

The Rule of 78

Some lenders charge a hefty penalty on early settlement of loans

Expert knowledge means success

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Note: This publication has not been updated since it was last published. Some of the hyperlinks may have changed and may need updating. In addition, some of the information in this publication may be out of date.

Introduction

Invitations to take out personal loans appear in nearly every newspaper, magazine or on TV/radio. Beware - the enticing headline interest rate is by no means the whole story. These deals can carry a large penalty for those who choose to pay off their loan early – if this applies to you, you would be in good company as about 70% of personal loan customers decide to pay off loans before the maturity date either because they get what they think is a better offer from a new lender or because they re-mortgage and take out a new but less expensive loan on their home.

Borrowers should watch out for something called *the Rule of 78* or *the sum of the Digits* when taking out a loan secured on their home. It is a pernicious rule that most people do not understand until it is too late. The general practice of many lenders is to charge two months' interest as an "early settlement fee". But many borrowers don't realise there are further charges for settling early. Most lenders faced with the cancellation of a lucrative loan contract also claw back lost interest using a formula known as "the Rule of 78".

How it works

The Rule of 78 takes its name from the sum (the total) of the numbers 1-12 (the months in the year). If you add 12+11+10 etc, the total comes to 78. Interest owing on the loan each month is expressed as 12/78, 11/78 and so on. The Rule of 78 is also known as the sum of the digits for example, the 1st month of a 12 month contract gets the value of 12, the second month 11, etc., until the 12th month gets a value of 1. As the months elapse, the interest is earned by the lender equal to the total value of the expired months.

Example 1

A borrower takes on a loan of £10,000. The interest on a 12-month agreement is £1,000. The loan is settled after only 6 months. The borrower expected to pay interest of only £500 (6/12ths of £1,000). However, by applying the rule of 78, the interest payable for the 6 months of the actual loan period is £730.77 calculated as follows:

Month 1	12/78 X £1,000
Month 2	11/78 X £1,000
Month 3	10/78 X £1,000
Month 4	9/78 X £1,000
Month 5	8/78 X £1,000
Month 6	7/78 X £1,000
Total	57/78 X £1,000 (73.077%)

Most lenders use the rule of 78, with some exceptions - Egg, Barclays, Nationwide and Virgin do not, but NatWest and the Royal Bank of Scotland, and most building societies and hire purchase companies, do.

The Rule of 78s is commonly, even widely, used yet it is understood by very few people. It is a method of charging interest and refunding finance charges and/or credit insurance premiums on consumer credit pre-computed transactions when the borrower prepays the account in full. It is applied on the basis that more interest and insurance premiums are earned in the early stages of a contract since the amount owing is greater. As the balance decreases, the earned charges are proportionately less for each unit period.

The rule of 78 takes into consideration the fact that you pay more interest in the beginning of a loan when you have the use of more of the money and you pay less interest as the debt is reduced. Because each repayment instalment is the same size, the part used to pay off the amount borrowed increases over time and the part representing interest decreases.

Should you decide to repay a loan early, the lender will use the rule of 78 to determine how much interest you do not have to pay – ie the rebate. But you may be unpleasantly surprised by how much of the capital sum of your loan remains outstanding. The key point is that the interest you are charged on the sum you have borrowed is not spread evenly over the loan term. In the early period of a loan's life span more interest is paid than capital, reducing the outstanding amount more slowly than you may have thought.



Example 2

12 Month Loan showing interest earned and rebate given for early settlement

#	Month	Earned Units	Unearned Units	% Rebate
12	1	12/78	66/78	84.62%
11	2	23/78	55/78	70.52%
10	3	33/78	45/78	57.69%
9	4	42/78	36/78	46.15%
8	5	50/78	28/78	35.90%
7	6	57/78	21/78	26.92%
6	7	63/78	15/78	19.23%
5	8	68/78	10/78	12.82%
4	9	72/78	6/78	07.69%
3	10	75/78	3/78	03.85%
2	11	77/78	1/78	01.28%
1	12	78/78	0/78	00.00%
78	TOTAL			

History

The Rule of 78s is a mathematical formula that was devised in the days before modern calculators. The formula was a quick way for lenders in the 1920s and 1930s to estimate payoff amounts when a customer paid ahead on an instalment loan. It's still around today.

Even so, lenders aren't rushing to scrap it although the government has announced a consultation document outlining plans to replace the Rule of 78 with alternatives that are "fair and equitable" to both consumers and lenders.

The work on the Rule of 78 is part of a much larger programme to reform the outdated Consumer Credit Act 1974, albeit amended by the Consumer Credit Act 2006¹.

Interestingly, in 1992, the U.S. Congress outlawed the use of the "Rule of 78s" formula in closed-end loans longer than 61 months.

The Finance Industry Standards Association

The Finance Industry Standards Association has published a useful leaflet for borrowers². The Association publishes Codes of Practice and monitors compliance with them. These codes impose standards which exceed those required by law. They advise borrowers as follows:

- You should not use long term loans as bridging loans or for short term needs.

- If, after having taken a loan, your circumstances change and you wish to repay your loan early you will have to ask the lender for a "redemption" or "settlement" statement – this will detail how much you have to pay to redeem the loan. The lender will permit you to repay the loan early. You will not (unless the loan has only a few months to run) be required to pay all of the interest due over the remaining term of the agreement. The lender may require you to pay part of the interest you would have paid had the loan run its full term.
- The method of calculating the amount payable on early redemption varies between lending companies and even between different loan agreements issued by the same lending company. For example, some loan agreements will state that if the borrower wishes to pay the loan off early a number of months interest will be added to the balance at the time of redemption. This is very common particularly on loans or mortgages for larger amounts. It is also very common, for companies offering special offers to new borrowers, to include a requirement that in the event of early redemption a charge of a number of months interest will be added to the outstanding balance on the mortgage. On loans or mortgages of up to £25,000 it is more common for the redemption calculation to be more complex. The wording used on many agreements may say something like "in the event of early redemption a rebate will be given in accordance with Rule of 78" (sometimes the "Rule of 78" is referred to as "the sum of the digits" or "Regulations made under the Consumer Credit Act").
- The word "rebate" can cause confusion. You should remember the rule calculates a rebate on the total charges you would have paid over the full lifetime of the loan. It will produce a figure greater than the capital element of the loan balance.



The Consumer Credit Act (which governs loans up to £25,000) prescribes a calculation which determines the maximum amount of money to be paid in the event of early redemption.

The Rebate Formula

$$\frac{M \times (M+1) \times K}{N \times (N+1)}$$

Where M = payments not yet due.

N = total number of payments.

K = total charge for credit.

The mathematical formula, prescribed in law, assumes that during the life of a loan the debt decreases from the opening balance to the amount of the last payment. It also assumes that the amount of interest applicable to any particular month is proportionate to the balance outstanding in that month. This creates the effect that a larger amount of interest is attributed to the early months of the agreement than to the later months.

In recognition of the lender incurring costs when granting a loan the Consumer Credit Act permits the date used to work out the amount due to be deferred beyond the actual date of repayment. The deferral period is 2 months on loans of up to 5 years duration and 1 month on loans of more than 5 years.

If a 12 month loan is settled early at month 6 the settlement date would be deferred by two months to month 8. The amount of interest attributable to the remaining period would be $4+3+2+1=10$. This would result in a rebate of $10/78$ of the total interest charged. This requires that a total of $68/78$ of the interest will be payable on the loan. This principle is applied to loans of longer and shorter time periods, the figures varying depending on the number of instalments involved.

Warning! Although the Rule of 78 calculation delivers a measure of rebate of charges it can, particularly when redemption takes place very early in the life of the loan, produce a redemption figure greater than expected and even greater than the original loan amount.

Rule of 78 used in Depreciation Calculations

A classic asset depreciation technique is called the sum of the digits method (which is the same as the rule of 78) and computes a different fractional depreciation for each year. It assumes that an asset loses a majority of its value in the first several years of use.

To calculate depreciation charges using the sum of the year's digits method, take the expected life of an asset (in years) count back to one and add the figures together.

Example 3

An asset has 10 years useful life. The sum of the digits (years) is: $10 + 9 + 8 + 7 + 6 + 5 + 4 + 3 + 2 + 1 = 55$

In the first year, the asset would be depreciated $10/55$ in value (18.18%), $9/55$ (16.36%) in the second year, $8/55$ (14.54%) in the third year, and so on.



How to calculate the sum of the digits

As already shown, the sum of the digits of 1 to 12 is 78. There is a simple formula for calculating this:

Formula

The period = P

The formula is $\frac{P \times (P+1)}{2}$

In the case of a term of 12 periods, the result (sum of the digits is 78). For other periods, the result is:

24 (months) = 300

36 (months) = 666

48 (months) = 1,176

60 (months) = 1,830

Egg Research

You might be forgiven for thinking that paying off your debts as soon as you are in a position to do so would be regarded as sensible financial planning. But doing just this might work to your disadvantage if you have taken out a personal loan from a lender that charges a penalty for early repayment.

Research from the internet bank Egg, used figures from data provider Moneyfacts and revealed that most of the 70% of borrowers who pay off their unsecured loans early gain nothing by doing so and nearly 80 per cent of lenders currently impose early redemption penalties (Egg, Barclays, Nationwide and Virgin are among the exceptions to this rule).

In 2002, borrowers were penalised to the tune of £332m for repayments made ahead of schedule. Egg's research found that most banks make it "extremely difficult for a borrower to work out at the point of sale how much early repayment will cost". This is because charges are defined as one or two months' interest, but it is not clear how much that interest will be when you take out the loan.

Further Information

This guide is for general interest - it is always essential to take advice on specific issues.

We believe that the facts are correct as at the date of publication, but there may be certain errors and omissions for which we cannot be responsible.

References

¹ See: <http://www.legislation.gov.uk/ukpga/2006/14/contents>

² See: <http://www.fisa.co.uk/Borrower.pdf>

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