Central Statistical Office

Retail Prices Index
Advisory Committee

Treatment of new and used cars in the retail prices index
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Presented to Parliament by the Chancellor of the Exchequer by Command of Her Majesty
December 1994
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Terms of reference of the RPI Advisory Committee

The Chancellor of the Exchequer announced the reconvening of the Retail Prices Index Advisory Committee in February 1992. Its members were appointed in March and are listed overleaf. The terms of reference of the Committee, after modification in May to include owner occupiers’ housing costs, were:—

“To advise the Chancellor of the Exchequer on the implication for the retail prices index (RPI) of the abolition of the community charge and its replacement by the council tax; to review progress on implementing the Committee’s previous recommendation on the inclusion in the index of expenditure on holidays; and to review the present treatment in the index of owner occupiers’ housing costs and new cars. In framing its recommendations the Committee is asked to take account of the practices in other European Community countries.”

The responsibilities for definitions and methodology in relation to statistics were set out in the Framework Document of the Central Statistical Office (CSO), when it became an Executive Agency in November 1991. That document states:

“The Director is responsible, within the framework of international agreements and conventions, for the definitions and methodology in relation to statistics issued by the CSO with the exception of the RPI. In the case of the RPI, the scope and definition of the index continue to be a matter for the Chancellor of the Exchequer. The Director will continue to take the lead in advising on methodological questions concerning the RPI and to chair an RPI Advisory Committee to which the Chancellor will refer issues for consideration as appropriate.”
Members of the Retail Prices Index Advisory Committee 1992-94

Chairman
Mr Bill McLennan (Director of the Central Statistical Office and Head of the Government Statistical Service)

Members
Mr John Astin (Statistical Office of the European Communities, Luxembourg)
Sir Samuel Brittan (The Financial Times)
Mr Julian R Calder (Central Statistical Office) - from July 1994
Professor David Cume (London Business School)
Professor Michael C Fleming (Loughborough University)
Mr Kenneth H B Frere (nominated by the National Federation of Consumer Groups)
Mr S G Brian Henry (Bank of England) - to April 1993
Mr Tom Hoyes (nominated by Age Concern)
Mr John Hughes (nominated by the National Consumer Council)
Mr David Lea, OBE (nominated by the Trades Union Congress)
Miss Ruth Lea (Economics Editor, ITN)
Dr Rita J Maurice (Statistical consultant)
Mr Colin Mowl (H M Treasury)
Dr John Muellbauer (Nuffield College, Oxford)
Professor John F Pickering (University of Portsmouth)
Mr Lionel D D Price (Bank of England) - from May 1993
Professor D Garel Rhys, OBE (Cardiff Business School)
Mrs Bridget Rosewell (Business Strategies Ltd)

Dr Penelope Rowlatt (National Economic Research Associates)
Dr Andrew Sentance (nominated by the Confederation of British Industry)
Professor Ralph Turvey (London School of Economics)
Mr Reg Ward (Central Statistical Office) - to April 1994

Secretary
Mrs Marta F Haworth (Central Statistical Office) - from June 1993
Mr Don J Sellwood (Central Statistical Office) - to April 1993

Assistant Secretary
Mrs Margaret Dolling (Central Statistical Office)
1 Introduction and summary of recommendations

Introduction

1. The Committee has reviewed the present treatment of owner occupiers’ housing costs and new cars in the retail prices index (RPI). Its recommendations on cars are summarised below and detailed in Section 2. Recommendations on housing are being published in Cm 2717. These reports complete the Committee’s current remit. Recommendations on the two other items in its terms of reference, council tax and holidays, were published in Cm 2142 in January 1993 and Cm 2153 in February 1993. Those were accepted by the Chancellor of the Exchequer and implemented in the index for 1993.

Summary of recommendations

New and used cars

2. The Committee recommends that:

a. no fundamentally new methodology should be adopted at present for the treatment of new cars in the RPI;

b. an index of used car prices should continue to be incorporated as a proxy for new car price movements. The sample of models for that index should be chosen to be representative, as far as possible, of new cars bought by households;

c. an index of used car prices, constructed to be representative of used cars bought by households from other sectors, should also continue to be incorporated;

d. the present practice of compiling a price indicator from the prices of two- and three-year old cars should be retained, both for new and used cars, along with the present compilation methodology;

e. the two used car price indices, one representing new cars and the other used cars, should be weighted together in the all items RPI in proportion to index households’ net expenditure on new and used cars respectively;

f. the CSO should continue to monitor new car prices, exploring further the feasibility and cost of direct collection of transaction prices and of making adjustments to list prices for changing quality and discounts;

g. an index of new car prices should be introduced into the RPI in place of the proxy one derived from used car prices if it is judged to be satisfactory and cost effective;

h. the CSO should assess the practicability of collecting used car prices directly from dealers, auctions and other sources, substituting them for the present trade guide data if appropriate.
2 New and used cars

What the Committee was asked to do and why

3. The Committee was asked to review the present treatment of new cars in the RPI, taking account of the practices in other European Union (EU) countries.

4. The RPI contains a price index for cars but it is derived entirely from the price changes for used cars. This practice followed recommendations of previous Advisory Committees, as described below. Recently, there was some concern within Government and among outside commentators that used car price movements might no longer be the best guide to price changes for all cars, including new ones, bought by index households. Manufacturers were seen to be advertising a variety of discounts on new cars and there was some suggestion that the index might not reflect short-term price movements satisfactorily even if long-term ones were well covered.

Present practice in the RPI

5. New car prices have never been used as a price indicator in the RPI, partly because of the difficulty of constructing a satisfactory indicator but also because new car purchases have been of much less importance to households than those of used cars. An indicator is compiled from prices of used cars and taken as the indicator of all car price changes. The implicit assumption is that new and used car prices move in line with one another in both the long- and short-term. It is also assumed that pricing used cars of this age avoids the need to make explicit adjustments for quality changes that occur in new cars. A particular model whose specification has changed will be available with “new” and “old” specifications simultaneously in the used car market. The difference in price between the two will reflect consumers’ valuations of the difference in quality. With overlapping prices for the two at the same time it is thus possible to link price movements up to the specification change with those for subsequent periods without including that part of the price change attributable to the change in quality.

6. The weight for the cars’ price index in the all-items RPI is measured by index households’ net expenditure (ie purchases less sales) on both new and used cars. Index households are all households except those with the highest 4 per cent of incomes and pensioner households deriving 75 per cent or more of their income from state benefits. Data on their expenditure on car purchases for private use are obtained from the Family Expenditure Survey. In 1994 the total weight in the RPI for car purchases was 58/1000, with new cars contributing 30 per cent of expenditure and used cars 70 per cent. The paths of the index of car prices in recent years and the year-on-year percentage changes in car prices are given, along with the all-items RPI, in graphs 1 and 2.

7. The CSO produces two price indicators for used cars - for two-year old and three-year old cars. The two indicators are combined (giving equal weight to each) to give a single price index for used cars which is included in the RPI. The reason for pricing two- and three-year old cars is that those are the most representative age groups for index households’ purchases of used cars from non-households; company cars are generally sold after two or three years.
Graph 1

Car prices index and all items RPI

Graph 2

Car prices index and all items RPI
Percentage changes over 12 months
Older cars are generally sold by index households to other index households, directly or through dealers, and therefore net household expenditure on them, and their weight within the RPI, is relatively very small.

8. A sample of some 40 models of two- and three-year old cars is priced at present, using retail prices information from Glass’s Guide. These prices are weighted together according to the approximate market shares of the corresponding manufacturers for new car sales two and three years before the current year.

9. There are at least three difficulties to be overcome in measuring the prices of cars: the treatment of new models and specification changes; the measurement of discounts; and establishing the types of cars that are within the scope of the RPI.

10. The first problem is monitoring vehicles of a constant “quality” over time, so that pure price changes are not confused with those stemming from changes in specification. In this context, “quality” may relate not only to objective features such as the inclusion of audio equipment, but also to consumers’ perceptions of less easily measurable features, such as changes in design or comfort. In some cases, the law may require incorporation of new features regardless of whether the consumer wishes to pay for them. There is no straightforward answer to the question of how far they constitute an improvement in quality to the consumer.

11. The second main problem to be tackled is establishing the actual prices paid by buyers, not simply manufacturers’ list prices or dealers’ advertised prices. If list prices are widely discounted and the level of discounts varies over time or between dealers, then it becomes important to reflect those discounts in any price index. Related to this are the treatment of financial benefits and allowances for cars which are traded in part-exchange. Part-exchange allowances are not always easily separated from discounts.

12. Turning to the third difficult area, for the purpose of the RPI the only car prices that should be considered are those for cars bought by “index” households for private use. Cars bought for business use, which have generally represented between about half and two thirds of new car purchases in recent years, should be excluded from both the price indicator and the weight. In practical terms, this distinction is not easy to make, particularly when choosing a suitable sample of models to be priced to be representative of households’ purchases.

13. The problems of pricing new cars were considered in 1968, 1986 and 1990. In 1968, the Committee discussed the difficulty of pricing changes in new car specifications and of obtaining realistic transaction prices. They considered that the used car index could be regarded as quality adjusted:

“When a model is changed, it is possible to calculate the prices for both the old and new model of almost precisely the same age. The difference between these two market prices is regarded as a measure of the difference in quality of the two models and the price relative for the new model can be linked to the price relative for the old model to form a continuous price relative adjusted for changes in quality.”

[Cmnd. 3677, July 1968, paragraph 86]
They concluded that the used car index had worked well and provided the best measure of changes in the retail price of both new and used cars that could be constructed at that time from the information available.

14. In 1986 the Committee commented that it saw a pressing need for a better index for car prices and believed it ought to be feasible to do better than assume new and used car prices moved in parallel. However, they reviewed the treatment of quality changes in general in the RPI, not only in connection with cars, and took the view that there was no universal approach which would satisfactorily solve the problems. They were not convinced that hedonic regression - a statistical technique to estimate the contribution of individual characteristics of a good or service to changes in its price - was of use in the RPI, but thought that there was a possibility of using producers’ resource costs as a proxy for consumer valuation of quality change and suggested this should be investigated further. In their view there was no reason to believe that the index as a whole had been subject to systematic bias from the omission of explicit adjustments for quality change.

15. The 1990 Committee reconsidered the question of quality adjustment for new cars and concluded that the cost to the manufacturer of specification changes was a poor proxy for their value to the consumer. They therefore resolved not to recommend a change in the well-established methodology which took the price index of two- and three-year old used cars as a proxy for new in the RPI. That index was and is, of course, also included in the RPI as a direct measure of price changes for used cars themselves.

The work of this Committee

16. The present Committee reviewed the possibility of measuring new car prices for the RPI and whether it was still appropriate to regard the used cars index as a proxy for new car price movements. They also re-examined the current methodology for pricing used cars to see if improvements could be made and investigated the possibility of improving the methodology for constructing the sample of cars priced in the used cars index. The methods used for measuring car prices in the consumer price indices (CPIs) of other countries were examined to see if they could be employed in the RPI.

Practices in other European Union countries

17. Existing practices in other countries indicate some support for adjustments of the “option cost” type to published new car prices to remove the price effects of specification changes as far as possible, but provided little or no supporting evidence that the resulting indices are quality-adjusted to a satisfactory extent. Also, because of the practical difficulties, there is generally no attempt to monitor actual transaction prices or put consumers’ valuations on specification changes. Details of practices elsewhere are given in Annex 1.

18. Given the similarities between the cars available in different EU member countries, it might be reasonable to assume that an acceptable EU-wide methodology for adjusting for quality changes over time could be developed. However, the Committee was not convinced that any of the other member countries had found a demonstrably satisfactory solution to the quality-adjustment problem that would give a clear lead for the United Kingdom.

19. Eurostat (the EU statistical office) and the EU Member States’ statistical offices are working towards production of harmonised CPIs (HCPIs) and a combined CPI for the whole of the EU, using common methodologies, from 1996. As far as specific harmonised indices for cars are concerned, work with Eurostat and Member States is not sufficiently far advanced to provide detailed guidance on likely requirements or developments. The United Kingdom is
alone in not having a specific index of new car prices and it may have to develop one for use by the EU. The UK index of car prices was developed based on used car prices because used cars are relatively more important to UK households than new ones. Unlike the United Kingdom, some other countries do not have indices of used car prices, possibly because used car trading between households and non-household sectors is relatively less important for them.

20. In the light of previous Committee reports, this Committee felt it should first see if it was feasible to develop acceptable measures of new car price movements after eliminating quality changes. The Committee, with consultants from the Centre for Automotive Industry Research at Cardiff Business School, examined various theoretical possibilities, including the use of hedonic regression based on list prices. If any of these proved practicable the Committee then planned to address the collection of data on discounts and measurement of trade-in prices. It would be acceptable, from a theoretical viewpoint, to formulate separate price indicators for list prices, quality adjustment, discounts and trade-ins and weight them together into a composite price index for new cars. Alternatively, hedonic regression techniques might be used in conjunction with actual transaction prices if sufficient data were available.

21. The consultants studied three different methodologies that might be used to adjust the list prices of new cars for quality changes over time. These were option cost correction, matched comparisons (the standard RPI methodology) and hedonic pricing; they are detailed below. The resulting indices were compared with a simple averaging approach, in which an index is derived from the average price of a panel of vehicles in successive time periods with no adjustment for quality changes.

22. The data used, on list prices and detailed specifications, were obtained from the magazine What Car? on a monthly basis covering the period January 1986-April 1993. The sample of 37 models to be priced was the same as that already being used by the CSO to compile an experimental index for new cars. The CSO sample had been selected to be broadly representative of the major manufacturers’ shares of the new car market, but it was recognised that the selection was not entirely satisfactory in various respects if it was to be representative of index households’ purchases. The consultants examined the number and characteristics of the sample cars and compared them with the car market generally, with a view to recommending improvements if appropriate.

23. The first method of adjustment for quality change, option cost correction, uses information on the prices of optional extras to value quality change in models for which those specific extras have become standard. The option prices used may be either those charged to the consumer or manufacturers’ costs plus an estimated margin; in this case list prices to consumers were used. The limited availability of data on option prices meant that only a few adjustments, in respect of six “factory-fitted systems” (automatic transmission, 5-speed gear box, power steering, anti-lock braking system (ABS), catalytic converter and alloy wheels), could be made to the list prices for the panel of cars. The resulting quality-adjusted index therefore followed the simple averages one very closely.

1. The full report of the consultants will be published separately by the CSO.
24. The second method, quality adjustment using matched comparisons - matched pairs of prices over time for the sample of vehicles - involves using only those models which can be regarded as unchanged over time to build up a price index. An experimental index had already been compiled on this basis for some time by the CSO, using list prices (as given in Glass’s Guide) and methodology which requires calculation, for each model, of the relative price for the current month compared to that for the previous January. These “price relatives” were then averaged to give the overall price change since January.

25. As many of the individual models as possible were included within each year’s calculation and the models included were reviewed at each RPI annual reweighting for production of the February index. Models that could not be matched throughout the year had to have new price relatives linked in to old ones. Discontinued models were dropped from the comparisons while new ones had to have a previous-January price imputed for them, estimated from price movements for similar models in the intervening period. Successive years’ price indices were chained together from January. In general, no other specific, option cost type, adjustments for quality changes were made.

26. The approach was regarded as unsatisfactory on several criteria, not least because the imputation procedure did not necessarily eliminate the effect of quality changes. There was no guarantee that an appropriate January price could be imputed to a new model introduced part way through the year on the basis of recent price movements for other models, some of which were possibly about to be discontinued. The procedure of annual chaining and, within each year, of linking price relatives before and after a substitution assumes that list price relativities always reflect quality relativities. The Committee was uneasy about making that assumption. The method resulted in a particularly erratic index.

27. A number of different analyses were undertaken using the hedonic pricing approach to quantify the contribution of individual characteristics and options to price changes. Both static and dynamic hedonic models were considered. Neither type of model proved satisfactory. Very few of the options or features that could actually be measured were shown to be relevant to price changes while, by implication, unmeasurable characteristics may have been much more relevant. The dynamic model, which used the data for all time periods together, did not provide stable estimates of the contributions of specific characteristics to the quality-adjusted price. Also, even if the model were to fit the data satisfactorily, it would not be possible to make any retrospective revisions implied by it to the RPI as that index is never revised. The static model, using data for particular points in time, though useful for analysing quality changes for historical data, could not be used to make satisfactory estimates of the value attaching to specification changes for current or future periods.

28. The result of these studies was that neither the consultants nor the Committee felt able to recommend adopting any of these methods for making quality-related adjustments to list prices over time. The Committee decided that, without satisfactory price adjustment for specification changes, there was little possibility of making use of data on discounts or other transaction details even if they were to be collected. As noted above, the Committee looked at practices in other countries to see if their methodologies would be of help to the United Kingdom but concluded, on the basis of discussions with a number of other price index compilers, that they had not solved the problems of quality adjustment either.
29. The Committee therefore did not feel able to recommend methodology for a separate new cars price index for the RPI at present. However, it did feel the CSO should continue to attempt to develop a satisfactory index of new car prices, particularly in view of the possibility that new cars might become relatively more important to households following tax changes reducing the attractiveness of company cars.

**Used car prices**

30. The size of household net expenditure on used cars makes it important to monitor their prices satisfactorily in the RPI, particularly bearing in mind that the resulting index is also providing a proxy for a quality-adjusted new car prices index. The Committee therefore reviewed the methodology for the used car prices index.

31. The consultants examined the structure of the used car sample of models in relation to the market and the availability of data for weighting individual models’ prices together. They also examined the existing source of prices data and possible alternatives and, with the Committee and the CSO, reviewed the way in which the data are currently used in the CSO calculations.

**Age of cars**

32. The Committee concluded that the pricing of two- and three-year old models was a sound practice that should be maintained. After two years, the car market is no longer susceptible to deliberate manipulation of advertised and transaction prices by manufacturers or importers and the majority of the cars are being bought by the household sector, not companies. At the other end of the age range, cars over three years old are more frequently traded between private individuals; not only is there less information available on their transaction prices but also net purchases by the household sector are fewer and the prices should therefore have very little weight in the RPI.

**Quality adjustment**

33. The problem of linking new to discontinued models does not arise to the same extent as for new cars. A new selection of models, including more up-to-date ones when appropriate, can be introduced into the sample at the beginning of a year, when the RPI is reweighted, since their advent is known in advance. Individual existing models do not normally disappear from the used car market during the year, unlike the new car market in which models cease to be available. It is therefore possible to maintain a constant sample of models in the used car index throughout the year.

34. Similarly, the problems of adjusting prices to allow for specification changes over time do not arise to the same extent for used cars as for new ones. Since the prices recorded are derived from actual transactions they incorporate consumers’ valuations of the features of the cars traded. Glass’s Guide gives no information about the implied prices of specific features in used cars. However, experience suggests that in many instances different features make little difference to prices for cars of the same model. For example, a car with a particular optional extra fitted when new does not generally command a higher price in the used car market than the same model without that option. Some may even be regarded as undesirable features by private purchasers, for example, cars with automatic transmission, which increases fuel consumption, may command a lower price than those without it. The Committee concluded it is generally unnecessary to make option cost type adjustments to used car prices to counteract specification differences within a particular model range.

35. A used car index taken as a proxy for new car price movements has the advantage of automatically reflecting consumers’ perceptions of the value of improvements in specification of new cars. The advent of improved models in
the new car market with features regarded by consumers as offering better value for money will tend to depress the prices of used cars without them, thus providing an implicit quality adjustment in the index based on consumers’ valuation of the quality changes in the new models.

**Data sources**

36. The Committee reviewed the use of Glass’s Guide. It is well known and respected in the motor trade and, although not available to the general public, is recognised by buyers as influential. However, the Committee noted that the retail prices it quotes are intended to be a guide to what cars can be expected to sell for in the month following publication (which is when they are used in the RPI), not what they were sold for in the latest month. They will therefore incorporate some element of judgement by the compilers as well as any impending changes that are known to them. This is not necessarily appropriate for the RPI.

37. The other main trade price guide available is the CAP Nationwide Black Book, which has been in existence for about 15 years and is thought to have a circulation around half that of Glass’s Guide. Its presentation of “standardised” prices is different from Glass’s Guide and, on occasion, it may incorporate more up-to-date data on actual transactions with final consumers and be less directed towards influencing future market prices and smoothing out erratic features. The Black Book gives average prices corresponding to three specific standard mileages for each model. Those quoted mileages are held constant for a full year, unlike the treatment in Glass’s Guide in which standard mileages are increased each month to reflect increased use on average. However, in their current form, the Black Book data were seen to present certain problems and it proved impossible to produce a plausible price index from them. They certainly offered no recognisable improvement on Glass’s Guide.

38. The alternative to using published price guides is direct price collection for the RPI. In the short-term, the CSO is unlikely to be able to collect prices directly itself to provide as good coverage of the market as the various price guides and the Committee considers it should continue to use the prices in Glass’s Guide. However, the Committee recommends that the CSO should assess the practicability of collecting used car prices directly from dealers, auctions and other sources in future and also continue to monitor the suitability of other existing sources of price information, substituting them if appropriate.

**Methodology**

39. The two component sub-indices for two- and three-year old cars, are constructed in identical fashion, using broadly the same sample of cars within any given year. That for two-year old cars takes as its base price for each model in the current year’s sample the price recorded in the January edition of Glass’s Guide for a car registered two years and two registration letter prefixes earlier. For example, the cars adopted for pricing in January 1993 had a 1991H registration. Prices of the same models are then tracked through the year using successive monthly issues of Glass’s Guide.

40. Some adjustment has to be made to the Guide prices for February and later months so that the resulting index prices a “constant quality” sample of models throughout the year. An older car and/or one which has a higher mileage will fetch a lower price. The Guide provides two broad options for adjusting prices throughout the year: one based on average time elapsed from first registration; and the other on mileage.
41. Cars are apparently recorded in Glass’s Guide only according to year of registration and registration prefix letter. In fact, the Guide specifies cars notionally registered in the March and August of each year, as can be deduced from the average mileages quoted alongside the prices. The average car of three years old or less is assumed to have covered 1,000 miles a month since its first registration. For example, by January 1993 an average car first registered in March 1991 was assumed to have covered 22,000 miles; in February it was deemed to have been used for another month, being quoted at 23,000 miles. Thus, while individual cars whose prices underly any particular published average price are not necessarily one month older in each successive edition, the average price quoted is for a car that is notionally one month older, as indicated by the average mileage attached to it.

42. The present RPI method of price adjustment to price a standard car in constant condition uses time, based on perceived chronological age in successive months. This method can also be interpreted as implying a constant average mileage associated with the resulting price. Details are given in Annex 2. It was suggested that price adjustments might be better based directly on mileage, not apparent chronological age of cars. An alternative index was constructed based on adjusting individual models’ prices using the mileage adjustment tables given in Glass’s Guide to maintain the mileage in the base month of January, i.e. 22,000 miles. This index showed a pronounced downward trend between 1990 and 1994.

43. The alternative results were regarded as much less plausible than those produced by the present method. They implied unrealistic underlying depreciation rates, at constant prices, of around 5 per cent per annum compared with the much more plausible estimate of around 15 per cent with the present method. Also, the path of depreciation throughout the year was considerably less stable. It can be argued that the present weighted average methodology is already producing a price applicable to a car with constant mileage (22,000) throughout the year. Further apparent refinements may not actually improve the result since they are derived from broad adjustment factors for groups of models rather than for specific models.

44. These results might also be unsatisfactory because the mileage adjustment compensates for the physical depreciation of the value of the vehicle but fails to take into account the perceived ageing of the whole model range. However, there is some evidence that used cars do not immediately become less attractive in August because their registration plates are a year further away from a new registration. On the other hand, they almost certainly do become less attractive as new model ranges appear in the new car market, causing the index to fall when the new ranges are regarded as offering better value for money than the ranges they replace.

45. Having noted that price adjustments based on mileage alone gave no obvious improvement to the current approach, the CSO experimented with various combinations of time and mileage adjustments for one year, 1993, in an attempt to make fuller use of the data available and possible methodologies. The results were broadly similar to those produced using the present method but it was felt that adjusting prices for both time and the additional mileage factors was difficult to justify, particularly in view of the limited knowledge about the construction of the underlying data.
The present number of models priced, about 40, was regarded as about the minimum necessary to give reasonable representation of the very large number available. Any increase would probably be welcomed but would have to be considered in the light of the additional costs incurred in maintaining it. The actual range of models to be priced should be reconsidered annually, as it already is, in the light of market trends. The selection should be made to reflect as far as possible the most popular cars bought by index households from other sectors.

At present this is based on information compiled by the Society of Motor Manufacturers and Traders (SMMT) on the numbers of new car registrations, by model, two and three years before the current year. At the Committee's request, the CSO obtained data on used car registrations from the Driver and Vehicle Licensing Agency (DVLA), with a view to improving the basis for the selection of models for pricing and for weighting together the price indicators of the various models.

The DVLA records acquisitions and disposals of vehicles by type of "keeper", not owner, the keeper being the person to whom any matter concerning the car is addressed. Under the present system, most transactions involving dealers are not recorded, so that the DVLA data are capturing the general movement from the company to the private sector which is what is required for the RPI. While there is a timing problem in matching acquisitions and disposals by end users, the number of vehicles in course of disposal is relatively low, suggesting that this problem is not serious. Unfortunately, the DVLA data are not able to distinguish the many cars registered to private keepers which are company owned and/or used for business purposes and would not form part of household expenditure.

However, at a broad level, the DVLA data do give a guide to the models moving from the company to the private sector in the 2-3 year age range and, for used cars, should prove a more reliable basis for the selection and weighting of the cars to be priced than is given by total new registrations two and three years earlier. In practice, using the broad aggregate DVLA data for weighting instead of the present SMMT data would have made very little difference to the cars index in recent years.

As the used car index is also being taken to represent new car price movements there is something to be said for reflecting the pattern of both new and used car purchases in the sampling and weighting. The selection of types of car to be included in the part of the index reflecting new car purchases could be made on the basis of the DVLA data on purchases of new cars over the latest year, with the selection for used cars on the basis of transactions in two- and three-year old cars. For new cars, this procedure could only be used for selecting the marques of car to be included in the sample. The selection of models within each marque would have to be done on the basis of the used car data: recently-introduced new models would not have an appropriate used-car price for a further two years.

Recognising these limitations, the Committee recommends that the CSO compiles the used car prices index in two parts, with weights reflecting new and used car purchases respectively. The Committee also recommends that the CSO uses the DVLA registrations data when worthwhile in the compilation of the cars index.
52. In an attempt to assess the reliability of the used car prices index to track both new and used car prices, the current index was compared with a crude index of new car list prices. Such a new cars index is far from ideal since it does not incorporate discounts nor does it eliminate quality changes entirely. Short-term, seasonal movements of new and used car prices within a year do appear to differ, as a result of differences in supply and demand factors. However, there is no firm evidence that a used car prices index gives a biased measure of year-on-year price changes for all cars; and it is the year-on-year changes which are of most importance to users of the index.

53. Nonetheless, the Committee recognised that concerns remain about the adequacy of a used car prices index to track short-term movements, in particular, in all car prices. It therefore recommends that the CSO should continue to monitor movements in new car prices in the hope that it will prove possible to develop a satisfactory index for them to reflect actual prices paid by households. The possibility of direct collection of transaction prices of new cars by the CSO should also be kept under review, particularly if, as suggested earlier, new cars become relatively more important in household spending.

54. The Committee does not recommend that an index of new car prices be included in the RPI now. However, members recognise that doubts remain about the adequacy of a used car price index to track new car prices reliably. The CSO should therefore investigate whether the option cost type of adjustment to manufacturers’ list prices, undertaken in some other EU countries, is capable of giving satisfactory results for an index of new car prices. The CSO should review the suitability and cost of obtaining detailed data on specification changes and prices from motor trade sources on a regular basis. The Committee recognises that it may take some years to build up sufficient experience to be useful. At the same time, the CSO should assess the feasibility and cost effectiveness of collecting actual transaction prices, and data on discounts and other factors (e.g., part-exchange values) affecting transaction prices to supplement list price information. If it is judged that a sufficiently reliable sub-index of new car prices can be produced for RPI use it should then be introduced.

55. The CSO should also assess the practicability of collecting used car prices itself rather than relying on trade guides and should collect such data if possible.

56. In the meantime, the minor refinements recommended above in the selection and weighting of models should be made to the used car prices index and that index should continue to be used as a proxy for new car price movements as well. The changes should be directed to pricing the most appropriate sample of cars to represent purchases of both new and used cars by index households from other sectors. Any changes should be introduced from February 1995 at the annual RPI reweighting.
Annex 1

Car price indices: practices in other countries

57. All European Union (EU) countries except the United Kingdom include new cars in their consumer prices indices (CPIs). Spain and France also have indices of used car prices. The difference in emphasis on new and used cars may reflect the relative importance of new and used car purchases to households. In the United Kingdom, the new car market is dominated by fleet and other business-related purchases while the household sector spends more on used cars than on new ones.

58. The number of new car models priced for the CPI varies widely between countries, from 30 or less in Greece, Italy, the Netherlands, Portugal and Spain to just over 80 in Germany, and 170 to 200 in Belgium and France. Sampling methods also vary but are generally designed to reflect manufacturers’ and, in some cases importers’, market shares. Random sampling each year is used in France. Germany stratifies by brake-horsepower into 15 groups. Luxembourg stratifies into 4 groups (diesel and 3 sizes of petrol engine) before selecting about 70 models.

59. The prices monitored for new cars in other EU countries are mainly obtained from central sources such as the manufacturer or importer. In Germany, the Netherlands and Portugal prices are supplied by dealers but information on discounts, if any, and part-exchange prices is not collected. Only Italy attempts to estimate discounts.

60. It appears that few EU countries are making adjustments to prices to allow for specification changes. In France, Germany, the Netherlands and Portugal some adjustment is made for minor changes. The option cost method - adjusting for changes in standard features by means of previously quoted prices for the same features as optional extras - is the most widely used. Alternatively, the direct or indirect costs of production plus a mark-up are used. Major changes and the introduction of new models are generally handled by standard price index methods of linking new and old models, imputing a base period price for the new model from price changes for continuing models, with no other adjustment. There is no clear or uniform treatment of price changes stemming from specification changes introduced to comply with legal requirements (eg rear seat-belts). Luxembourg, for example, treats these in the same way as other measurable quality changes and removes any price increase directly attributable to them.

61. Price indicators derived from individual models are weighted together either in proportion to registrations or other market share data of manufacturers (for example, in France and Germany) or by consumers’ expenditure (Portugal) or similar value estimates (the Netherlands).

62. Outside Europe, the USA, Canada and Australia have indices for new car prices. In the US, about 100 models are priced, with data being collected from dealers. Data from manufacturers on production costs are used to adjust for specification changes, though the reliability of that data is recognised as somewhat variable over time. The price indicators for individual models are
weighted together according to relative registrations. In the past, the US has examined alternative methodologies for its car prices index including hedonic regression techniques, based on transaction prices to adjust for quality changes, and user cost estimates. Neither was regarded as satisfactory to replace existing methods. The US also has an index of used car prices, compiled from dealers’ guide prices.

63. Canada makes adjustments to prices for option cost changes, using data obtained from distributors and manufacturers. Australia conducts an inquiry to dealers, pricing 12 models of new cars, weighted together by market share. Information from manufacturers and dealers is used to track quality changes and make option cost type adjustments where possible.
Annex 2

Current RPI methodology for used car prices

64. The base, January, price for each model in the sample of notional two-year old cars is taken directly from the January issue of Glass’s Guide based on the registration plate first issued two years earlier. Using the 1993 example, in January a 1991H plate was adopted. The required month’s price after January for a two-year old car was interpolated between those quoted for a 1991H and 1992J of the same model. In February, the price relative to January was $\frac{11}{12}$ of the 1991H plus $\frac{1}{12}$ of the 1992. In March, the respective weights were $\frac{10}{12}$ and $\frac{1}{12}$ and so on (see table 1). By January 1994 the “two-year old” car which was first priced with a 1991H registration plate had turned into a “two-year old” car with 1992J plate. Similarly, a “three-year old” had changed from a 1990G to a 1991H registration. The 1991H car which entered the sample of two-year old cars in January 1993 was then transferred to the “three-year old” sample for pricing during 1994.

**TABLE 1.**

**Weighting in use at present**

For two year old cars

No adjustment from standard mileage - which is indicated by suffix (in thousands).

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