vehicles to employees before sale with little mileage. These practices would mean that the cars taken into own use would not necessarily be of a higher specification. We accept that evidence.

25 290. Whilst we accept: (1) that there was to some degree a rich mix of such cars in that period, and (2) that high specification cars were likely to have been more profitable than that period, we cannot say we find it more likely than not that the difference was 3.1%. The degree of variation in the period 1998 to 2003 and the possibility of differences in commercial pricing, production strategies and economic conditions in the Claim Period do not contribute to any sense that what was the case in 1998 to 2003 was likely to have been the case between 1987 and 1996. Whilst we  
30 accept that it is likely that there was some increased margin, and we accept Mr Cordara's point about the lack of adjustment to the average list price, we do not find it proved that in the Claim Period it was likely to have been more than 1%.

(2) How accurate is the 2/3 starting point and what expenses were intended to be included in it?

35 291. The extrapolations made by Mr Robinson to which we shall turn in the next section use the 1978 2/3 figure as their starting point. The extrapolations seek to forecast how the ratio would have changed in subsequent years, and what it would have been in the periods 1998 – 2003 when it could be compared with the figures produced by Mr Fulcher from the FIN 51s. The credence which may be given to the  
40 extrapolation as the result of any correlation between the extrapolated figures and Mr Fulcher's figures depends on the 1978 ratio and Mr Fulcher's figures measuring the same thing.

292. (We should note here that it is possible to consider the extrapolation as working backwards from known data of 1998 to 2003 rather than forwards from 1978, so that one might attempt to assess the accuracy of the extrapolation by reference to how accurately for example it predicts 1998 to 2002 from 2003. Such an assessment relies less on the 1978 figure. We shall discuss this further later. In this section we consider the extrapolations starting point of 1978 as originally presented.)

293. The 2/3 starting point derived in part from a weighted average ratio of 66.66% provided to HMRC by GMUK in 1977. This was transmuted into the agreement by HMRC to 66.33%.

294. There was no direct evidence as to which costs were included in this average or as to how carefully it had been computed.

295. The correspondence relating to the acceptance by HMRC of the 2/3 proxy gives some indication of its purpose.

296. The SMMT wrote to HMRC on 6 December 1977:

"It would be administratively very difficult for the volume car manufacturers to provide information on the cost of producing individual cars. In such a highly capitalised industry costs can vary significantly from month to month depending on capacity utilisation. Inequity between manufacturers could also occur because of differences between costing systems. For these reasons we would prefer to assess the self supply cost of cars to manufacturers on the basis of an agreed factor.

"A survey of the volume car manufacturers indicates that the self supply cost of a car to the manufacturer is, on average, retail tax exclusive list price less 33 1/3% plus car tax. This figure is based on factory standard costs. In order to help your staff verify this figure I enclose a list of names and addresses of taxation managers..."

297. A note to a Mr. Dangerfield of HMRC which appears to follow after this letter indicates that enquiries had been made of the four volume manufacturers by a member of HMRC staff:

"The LVO [Local Valuation Office] report shows that showed thorough discussions took place concerning discounts, profits and other deductions, together with sales/marketing, depreciation, amortisation etc and that corresponding adjustments were made to the cost figures.

"...[in the case of one manufacturer] the figures are based on "standard costs" plus variances and an allowance for special tooling. To these are added 5% to cover admin costs and, for the UK manufactured models, 12 1/2% for increases in miscellaneous manufacturing costs. No special tooling costs are applied for the German manufactured [vehicles] but delivery costs are included.

"Vauxhall

“The reporting officer has in this instance attempted a weighted average which he calculated as 33.77% off the RSRP. Again it will be seen that the most recent model, the UK assembled version of the Cavalier, shows a very high cost level of 87%.

5 “... Summary

“As might be have been expected, all four manufacturers have managed to produce figures which tend to support the allowance proposed by SMMT. One clear point is that all use a form of standard cost and that one of the most important influencing factors is the introduction of new models which show a very high percentage of cost in relationship to selling price in the early years of production.

“It seems unlikely that deeper investigation into these costing methods will upset proposed figures of RSI be less 33.3%.”

298. A note from Mr. Dangerfield of 26 January 1978 says:

15 “It is evident from the reports received that there are "grey areas" when one is talking about cost of manufacture ... it is debatable whether such items as provision for warranty and manufacturers' advertising should be included but, on balance, it is proposed not to seek the inclusion of such items. Factory overheads and administration overheads (including Finance) should however be included.

20 "The difficulty of arriving at individual costings supports the case for having a uniform tax formula. Only in the case of Vauxhall is to have a properly weighted average -33.77%. ..."

25 299. This was followed by the letter of 1 February 1978 from HMRC to SMMT part of which was quoted earlier. After setting out the agreement that retail list price less 33 1/3% plus car tax would be acceptable for the four volume manufacturers the letter continues:

30 "In the case of other (specialist) manufacturers it is agreed that tax on self supplies should be assessed on the full cost of manufacturing including overheads, although no objection will be raised to their adopting a basis derived from retail price ..."

35 300. All these indicate that HMRC were well aware of the difficulties and uncertainties in any system for calculating cost for a complex process: a fixed fraction would make life much simpler for both parties. But the material also indicates that the cost figure which the local offices verified included allocated fixed costs and overheads.

40 301. It seems to us likely that the verification of Vauxhall's figures by the LVO means that its ratio was computed accurately and that it included apportioned fixed costs and overheads but not warranty and sales costs. It is uncertain what proportion of head office costs were included. It seems to us that it is likely that the 1978 calculation captured the same costs as did Mr Fulcher's calculation with two exceptions.

302. First, it might be the case that the comment that the ratio was very high for new models reflected the early amortisation of R&D costs for the models – in other words that R&D expense was included to some extent in the cost base. However it may also reflect that in the initial period the number of the new cars sold was low so that, spread over actual production, the related fixed overhead costs were higher than they would be in later periods of greater production. Nevertheless, although no direct mention is made of R&D expenditure we believe that in what was clearly a careful exercise HMRC would not have overlooked it and would have expected it to have been included. We concluded that it was likely that the figure provided by Vauxhall included an element of cost representing R&D.

303. Second, there is no evidence of any allowance for a “rich mix”.

3. The extrapolation of the blue line and the red line.

304. We have explained that Mr Robinson estimated C% for the years of the Claim Period by using inter alia published indices of material and labour costs to model the actual behaviour of the related components of the cost/list price ratio over the period from 1978.

305. Models have a distinguished and respectable pedigree. The practices of modern engineering and medicine are built upon approximations to reality by making a number of simplifying assumptions. Models are used in forecasting the future: in weather forecasting, financial forecasting or in determining the trajectory of a spaceship. They have been used to estimate the age of the earth and the origins of the universe. Industry, government and individuals rely on them. There is no reason in principle why a tribunal should not do so.

306. A model’s usefulness depends upon its likelihood of predicting an outcome sufficiently close to reality to enable the user to have confidence relying on it. In the context of this appeal that means that it is useful only if it delivers a result which is more likely than not.

307. A model may deliver a single outcome (eg the rocket will get to the moon in a GCSE physics paper), or it may deliver a range of outcomes with associated probabilities. The Bank of England’s forecasts do the latter: they give a central prediction and a range around it with associated probabilities. Weather forecasting may indicate the probability of rain. Dr Holweg and Mr Robinson explained that models of the latter kind may use a ‘Monte Carlo Simulation’ to show the effect of a range of values (each with different probabilities) for an input into the model.

308. Where a model delivers a range of results with associated probabilities the tribunal will ask two questions about likelihood: (1) what is the likelihood that the model delivers results corresponding to reality, and (2) what probability does the model predict for certain outcomes. Thus suppose the tribunal were called upon to determine for how many hours Bedford Square was clothed in sunshine on a particular July Sunday for which, for some reason, there were no direct records.

Suppose that it had evidence of a weather forecast for central London on the preceding day which forecast a probability of sunshine as a normal distribution (albeit missing the left hand tail) with a mean of 10 hours and a standard deviation of 1 hour, and evidence that 90% of the time the forecast was correct to within ½ hour. Then the tribunal would for example be able to conclude that it was more likely than not that there had been at least 9½ hours of sunshine on that day. In so doing it would conclude that the model was likely within a margin to be correct, and take into account the probabilities which flowed from the model.

309. Dr Holweg says that a good model is one whose assumptions are justified and whose results can be verified against actual outcomes. Mr Robinson did not take issue with this. We agree. For our purposes the accuracy of the predictions of a model and the validity of its assumptions are the factors which point to the likelihood that it delivers a result which represents reality. These issues formed much of the debate before us, and we discuss them below.

310. Dr Holweg made this criticism of Mr Robinson's model. He says that it delivers a single outcome for each year and does not attempt to take account in its predictions of the effects of errors in assumptions. In other words that it is a rocket model and not a weather forecast model. He gave us an example to show how the factoring into the inputs of a probability density could affect the predicted outcome and give a probability density for each outcome.

311. We discuss below whether it would be possible to produce such a model by assessing from the FIN51 results for the available years the correspondence between the variation the model would predict in those years – starting with the first of them and predicting the rest – and use that variation to provide a probability density of outcomes for earlier years (working back from 1999) of the cost/list price ratio with a statistically calculated degree of confidence.

312. We now: (1) consider the detail of the model proposed (and variations on it), (2) address the justification of the assumptions inherent in the model and (3) consider its validation against actuality.

*(1) The detail of the model*

313. Both the Red and Blue line extrapolations take as their starting point the Green line extrapolation which was based on the application of production output and labour cost indices published by Office of National Statistics (the ONS) to the 1978 2/3 figure. We now turn to the detail of this calculation.

The Green Line

314. The Green line extrapolation represented the 2/3 starting point adjusted for yearly changes in costs and price. That was done by creating indices for price and cost and dividing one by the other.

Price

315. The price index was based on the sales weighted average price of GMUK's cars for each year between 1978 and 1986 based on Glass's guide.

316. Mr. Robinson said he was provided with this by GMUK.

317. The figures for weighted average price exhibited in Mr Robinson's statement, and we understood used by him in his calculations, differ from those used in the calculation of LPUK. For each year the figure used by Mr Robinson was higher: the (unweighted) mean of the LPUK figures for the same years being £9,631 and that of Mr Robinson's figures being £10,112 – some 5% higher. Because Mr Robinson uses these figures to produce an index based on 1978 for the cost/list price ratio this would affect his estimation of cost/list price ratio in the Claim Period since that would be dependent upon whether or not, and if so how, his figure for the weighted average list price in 1978 differs from that which would have been produced under the LPUK method. But, for example, if the 1978 figure were the same under both systems then in a year in which Mr Robinson's weighted average was 5% greater than the LPUK figure and his calculation of the cost/list price ratio yielded 48%, the use of the LPUK figure would increase it to 50%.

#### Costs

318. First, Mr. Robinson apportioned GMUK's costs between four categories: raw materials and parts, fixed overheads, shift labour and fixed labour. The apportionment was on the basis of the split between these elements in the FIN 51 data from 1998 to 2003.

319. Then, secondly, Mr. Robinson:

- (1) applied the changes in a manufactured products index to the parts and materials element;
- (2) applied the changes in that index to the fixed overhead element reduced to reflect variations in vehicle production by dividing by indexed production figures;
- (3) applied a wage cost index to variable labour costs; and
- (4) applied the same wage index to fixed labour costs multiplied by the reciprocal of the index of vehicle production to reflect the change in this element with production.

320. Mr Puzey also noted that Mr Robinson had used figures for UK production which appeared to differ from the, lower, figures used by Mr Fulcher. The effect of the use of the higher figures was to reduce the fixed cost attribution to costs. The appellant produced an amended schedule "954G" which showed the differences between the results which accrued from using the car numbers originally used by Mr Robinson and the figures for production taken from GMUK's accounts. We shall refer to that schedule later

The Red line extrapolation: a factor to take changes in content etc into account

321. Mr Robinson applied a factor to take account of changes in specification and productivity. As we have explained this was the “Q” factor. This was computed as a fixed annual figure which when compounded increased the green line average cost/list price ratio predicted by the model for 1998 to 2002 to the average of the FIN 51 figures for that period. Q was, without being at all pejorative, what in technical circles is known as a fiddle factor.

322. Mr Robinson argues that this factor represents changes in specification, content and production methods over the period.

323. In a later iteration of the model produced after Dr Holweg’s evidence was served he used values interpolated from the Ward Index. The Ward index captures safety and regulatory additions: catalytic converters, airbags, seatbelts and such like and not air conditioning and DVD systems. It does not capture the effects of changes in production methods. The effect of the application of this index was to produce a set of figures for the 1998 to 2003 period which were very similar to the figures produced by the application of Q. Mr Robinson would argue that the other effects (improved efficiency and added features) net off.

324. Mr Puzey noted that the number of cars produced used in making the adjustment for cars produced in Mr Robinsons calculations did not tie with figures from other documents. It appeared that Mr Robinson’s figures had used cars sold rather than cars produced. Given the use of those figures to moderate fixed costs of production, numbers of cars produced should have been used. Mr Robinson produced a revision of his model using production rather than sales figures. This was document 954G.

*(2) Justification: The Assumptions in the model.*

325. We identified the following assumptions

326. (1). Costs Split

327. Mr Robinson uses the same split of total cost for each year. He told us that the split was obtained from discussion with GMUK staff on the basis of the FIN51s. We saw no reason to doubt the split. He therefore assumes that the relative proportions of these costs were the same between 1978 and 1996 as they were between 1998 and 2003. We note in this context Dr Holweg’s evidence that labour hours per vehicle have been dropping since the mid 1980s as the result of new working practices, and Mr Davison’s evidence of significant changes in production practices since the 1980s.

328. Whilst it seemed to us that it was not unreasonable to suppose that, at least in the Claim Period the split was about the same, there was no evidence that this was the case and we were not shown how the predictions would have changed – how sensitive the model was to this assumption – if the split had changed.

329. (2) Fixed Costs not affected by production levels

330. The division of the cost index in steps (2) and (4) by production numbers reflects the fact that the apportioned fixed costs decrease as production increases. From the evidence of Dr Holweg and others there was no doubt that this was the case. What was not clear from that evidence was that there was no increase in aggregate fixed costs with increased production; Mr Robinson's calculation assumes that such is the case.

331. (3) The use of indices to mirror GMUK's costs.

332. Mr Robinson agreed that the issue in relation to the operation of the model was that the package of costs which GMUK incurred was different from that used to create the relevant index. The problem is that the sample of prices used by the ONS in compiling the index may not reflect the costs of GMUK. What was not known was how far GMUK's costs differed from the relevant index. And if they varied from it what was the spread of variation about any mean.

333. In particular it is assumed that:

- (1) GMUK's wage costs behave in the same way as the relevant index.
- (2) GMUK's costs of parts and materials behave in the same way as the manufactured products index.

334. In this context HMRC put to Mr Robinson the annual reports of GMUK which showed that its performance was not a mirror of national economic performance. Indeed in 1986 GMUL had suffered a loss when Mr Robinson's model showed a drop in the cost/ list price ratio. We did not find this comparison to disturb the assumptions of the model: had the model predicted the cost/sales price ratio one might have expected some correlation between that and GMUK's operating results, but there is, as Dr Holweg put it, a degree of independence between sales price and list price which makes a comparison with GMUK's operating results less compelling.

335. HMRC also point to the turbulence at Vauxhall in the period between 1998 and 2003: there was a reduction in Vectra production between 1999 and 2000 and the closure of the Luton plant. They say these years were not representative of the years of the Claim Period. It seems to us that the closure of the Luton plant should not have had any material effect on the costs of production in the FIN 51 figures because the costs of that closure were not costs of production. The reduction in Vectra production would have increased the allocation of fixed overheads to cars produced, that would have increased cost. Thus it would reduce the claim. Thus whilst we accept that it introduced a factor which undermines the assumptions, we believe it does not affect our determination of an upper bound to any likely overpayment.

336. (a) wages

337. The wages index used was the ONS index of the labour costs per unit of output in manufacturing.

338. In relation to the unit labour cost index Mr. Robinson showed that in the Claim Period it moved roughly in accordance with the result obtained by dividing GM UK's

wage and salary costs, as shown in its accounts, by the number of cars sold in each relevant year. Over the period 1986 to 1997 the "accounts" index was consistently below the unit labour cost index by about 15% of the latter (based from 1983). That indicated to us that the changes in the ONS index were a good approximation to changes in GMUK's labour unit costs in the period. Those costs, like that index, reflected changes in efficiency and production techniques. Overall it seemed to us that for the Claim Period this was a justifiable index to use.

339. (b) Materials and parts

340. The producer output prices index (PLLV) was used by Mr Robinson in the first iteration of his model. It measures the average selling prices of the output of UK producers. The version used excluded food, drink and tobacco.

341. There was initially some discussion between Dr. Holweg and Mr. Robinson about the choice of the relevant ONS index. Dr Holweg suggested that the use of the automotive output prices index (POLQ) would better reflect GMUK's costs. It appeared however that this was not available before 1991. Further in the period between 1991 and 1996 it diverges by very little from PLLV.

342. Mr. Robinson however showed to our satisfaction that the use of other indices made publicly available changed the average cost/price ratio over the period by no more than 2% (from 60% to 58%). We conclude that the use of the index is justified.

343. (4) Changes in productivity or efficiency, the use of resources and specification

344. The assumption is that these are reflected in the Q factor (or if the Ward index is used, the costs of the changes in the specification of the vehicles are in line with the changes in the Ward index, and changes in vehicle content not captured by the Ward Index were counterbalanced by the changes in efficiency and production techniques).

345. Dr Holweg is critical of the use of the Q factor. He says that (1) there is circularity in the argument that the model is a good one because it predicts the 1998 to 2003 FIN 51 data when Q has been arranged to make sure that it does match that data; and (2) that the application of a constant compounding factor for Q (some 1% pa) bears no relationship to the changes in specification and production techniques over the period: it does not pretend to relate to any aspect of reality. Dr Holweg is not as critical of the use of the Ward index but he says that its use excludes the effect of enhancements otherwise than for regulatory purposes and makes no allowance for changes in production techniques. By implication he would be critical of the assumption implicit in the use of the Ward factor that other changes netted out each year to nil.

346. Dr Robinson says that the Q factor represents the best available way of measuring the changes not captured by the other indices. What matters, he says, is the eventual convergence of the shape of the green and red lines.

347. To our minds that difference between the Green line and the 1998-2003 FIN 51 data points represents the effects of: (a) divergence from assumptions covered by the

model (other than the Q assumption) such as divergence between GMUK's materials costs and the index, and (b) variations such as vehicle content and productivity not catered for in the index steps in the model. The aggregate of the effect of the difference is logically represented by the gap between the lines. What becomes  
5 important is not the absolute closeness of the fit of the model to the data but the degree of variation with that data: ie to what extent it goes up and down with it, not how far it is away from it. To that extent we do not accept Dr Holweg's first criticism.

348. What is not clear to us however is that the differences accrued evenly (or even in a compound manner) over the period: the real Q might have been negative in the  
10 years 1978 to 1990 and large and positive in the years 1991 to 1998. Mr Davison spoke of the enormous changes in car manufacturing since 1978, and it is clear that specifications have changed significantly; it is not clear that these changes have moved in step. There was no evidence that the change were smooth. Thus we accept Dr Holweg's second criticism that Q cannot be taken to be a fixed annual figure.

15 349. (5) Others

350. Mr Puzey and Mr Millington suggest that there are two other assumptions inherent in the model: (a) that FIN 51 figures accurately represent cost price and (b) that 1998-2003 can be representative of earlier years. We agree that the first of these  
20 is an assumption in the calculation of the claim but we do not regard it as an assumption of Mr Robinson's model to predict the cost/list price ratio. It seems to us that the better approach is to start with figures which properly represent a "cost"/list price ratio – being Mr Fulcher's figures adjusted as we have described, and then to apply Mr Robinson's model to regress those figures to the Claim Period if that model is found to be acceptable to some degree. In that process the FIN51 figures as adjusted  
25 are not an assumption but a starting point. So far as concerns the second issue, the assumption that 1998-2003 can represent the earlier years, that is the question we seek to answer by testing the assumptions and outcomes of the model.

*(3) Validation.*

351. Dr Holweg agreed that the object of modelling was to reduce reality by creating  
30 a number of assumptions and thereby ignoring certain variables which occur in reality; thus the failure to take into account a particular feature of reality was not something wrong with the model but an inherent feature of any model. The question was to what extent does the model represent reality and that is tested by the congruency or otherwise of the results of the model with reality. The question  
35 becomes whether the degree of error when the results of the models are compared with reality suggest that too much has been ignored in making the relevant assumptions. That, he said, was where subjectivity came in: the level of error which would be acceptable varied by discipline. In the social sciences 90% or more was treated as the minimum.

40 352. Dr Holweg says that statistics is a game of large numbers. He says that four or five data points provide very little comfort for the accuracy of a model. He says that he would expect about 30 data points before a reliable estimate could be made of the degree of error in the model. The figure of 30 was a convention and the reliability

even then was dependent upon the lack of significant error in the prediction. It depended to some extent on the confidence levels sought. In his profession levels of 90% or more were required. The convergence of the model and the FIN51 Data was not of sufficient quality to present to an academic audience as proof of the model.  
5 There was in his view insufficient data to prove that there had been a significant deviation from the 66% cost/list price ratio.

353. Mr Robinson compares the Blue and Red line predictions produced by his model as extrapolations of the 1978 starting point to the actual FIN51 figures for 1998 to 2003. He says that they differ by only a few per cent. He says that given the period  
10 between the starting point in 1978 and the first FIN51 data, the accuracy of the prediction is impressive and indicates that the model is likely to be reliable.

354. Document 954G also makes a comparison between prediction of the Q model and the FIN 51 data for the years 2004 - 2011. It shows that the average absolute error in that comparison (when production rather than sales volumes are used to moderate  
15 for the effect of greater or lesser volumes on attributed fixed costs) is 4.15%, and for the period 1998 - 2003 that the mean absolute error was 3.8% (with a range of between 0.07% and 6.46%).

355. Document 954G was given to us after Mr Robinson had given his evidence but had obviously been produced by him. Dr Holweg commented upon it in his evidence.  
20 The document shows the effect of the application of Mr Robinson's forecasting methodology to estimate from a 1978 starting point of 2/3 the cost/list price ratio in years up to 2011. It shows the effect of moving from car numbers based on sales - which were originally used in Mr Robinson's calculations - to car numbers based on production, and shows the effects of different figures for Q. It contains no Ward  
25 comparison.

356. It seems to us that the closeness of the predicted figures from Dr Robinson's revised blue line to the movements of the FIN 51 ratios is persuasive that the model does produce something which is close to the FIN51 data. It does not convince us that it produces it accurately: as the absolute mean error of 4.15% on 954G for the  
30 comparison of FIN51 with the production based model shows.

357. The schedule compares the results of the figures produced for the cost/list price ratio by the model on the basis:

(1) of sales car numbers and a Q of 1.303, and

(2) of production car numbers and a Q of 0.934

35 with the FIN 51 figures for 1998 to 2011. (Mr Robinson's comparison in his earlier evidence had been against Mr Fulcher's numbers for 1999 to 2003. We asked during the hearing whether that data could be extended to a longer period. The appellant produced figures for 2004-2011 but told us that they did not rely on them.) The use of production rather than sales figures to moderate fixed costs appears to us to be a  
40 justified input to the model. We thus concentrate only on the results of (2).

358. Under basis (2) the ratio produced by the model for 2003 almost coincides with the FIN 51 figures for that year. We therefore approached the model as if it predicted from the 2003 figure the figures for earlier years (there is no difference in the computational methodology between running forwards and backwards). The comparison showed that the FIN 51 ratios moved broadly in harmony with, but exceeded, the model's predictions. The excesses were:

1998	4.22%
1999	6.48%
2000	4.7%
2001	3.89%
2002	(3.57%)

and for the additional years (where GMUK did not rely on the figures):

2003	6.15
2004	1.08
2005	(4.96)
2006	(7.31)
2007	(0.81)
2008	(11.84)
2009	(0.46)
2010	2.54

10

The first set of figures, and the general correspondence of the figures, suggested to us that it was likely that the model delivered a result for periods before 1998 which was within a margin of the result which would have been produced by the FIN 51 numbers had they been available. The question was, what was that margin?

15 Discussion – the model

359. We should start by mentioning one element of Dr Holweg's evidence to make clear how we have approached it because it was the subject of some discussion before

us. In his second witness statement Dr Holweg produced a model using much of Mr Robinson's base material in which he showed the effects of adding the effects of uncertainty in a particular variable to a model. He applied a probability distribution to the inputs and ran a Monte Carlo simulation which provided maximum likelihood estimates for each of the years 1978 -1997 and a probability density function for the 1996 cost/list price estimate. There were some concerns about the basis of the variation Dr Holweg had provided, but it was clear that his object had not been to produce a competing prediction, but to show the effects of uncertainty in the variables on the eventual prediction and of using a slightly different model. He was keen to show the effect in figures. We accept the point he makes, have not taken this model as producing competing values for the cost/price ratios.

360. In this section we deal with the version of the model in which Q rather than the Ward index is used and in which the figures for vehicles produced, rather than sold, are used to moderate the fixed costs. This appears to us to be one of the results displayed on 954G

361. It seems to us that the exercise we are required to conduct is different from that a medical statistician might attempt in this respect. A medic would not want to offer a new treatment unless really very confident that it would do no harm. The phrase 95% confidence describes that quantitatively as well as mathematically. We are in a different position. Our concern is whether something is more likely than not. Not quite the toss of a coin but not beyond reasonable doubt. We are not in the land of academic papers.

362. The experts could not give a figure for the likelihood that the model predicted the right results. They could not say "it is more likely than not that the model overstates or understates the cost/list price ratio in any year" or "there is a 26% chance that the model is right to within 7%". We are left with subjective impression; but comforted to some extent by the fact that Dr Holweg tells us that the level of confidence required or accepted in more rigorous academic circles is in the end a subjective decision.

363. We noted at [8] the question as to whether a model could be produced which, by gathering variances between the model and the 1998 to 2003 FIN 51 data, could provide a probability density or a confidence interval for results in earlier years (eg "the ratio for 1990 is predicted with confidence of x% to have a normal distribution with a mean of 56% and a standard deviation of 2%" or a conclusion that "we can say with x% confidence that the ratio lies between 26% and 76% ). Dr Holweg did not think this possible on the information available and the appellant did not volunteer one. We are thus stuck with a more subjective approach.

364. We are persuaded that the assumptions inherent in Mr Robinson's model are unlikely to produce errors in the Claim Period which are not reflected in (by which I do not mean equal to) the degree of error produced in the period of comparison with the FIN 51 results. The assumptions are not unjustifiable or incapable of being reflected in the evaluation against actuality, and our consideration of them did not indicate that the simplifications which they introduced were likely to give rise to

significant changes in the Claim Period which were not encompassed by the variables used (that is to say for example there was nothing to suggest that car industry labour costs, even though they might not be the same as the index sample, would in any year depart in a material way from their previous level of divergence so far as that period is concerned). As a result it seems to us that if comparison of the outcomes of the model with reality support a conclusion that the actual Claim Period ratios lie within a range of the model prediction, the nature of the assumptions underlying the model is not such as to upset a conclusion to that effect.

365. If one considers the model as predicting from the 2003 data the FIN51 data for 1998 to 2002 – ie one applies its methods, assumptions and data to see what it predicts for those periods, one may assess its validity in that period by reference to the fit to those known points and the possible variations of the real Q in that period against the presumed fixed Q become part of the evaluation of the fit to actuality. If one can conclude that there is a likelihood that within particular parameters the model does predict reality, then one may be able to assign a likelihood to its doing so within a margin for years before 1998.

366. It seems to us that the use of a starting point of 1978 has shown that the model does have some predictive value. But it is better to use it to regress back to the Claim Period from the FIN51 ratios for 1999 – 2003 to obtain for the Claim Period estimates of the FIN51 data than to try to estimate from the more distant past (1978) the ratios in the Claim Period. This has the practical advantage that any changes that arise as a result of our conclusions on the compilation of the FIN 51 ratios are taken into account in any conclusion as to the ratios which applied in the Claim Period, rather than requiring a subsequent adjustment.

367. The figures in 954G referred to above use Mr Robinson's original Q factor rather than the interpolated Ward index. The difference between the use of the two factors results in the period of comparison with the FIN51 ratios is that the Ward index ratios are lower in each year by an average of 3%. That indicates that if the Ward index is used in the model regressing the FIN 51 figures back to the Claim Period it would deliver a greater cost/list price ratio in that period. But the Ward index accounts for only some changes. It seems to us that the conclusion that the Q predictions lie within 6% to 7% of the actual is enough to encompass a similar conclusion that they lie within a lesser range of the Ward figures.

368. At paragraph [358] above we ask within what margin it could be said that it was likely that the model's results coincided with those which would have been derived from FIN51s had they existed. Given the variation shown in the table in that paragraph it seemed to us that that margin should in periods adjacent to 1998 to 2003 be 5% - so that one could say that it was likely that in that period the FIN51 result fell within 5% of the result forecast by the model.

369. But we were unwilling to conclude that we could draw the same conclusion in relation to the same margin to periods further away from 1998-2003. That was for three reasons:

(1) the more iterations of an algorithm, the greater the scope for the significance of a compounding error;

(2) the comparison of the model's results with the new (unattested) FIN51 figures for 2004-2011 gives a feeling of some unease;

5 (3) the possibility that one or more of the constituents of Q did not change such that Q was uniform over the period became more significant.

370. On this basis we have concluded that it was likely that the model delivered results which were no less than:

(1) 6% less than the FIN 51 figures would have been in 1991 to 1996,

10 (2) 7% less than what the FIN 51 figures would have been for 1986 -1990

and that it was not possible to say that it was likely that the difference would have been less than that.

### Rich Mix

371. We have explained that Mr Fulcher calculated an adjustment to the FIN 51 ratios for the rich mix of own use cars. When Mr Robinson constructed his first model he calculated his Q factor on the assumption that there had been no material rich mix in 1978 but that it grew in the intervening years. That was a conservative assumption made on the basis that over time technological developments led to a wider range of specifications becoming available and a larger differential between high end and basis models of the same car. However, when using the Ward Index rather than the Q factor Mr Robinson made no adjustment for the rich mix.

372. In his final comparison of the model against the FIN51 ratios Mr Robinson used the unadjusted ratios. Thus it was implicit that the 1978 starting point did not include any element of rich mix. We agree that it is unlikely that the 1978 ratio included this sophistication. On that basis (i) the evaluation of the model against the FIN 51 data is uncomplicated by the rich mix question; and (ii) any adjustment for rich mix must be made after the estimation of the relevant cost/list price ratio by the regressive application of the model.

### **SUMMARY** [Numbers in square brackets are to paragraphs of this decision.]

30 1987 – 1993

373. In this period ([47]) the value of the self supply is to be calculated as the lower of:

(1) the purchase price of the cars; and

(2) the cost of the cars

35 1994 – 1996

374. In this period ([46]) the value of the self supply is to be calculated by reference to the purchase price of the cars.

## Purchase Price

375. This means ([30]) the price at which someone in the Appellant's position would have paid for the cars had it bought them at the time of their appropriation:

5 (1) in the case of imported cars that means the import price payable to the relevant sister company under whatever agreement subsisted between them at the time. We set out our conclusions in relation to the cost/ list price ratio which would apply in these circumstances at [226 and 227];

10 (2) in the case of UK assembled cars that means the list price less the discount and rebates the appellant would have got as a bulk purchaser in its bargaining position. We found that it was not shown that that would be less than 2/3 of the list price ([118]);

(3) where a car could be purchased from a sister company for a price less than that determined under (2), that import price would be the purchase price.

## Cost Price

15 376. This means all the expenses attributable to bringing the car to its condition at the time of appropriation and includes direct expenses of manufacture, related overheads and cost of development and design [56].

20 377. In the attribution of any fixed cost as part of the cost the method of attribution adopted for commercial purposes by the manufacturer determines its proper attribution for these purposes ([57]). This relates to the calculation of the relevant portion of a fixed cost, not to the question of whether or not a particular expense should be treated as part of the cost price.

25 378. Whilst the level of rebates and discounts given indicated an upper bound to the variable costs incurred by the appellant, it did not provide much help in providing a guide to cost for the purpose of the self supply. We could not say that it showed that such cost was no more than 66.66% of list price ([130]).

30 379. It was not impermissible to use approximations and a model which relied on macroeconomic data in order to determine the likely cost of a car where direct evidence was not available; but only to the extent that the assumptions made were justifiable and the tribunal could conclude that the model produced figures which were more likely than not ([307]).

35 380. The estimation of the cost of self supplies of UK assembled and imported cars produced by the appellant's method (including the macroeconomic model) would, subject to the following changes, provide a figure for that cost which was likely not to have been exceeded in that year:

(1) LPUK and LP should be calculated on the basis of the prices prevailing in the preceding year [170(1)]

(2) in the calculation of the number of imported vehicles, it had not been shown that the mix of own use vehicles was the same for UK assembled cars as

for imported cars. The calculation of the likely minimum cost therefore should be made on the basis which gives the higher cost according to whether I+10% or I-10% of own use cars were imported [194];

5 (3) for the years 1993-1996 we conclude that CI% was no greater than 61%. ([226]). For the period 1987 – 1992 we are not persuaded that purchase price or cost of an imported car was less than 2/3 of list price [228];

10 (4) to the cost/ list price ratio for the Claim Period obtained for UK assembled cars from Mr Robinson’s model in its 954G iteration (production numbers and Q= 0.934) 6% should be added for 1991 to 1996, and 7% for the years 1986 to 1990 to reflect the margin of uncertainty over the outcome and operation of the model [370].

(5) The model should be applied to obtain ratios for the Claim Period from the 2003 FIN ratio after the adjustment of that ratio for the following factors:

15 (a) the addition to the transfer price for imported components should be adjusted as described in para [251];

(b) the costs of R&D included in cost should be no less than 5% of the list price [267];

(c) 2% should be added to the ratio to reflect the snapshot effect of the FIN 51 ([270])

20 (d) the calculation of the weighted averages should be adjusted as explained in [278];

(6) having calculated the cost/price ratio in accordance with (1) to (5) above a reduction of no more than 1% should be made for rich mix [290] for UK manufactured cars.

25 381. The appellant persuaded us that it was likely that it had accounted for VAT using the 2/3 proxy on all cars throughout the Claim Period ([187]).

## **Result**

382. Thus the Appellant succeeds in the appeal to the extent that the VAT which it accounted for on 2/3 of the list price exceeds the VAT that the Appellant would have paid had it accounted for VAT on cost or purchase price as determined above.

383. We adjourn the appeal in the expectation that the parties can agree the figures. If they cannot either may apply for the reconvening of the hearing.

## **Rights of Appeal**

384. In relation to any of the matters which are decided by this decision, it contains full findings of fact and reasons for the decision. Any party dissatisfied with this decision has a right to apply for permission to appeal against it pursuant to Rule 39 of the Tribunal Procedure (First-tier Tribunal) (Tax Chamber) Rules 2009. The application must be received by this Tribunal not later than 56 days after this decision is sent to that party. The parties are referred to “Guidance to accompany a Decision

from the First-tier Tribunal (Tax Chamber)” which accompanies and forms part of this decision notice.

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**CHARLES HELLIER  
TRIBUNAL JUDGE**

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**RELEASE DATE: 14 August 2013**