

Hire purchase contracts for cars

Since April 1963 the Bank of England, in conjunction with Hire Purchase Information Limited, have analysed the length of hire purchase contracts for cars. The results of the analysis, up to June 1965, were given in the September 1965 *Bulletin*. This article carries the study forward to March 1967, and thus covers a period in which official controls over hire purchase transactions were of increasing stringency.

The analysis looks first – separately for new cars and for used cars – at the periods for which the contracts were taken out. It appears, naturally enough, that the ‘intended length’ of contracts has been greatly affected by the shortening of the statutory maximum repayment period on three occasions between the middle of 1965 and the end of 1966. The second part of the article examines the actual length of contracts – which differs from the intended length because a great many contracts are completed before the due date, and some after it. The third and final stage is to trace the connection between the ending of old contracts and the starting of new ones. The article in September 1965 suggested that there was a good correlation between the two, so that if the actual length of contracts ran according to previous form it would be possible to point to periods in the future when new contracts were likely to be particularly numerous, with obvious benefit to economic forecasting. Later research has shown, however, that it is difficult to distinguish any independent influence which the termination of existing contracts may have on the taking out of fresh ones – so that these statistics by themselves are of limited value for making predictions.

Intended length of contracts

Buyers of cars on hire purchase are free to make agreements for any period up to the legal maximum. This stood at three years between January 1961 and July 1965, when it was reduced to two and a half years. It was reduced again, to two and a quarter years in February 1966, and to two years in July 1966. (A subsequent increase in the maximum, in June 1967, falls outside the scope of the article.)

The table opposite gives the total number of contracts taken out since April 1963 in these four periods of increasing restraint. The contracts have been classified into those due to be completed within one year, within eighteen months, within two years, and so on. The average intended length of contract is shown on the right of the table. Credit sale and personal loan contracts are included as well as hire purchase contracts.

The table shows that so long as the maximum repayment period remains unchanged there is a reasonably stable distribution of contracts over the various possible lengths, determined partly by the wishes of the borrower (who is concerned mainly with the size of his monthly instalment) and partly by the requirements of the finance house (which is concerned primarily with the security provided by the car). The pattern is different for new cars and for used cars; with the latter the finance house tends to require shorter agreements, fearing that there may otherwise be a steeper fall in the value of the car than in the amount of the debt.

It is also clear from the table that more contracts are taken out for the maximum repayment period than for any other term. When

Intended length of contracts

		Number of contracts, monthly average	Percentage distribution by number of years ^a						Average length	
Contracts taken out in:		thousands	1 year	1½ years	2 years	2¼ years	2½ years	3 years	Years	Months
New cars										
1963	2nd qtr.	28	13	6	19	—	4	57	2	5
	3rd "	22	9	3	21	—	3	63	2	6
	4th "	20	10	5	21	—	4	59	2	6
1964	1st qtr.	27	13	5	20	—	2	60	2	5
	2nd "	35	10	5	18	—	3	63	2	6
	3rd "	27	6	4	15	—	3	71	2	7
	4th "	22	7	4	19	—	2	67	2	7
1965	1st qtr.	29	9	4	25	—	2	58	2	6
	2nd "	35	10	6	19	—	3	62	2	6
	3rd " : July ^b	33	7	3	20	—	2	66	2	7
	4th " : Aug./Sept.	21	14	6	15	—	66		2	2
		18	9	8	17	—	67		2	3
1966	1st qtr.: Jan./Feb. ^b	27	6	8	21	—	65		2	3
	2nd " : Mar.	33	14	2	20	63			2	0
	3rd " : July ^b	32	12	5	19	64			2	0
	4th " : Aug./Sept.	15	8	7	85				1	11
		11	11	4	85				1	10
1967	1st qtr.	20	17	9	74				1	9
Used cars										
1963	2nd qtr.	80	12	10	27	—	18	32	2	3
	3rd "	77	13	10	28	—	17	31	2	3
	4th "	65	15	10	26	—	15	33	2	2
1964	1st qtr.	78	14	10	18	—	15	42	2	4
	2nd "	105	9	7	19	—	16	48	2	5
	3rd "	96	11	8	21	—	14	46	2	4
	4th "	77	12	8	20	—	15	44	2	4
1965	1st qtr.	87	11	10	21	—	16	42	2	4
	2nd "	109	10	9	21	—	11	47	2	4
	3rd " : July ^b	105	12	10	20	—	11	46	2	4
	4th " : Aug./Sept.	84	7	8	31	—	55		2	2
		73	11	10	21	—	58		2	2
1966	1st qtr.: Jan./Feb. ^b	82	11	9	24	—	56		2	0
	2nd " : Mar.	108	10	10	30	49			1	11
	3rd " : July ^b	103	11	8	20	60			2	0
	4th " : Aug./Sept.	110	10	10	20	60			2	0
		64	19	18	64				1	9
		59	12	10	78				1	10
1967	1st qtr.	76	20	8	71				1	10

^a May not add to 100% because contracts for six months are omitted.

^b The maximum repayment period was shortened in each of these months.

the maximum is reduced there is naturally an even greater concentration of contracts at the new maximum, because buyers who would really have preferred a longer period with smaller monthly instalments now join buyers who would have chosen the new maximum in the ordinary course. Thus, for example, immediately after the maximum had been reduced to two years in July 1966, about 85% of contracts on new cars were for two years, whereas in the preceding five months about 20% had been for two years and about 64% for two and a quarter years, the previous maximum. Because so many of the people who took out two-year contracts in the months following July 1966 were 'pressed men', the actual life of such contracts (which will be discussed in the next section) may not be the same as it was when all the parties to them were 'volunteers'.

Assuming the down-payment remains unchanged, the shortening in the maximum repayment period must also deter some intending buyers from entering into a contract at all, because the monthly instalment becomes too high for them. The falling away in the total number of contracts, both for new and for used cars, following the shortening of the maximum period in July 1966, is very striking. It is, however, impossible to judge the extent to which it was the direct consequence of the shortening. This is because a number of other factors (over and above the seasonal factor, which can be measured fairly closely) were present at the same time. In particular, the minimum down-payment, which all purchasers have to make, was sharply increased from 25% to 40%.¹

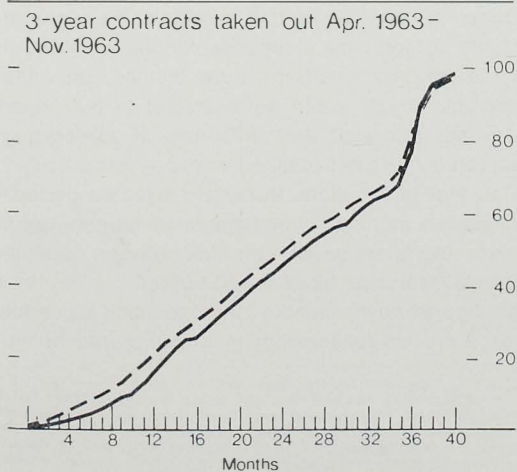
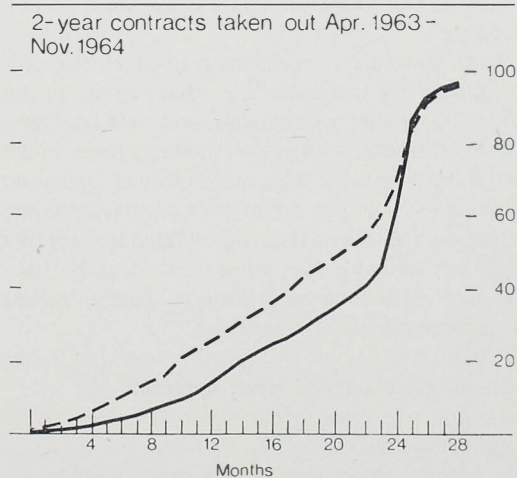
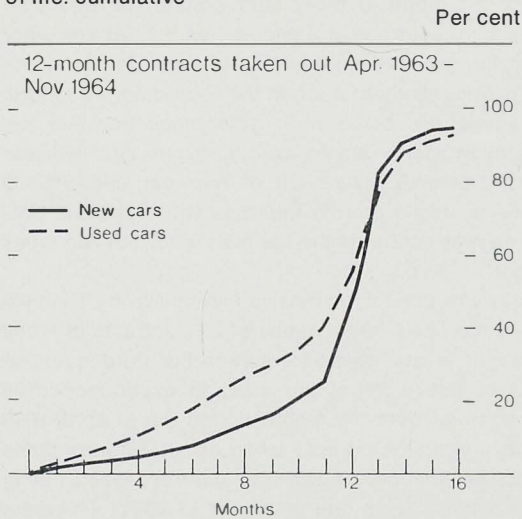
For those large numbers of people who finance a substantial part of the purchase of one car by trading in another, an increase of this order in the down-payment is not too disconcerting, but for those who are planning to enter the market for the first time it is a serious discouragement. It might thus be supposed that the used car market would suffer most, because it is to that market that first buyers would mainly look, but the fall in new car contracts was much steeper after July than the fall in used car contracts. This may be because of the different ways in which prices are determined in the new and used car markets. As new car prices are largely influenced by costs, and are therefore less responsive than used car prices to changes in demand, a fall in demand tends to be reflected in a reduction in sales of new cars, whereas with used cars there tends to be a fall in price and hence a smaller reduction in sales. Such divergent movements in the two markets would have been accentuated by the surcharge of 10% on the rates of purchase tax which also occurred in July 1966 and which would have tended to raise new car prices relative to used car prices. At all events, these various measures taken in July, and the standstill on incomes, will have contributed to a varying but unknown extent to the drop in new contracts.

As far as the future is concerned, the main conclusion to be drawn from the statistics so far is that if contracts actually were to run for the time for which they were originally intended, then the successive shortening of the repayment period – accompanied by a concentration of contracts at the new maximum length – would

¹ The combined effects of the changes in the minimum deposit and in the maximum repayment period will vary from buyer to buyer. The shortening of the repayment period by itself increases the purchaser's monthly instalment, but if the deposit paid also rises, the balance to be financed on credit is reduced, and with it the monthly instalment. Thus those most affected by the rise in the required deposit in July 1966 actually had their monthly instalment reduced, because the fall in the balance to be financed on credit was proportionately greater than the reduction in the repayment period. Those least affected by the rise in the deposit – because they make a large down-payment in any case – will have had their monthly instalment increased by the full amount (one eighth in July 1966) or nearly so.

Actual length of contracts

Percentage completed in each month of life: cumulative



cause a considerable bunching of completions in the first three quarters of 1968. The large number of three-year contracts taken out in the first part of 1965 would fall in then, as would the many two and a half year contracts taken out in the second half of 1965 and the early months of 1966. So too would the two and a quarter year contracts taken out in the first half of 1966, and the two year contracts taken out in the third quarter of 1966. There is, however, little point in seeking to calculate exactly how many contracts would be terminated at this time if all ran their full length (and no more) because, as will be seen in the next section, only a minority – and a varying minority at that – in fact keep to this rule.

Actual length of contracts

At this point a word of warning about the statistics is needed. All contracts are analysed for their intended length but only a proportion for their actual length. This proportion was fixed at 25% until December 1965, but then reduced to 10%. Thereafter, for several months, the analysis produced improbable results, particularly for one-year contracts (which are relatively few in number); and it was not possible to check retrospectively the size of the sample actually taken. It has therefore been necessary to disregard altogether some of the results during the early and middle months of 1966. From then onwards, following a review of the procedure, satisfactory results were obtained.

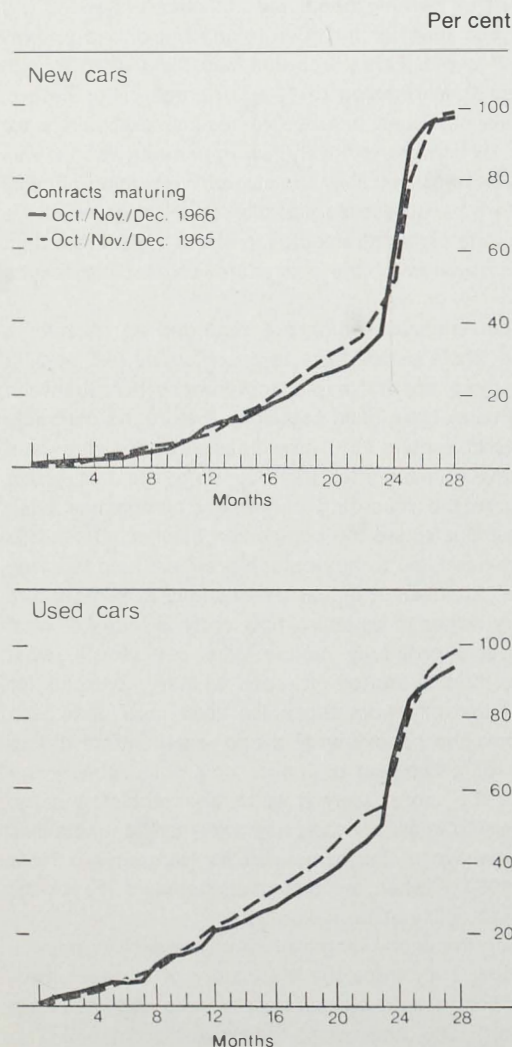
Working only from statistics which are regarded as reliable, it seems that over the whole period from 1963 something like 60% of all contracts (and there are no marked differences here between new cars and used cars) have been completed before the contracts have run their full term, around 25% have finished on the due date, and about 15% have run on after the due date; the last group includes cases where the recording of the completion has been delayed, as well as those where the completion itself was late. This information is too generalised to be of much practical help in trying to estimate the likely number of actual terminations at some future date. It is necessary rather to establish how early is 'early' – what proportion of contracts ordinarily mature after one month, what proportion after two months and so on – and whether contracts for new cars behave differently from those for used cars. It is also necessary to see how the behaviour of a one-year contract differs from the behaviour of a two-year or longer contract – clearly the longer the contract the more likely it is to be completed early. Thirdly it is necessary to know whether, say, two-year contracts due to mature in 1965 behave in the same way as two-year contracts due to mature in 1968 – when, as has been noted, some of the parties to the contract will not be 'volunteers'.

The charts showing the actual length of contracts seek to answer the first two questions. They trace the life history of one-year, two-year and three-year contracts taken out, for new cars and used cars separately, since April 1963, and completed up to March 1967. The contracts which matured in the months when the statistics were uncertain have again been disregarded. The statistics are clearly less comprehensive as the intended length of contract increases. The only three-year contracts which can be covered are those which started their lives between April and November 1963,¹ and the only two-year contracts those which started between April 1963 and November 1964. For one-year contracts it would be possible to

¹ Allowing a few months after the intended length of contract to cover late completions.

2-year contracts

Completed contracts analysed by actual length: cumulative*



* See text, and footnote.

analyse all those taken out before November 1965, but because the recorded life history of those taken out after November 1964 is uncertain, only the contracts taken out up to that date are covered.

The steepness of the slope of the charts around the due date indicates that many more contracts are ended then than at any other time – the fact that the greatest rise appears to come in the month after the due date is due merely to a lag in the recording procedure. In other respects there are some wide differences between the various types of contract; for example, with both one and two-year contracts a distinctly smaller proportion of new car contracts is completed in the early stages than is the case with used car contracts. But with three-year contracts the life history for the two types of car is more similar.

It would be possible to use this extensive material to try to make detailed forecasts of the likely terminations of all contracts at some future date. But first it is necessary to answer the third question posed earlier, and to see whether the average experience of a particular type of contract over the whole period since April 1963 conceals differences between contracts taken out at different dates in the period. Does, for instance, a two-year contract taken out in 1963 behave in the same way as one taken out in 1964? (It would be better still to compare with contracts entered into during the second half of 1966, when two years became the maximum length, but this is not yet possible.)

The next set of charts tackles this question. It takes all the contracts which were originally for two years and which ended in the last three months of 1965 and 1966 respectively, and sees how long their lives actually were.¹ The charts show that the experience in the two periods was not entirely similar. Thus with both new and used cars rather more contracts in the 1965 group were terminated in the months up to just before the due date. The differences are not particularly great – usually no more than a few percentage points – but perhaps large enough to give further reason for caution before drawing firm conclusions from general averages.

Relationship between terminations and fresh contracts

The figures in square brackets refer to the equations given in the appendix at the end of this article.

The previous article reported that there was a close relationship between the number of contracts terminated in any month and the number of fresh contracts taken out in that month, and suggested that if it were possible to forecast independently the number of contracts which would be terminated in future months, then the number of fresh contracts which would be taken out in the future could also be predicted. Some of the difficulties of forecasting terminations of contracts have been outlined above – in particular, it has been suggested that terminations in certain selected periods in the past may not necessarily be a good guide to future experience. The second stage in the argument – the link between terminations and fresh contracts – can now be analysed further.

With the additional figures now available (but excluding those for the suspect months) a similar relationship to that reported in the

¹ It is necessary to approach the matter in this way, rather than to trace the life histories of two-year contracts taken out in the last three months of 1963 and 1964, because a number of those of 1964 will have been terminated during the middle months of 1966 when the statistics were uncertain. The percentages have been adjusted to allow for the variation in the number of contracts taken out at various times. Thus contracts completed in October-December after one month have been expressed as a percentage of contracts taken out in September-November, those completed after two months as a percentage of those taken out in August-October, and so on. The charts present the cumulative totals of these percentages.

previous article has been found to hold between all terminations of contracts for cars and all fresh contracts for cars [1]. The relationship has also been found to hold for new cars and used cars separately – [2] and [3].

In the article in 1965 two possible reasons were put forward why the termination of contracts should be associated with the taking out of fresh contracts. The first related to contracts which run to maturity. It was suggested that the completion of such contracts would be the natural occasion to buy another car on hire purchase, if only because the buyer had by then become accustomed to devoting part of his income to meet each instalment. This assumption has now been tested statistically, and it has been found that in fact there is no apparent significant relationship between the termination of contracts at *maturity* and the taking out of fresh contracts. This was true both for all cars [4] and for new and used cars separately – [5] and [6]. The second reason related to contracts which were terminated early; it was suggested that the owner's desire to replace the car might lead to an early termination and thence to a fresh contract. Statistical tests have now shown that there is indeed a close relationship between the change in *early* terminations from month to month and the change in fresh contracts taken out – [7] to [12]. It is clearly because of this relationship, and because early terminations form such a large proportion of all terminations, that there is the apparent connection, noted in the previous paragraph, between all terminations and fresh contracts. Equations [7], [8] and [9] are designed to show what proportion of the rise or fall in the monthly total of early terminations is associated with a rise or fall in the number of fresh contracts. They suggest that a large part of it is linked in this way; in the equation for all cars, about four fifths of the change in early terminations is associated with a change in fresh contracts.

However, for those people who, while an existing contract is still running, decide to change their car and to take out a fresh contract, the ending of one contract and the taking out of another are essentially one decision – which may well turn on general economic conditions not considered in this article.

There are, in any case, a large number of fresh contracts which do not appear to be associated with early terminations. Equations [10], [11] and [12], which are in effect the inverse of equations [7], [8] and [9], are still statistically significant, but they show that only about one quarter of the variation in fresh contracts is associated with variation in early terminations (the proportion is rather smaller for new cars and rather larger for used cars). For these reasons it would certainly seem unwise to treat the rate of early terminations as an independent datum and to use it to predict the taking out of fresh contracts.

Conclusion

This article has examined the pattern of contracts taken out and the rate at which contracts are completed. It has also explored some possible connections between contracts taken out in the past and fresh contracts. The results of the analysis throw considerable doubt on the idea that the completion of contracts at maturity has any influence on the new business of finance houses. A relationship has been found between the taking out of some fresh contracts and the early completion of existing contracts, but this relationship by itself is of limited value in forecasting. It may be, however, that

there is a more complex connection between existing contracts and new business. It is quite possible that the rate at which people with existing contracts build up their equity in the cars they are buying has an influence upon the rate at which they trade in their car for another and, in doing so, take out a fresh contract. However, the statistics provided by Hire Purchase Information Limited give only numbers of contracts and do not easily lend themselves to analysis in value terms.

Y_1 Fresh contracts (new cars)	Y_9 Time	
Y_2 Fresh contracts (used cars)	Y_{10} Fresh contracts (all cars)	
Y_3 Early completions (new cars)	Y_{11} Early completions (all cars)	
Y_4 On time completions (new cars)	Y_{12} On time completions (all cars)	
Y_5 All completions (new cars)	Y_{13} All completions (all cars)	
Y_6 Early completions (used cars)	Y_{14}	} Dummy variables, representing seasonal variation ⁷
Y_7 On time completions (used cars)	Y_{15}	
Y_8 All completions (used cars)	Y_{16}	

[1]	$Y_{10} = 76.085 +$ (.19)	$\cdot 460Y_{13} +$ (3.06)	$8.433Y_{14} +$ (2.91)	$23.298Y_{15} + 5.101Y_{16}$ (3.06)	$R^2 = .710$ $s = 13.185$
[2]	$Y_1 = 18.343 +$ (.25)	$\cdot 701Y_5 -$ (.07)	$\cdot 171Y_9 +$ (1.05)	$3.193Y_{14} + 5.283Y_{15}$ (1.04)	$R^2 = .725$ $s = 4.008$
[3]	$Y_2 = 61.213 +$ (.17)	$\cdot 397Y_8 +$ (2.25)	$4.773Y_{14} +$ (2.16)	$16.705Y_{15} + 4.285Y_{16}$ (2.27)	$R^2 = .683$ $s = 9.804$
[4]	$Y_{10} = 103.090 +$ (.57)	$\cdot 320Y_{12} +$ (3.38)	$8.904Y_{14} +$ (3.14)	$23.298Y_{15} + 5.831Y_{16}$ (3.28)	$R^2 = .663$ $s = 14.206$
[5]	$Y_1 = 25.361 -$ (.60)	$\cdot 010Y_4 +$ (1.14)	$4.549Y_{14} +$ (1.02)	$6.797Y_{15}$	$R^2 = .654$ $s = 4.437$
[6]	$Y_2 = 80.330 +$ (.54)	$\cdot 248Y_7 +$ (2.44)	$4.612Y_{14} +$ (2.31)	$16.742Y_{15} + 4.537Y_{16}$ (2.42)	$R^2 = .637$ $s = 10.484$
[7]	$Y_{10} = 74.864 +$ (.28)	$\cdot 804Y_{11} +$ (3.01)	$7.599Y_{14} +$ (2.83)	$22.913Y_{15} + 5.064Y_{16}$ (2.97)	$R^2 = .726$ $s = 12.820$
[8]	$Y_1 = 19.081 +$ (.38)	$1.088Y_3 -$ (.06)	$\cdot 163Y_9 +$ (1.04)	$3.101Y_{14} + 5.761Y_{15}$ (.98)	$R^2 = .730$ $s = 3.976$
[9]	$Y_2 = 58.091 +$ (.26)	$\cdot 761Y_6 +$ (2.17)	$4.163Y_{14} +$ (2.09)	$16.057Y_{15} + 4.370Y_{16}$ (2.17)	$R^2 = .708$ $s = 9.406$
[10]	$Y_{11} = 16.811 +$ (.08)	$\cdot 240Y_{10} -$ (1.79)	$\cdot 030Y_{14} -$ (2.49)	$4.953Y_{15} - \cdot 425Y_{16}$ (1.69)	$R^2 = .235$ $s = 7.007$
[11]	$Y_3 = 2.248 +$ (.06)	$\cdot 177Y_1 +$ (.02)	$\cdot 101Y_9 +$ (.46)	$\cdot 538Y_{14} - \cdot 615Y_{15}$ (.55)	$R^2 = .535$ $s = 1.603$
[12]	$Y_6 = 12.142 +$ (.09)	$\cdot 263Y_2 -$ (1.34)	$\cdot 451Y_{14} -$ (1.92)	$3.498Y_{15} - \cdot 977Y_{16}$ (1.34)	$R^2 = .217$ $s = 5.529$

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