

EXAMPLES ILLUSTRATING USE OF FORMULAE FOR CALCULATING REBATE FOR FULL AND PARTIAL EARLY SETTLEMENT

The term “early settlement” is used for both full and partial early repayment, although clearly in the case of partial early repayment the loan is not being settled.

The time periods used in the calculations are those set out in the Consumer Credit (Total Charge for Credit) Regulations 1980 (TCCR 1980). Lenders are currently required to use these for calculating the rebate, by regulation 1(3) of the Consumer Credit (Early Settlement) Regulations 2004 (ESR 2004). In future, lenders will no longer be required to calculate time periods in accordance with the TCCR 1980 (regulation 1(3) of the ESR 2004 will be deleted), although they may continue to do so or they may prefer to use the time periods they use in the new APR calculation.

The formulae used in the examples can be found on page 11 at the end of this note.

It is intended that the worked examples will indicate how the rebate for partial early repayment should be calculated when the account is in arrears but it has not been possible to include that in this version (under new section 94(1)(b) of the CCA, only amount not yet due will be treated as partial early settlements).

Full early settlement

A loan of £5,000 is repayable by 48 monthly instalments of £134.57, starting one month after 1 March 2010 (the relevant date). The monthly repayments include interest and all other charges included in the total charge for credit. Thus the total amount repayable = £134.57 x 48 = £6,459.36. The total charge for credit = £6,459.36 – £5,000 = £1,459.36.

The debtor gives notice requesting full early settlement to take place immediately after payment of the 12th instalment (i.e. after one year) so that the settlement date is 1 March 2011.

Assuming that no charges are excluded from the calculation of the rebate under regulation 3(2) of the ESR 2004, the APR on the loan required for the calculation of the rebate is 14.0% per annum.

The instalments are exact numbers of calendar months from the settlement date and the periods are calculated in months, counting each month equal to one-twelfth of a year. Hence, for the purposes of the formula in Regulation 4(1) of the ESR 2004 (Formula 1 on page 11):

$$A_1 = 5,000$$

$$B_1 = 134.57 = B_2 = \dots = B_{48}$$

$$r = 14.0/100 = 0.140$$

$$m = 1$$

$$n = 12$$

$$a_1 = 1 \text{ (working in periods of whole years)}$$

$$b_1 = 11/12$$

$$\begin{aligned}
b_2 &= 10/12 \\
b_3 &= 9/12 \\
&: \\
b_{11} &= 1/12 \\
b_{12} &= 0/12 = 0
\end{aligned}$$

Then the amount owing at the settlement date, immediately after payment of the 12th instalment, is:

$$5,000 \times (1.140)^1 - (134.57 \times 1.140^{(11/12)} + 134.57 \times 1.140^{(10/12)} + \dots + 134.57 \times 1.140^{(1/12)} + 134.57 \times 1.140^{(0/12)})$$

$$= 5,700.00 - (151.74 + 150.10 + 148.47 + 146.85 + 145.26 + 143.68 + 142.12 + 140.58 + 139.05 + 137.54 + 136.05 + 134.57)$$

$$= 5,700.00 - 1,716.01 = \text{£}3,983.99.$$

The rebate in this case would be £860.53; this is calculated by deducting the early settlement figure of £3,983.99 from the total payments outstanding after the date assumed for calculating the rebate which is £4,844.52 (= 36 x £134.57).

If the creditor receives a request from the debtor for early settlement immediately after payment of the 12th instalment and regulation 5(a) of the ESR 2004 (which will be regulation 5(1)(a) in the ESR 2004 as amended by the regulations implementing the CCD) applies (making the settlement date 28 days after the debtor's notice is received) then the settlement date will be 29 March 2011.

The periods involved are no longer an exact number of months (or weeks) and for these examples have been counted in years and days (or weeks where the periods are an exact number of weeks) in line with the TCCR 1980.

Hence, for the purposes of the formula in regulation 4(1) of the ESR 2004 (Formula 1 on page 11):

$$A_1 = 5,000$$

$$B_1 = 134.57 = B_2 = \dots = B_{48}$$

$$r = 14.0/100 = 0.140$$

$$m = 1$$

$$n = 12$$

$a_1 = 393$ days = 1 year 28 days (working in periods of years and days, since not a whole number of weeks)

$$b_1 = 0 \text{ years } 362 \text{ days}$$

$$b_2 = 0 \text{ years } 332 \text{ days}$$

$$b_3 = 0 \text{ years } 301 \text{ days} = 43 \text{ weeks}$$

$$b_4 = 0 \text{ years } 271 \text{ days}$$

$$b_5 = 0 \text{ years } 240 \text{ days}$$

$$b_6 = 0 \text{ years } 209 \text{ days}$$

$$b_7 = 0 \text{ years } 179 \text{ days}$$

$$b_8 = 0 \text{ years } 148 \text{ days}$$

$$b_9 = 0 \text{ years } 118 \text{ days}$$

$b_{10} = 0$ years 87 days
 $b_{11} = 0$ years 56 days = 8 weeks
 $b_{12} = 0$ years 28 days = 4 weeks

Then the amount owing at the settlement date of 29 March 2011 =

$$\begin{aligned}
 & 5,000 \times (1.140)^{(1+28/365.25)} - (134.57 \times 1.140)^{(362/365.25)} + 134.57 \times 1.140^{(332/365.25)} + \\
 & 134.57 \times 1.140^{(43/52)} + 134.57 \times 1.140^{(271/365.25)} + 134.57 \times 1.140^{(240/365.25)} + 134.57 \times \\
 & 1.140^{(209/365.25)} + 134.57 \times 1.140^{(179/365.25)} + 134.57 \times 1.140^{(148/365.25)} + 134.57 \times \\
 & 1.140^{(118/365.25)} + 134.57 \times 1.140^{(87/365.25)} + 134.57 \times 1.140^{(8/52)} + 134.57 \times 1.140^{(4/52)} \\
 & = 5,757.54 - (153.23 + 151.59 + 149.97 + 148.31 + 146.67 + 145.05 + 143.49 + \\
 & 141.91 + 140.39 + 138.84 + 137.31 + 135.93) \\
 & = 5,757.54 - 1,732.69 = \text{£}4,024.85.
 \end{aligned}$$

The rebate is calculated by deducting the early settlement figure of £4,024.85 from the total payments outstanding after the date assumed for calculating the rebate which is £4,844.52 (=36 x £134.57), giving a rebate of £819.67.

If the creditor elects to defer the settlement date by a further month under regulation 6 of the ESR 2004, this makes the date for calculating the rebate the 28th day after the payment date for the 13th instalment (29 April 2011).

Hence, for the purposes of the formula in regulation 4(1) of the ESR 2004 (Formula 1 on page 11):

$n = 13$
 $a_1 = 424$ days = 1 year 59 days (working in periods of years and days, since not a whole number of weeks)
 $b_1 = 393$ days = 1 year 28 days (working in periods of years and days, since not a whole number of weeks)
 $b_2 = 0$ years 363 days
 $b_3 = 0$ years 332 days
 $b_4 = 0$ years 302 days
 $b_5 = 0$ years 271 days
 $b_6 = 0$ years 240 days
 $b_7 = 0$ years 210 days = 30 weeks
 $b_8 = 0$ years 179 days
 $b_9 = 0$ years 149 days
 $b_{10} = 0$ years 118 days
 $b_{11} = 0$ years 87 days
 $b_{12} = 0$ years 59 days
 $b_{13} = 0$ years 28 days = 4 weeks

Then the loan outstanding as at 29 April 2011, calculated by the formula in regulation 4(1) of the ESR 2004 (Formula 1 on page 11)

$$\begin{aligned}
 & = 5,000 \times (1.140)^{(1+59/365.25)} - (134.57 \times 1.140)^{(1+28/365.25)} + 134.57 \times 1.140^{(363/365.25)} + \\
 & 134.57 \times 1.140^{(332/365.25)} + 134.57 \times 1.140^{(302/365.25)} + 134.57 \times 1.140^{(271/365.25)} + 134.57
 \end{aligned}$$

$$\begin{aligned}
& \times 1.140^{(240/365.25)} + 134.57 \times 1.140^{(30/52)} + 134.57 \times 1.140^{(179/365.25)} + 134.57 \times \\
& 1.140^{(149/365.25)} + 134.57 \times 1.140^{(118/365.25)} + 134.57 \times 1.140^{(87/365.25)} + 134.57 \times \\
& 1.140^{(59/365.25)} + 134.57 \times 1.140^{(4/52)} \\
& = 5,821.93 - (154.96 + 153.29 + 151.59 + 149.97 + 148.31 + 146.67 + 145.14 + 143.49 \\
& + 141.96 + 140.39 + 138.84 + 137.45 + 135.93) \\
& = 5,821.93 - 1,887.99 = \text{£}3,933.94.
\end{aligned}$$

The above formula assumes that the borrower will pay on the due date the instalment due between the date of request for early repayment and the settlement date assumed for calculating the rebate (i.e. the 13th repayment of £134.57 due on 1 April 2011). If the borrower does make this payment on 1 April 2011, the rebate would be £776.01 which is calculated by deducting the early settlement figure of £3,933.94 from the total payments outstanding after the date assumed for calculating the rebate which is £4,709.95 (=35 x £134.57).

If it is agreed that the borrower does not make the payment on 1 April 2011 but defers paying until the settlement date then the period b_{13} in the above formula will be 0 rather than 28 days and the amount outstanding will be $5,821.93 - 1,886.63 = \text{£}3,935.30$. In this case, the rebate would be £774.65 which is calculated by deducting the early settlement figure of £3,935.30 from the total payments outstanding after the date assumed for calculating the rebate which is £4,709.95 (=35 x £134.57).

Partial early settlement

A loan of £5,000 is repayable by 48 monthly instalments of £134.57, starting one month after 1 March 2010 (the relevant date). The monthly repayments include interest and all other charges included in the total charge for credit. Thus the total amount repayable = $\text{£}134.57 \times 48 = \text{£}6,459.36$. The total charge for credit = $\text{£}6,459.36 - \text{£}5,000 = \text{£}1,459.36$.

The debtor makes a partial early repayment of £1,000.00 immediately after the 12th instalment, on 1 March 2011. The amount owing at this date, before the partial early repayment is made, is calculated using the formula in regulation 4(1) of the ESR 2004 (Formula 1 on page 11) as per the example on page 1, and $P = \text{£}1,000.00$, leaving $\text{£}3,983.99 - \text{£}1,000.00 = \text{£}2,983.99$ as the outstanding amount to be repaid after the partial early repayment.

The amount of rebate depends on how the outstanding amount after partial early settlement is to be repaid following the settlement date. Two possible approaches are set out in the following examples. These examples use Formula 3, the optional formula for calculating rescheduled payments, on page 11.

(i) Same term, reduced future repayments of credit

If the borrower has asked for the repayment term to be kept the same and that the reduced future repayments of credit should be of equal amount, then the revised future repayment amounts E_x could be calculated as follows (using the optional formula for rescheduled payments):

Amount outstanding after partial early repayment = £2,983.99

$$E_1 = E_2 = \dots = E_{36}$$

$$r = 14.0/100 = 0.140$$

$$q = 36$$

$$e_1 = 1/12$$

$$e_2 = 2/12$$

$$e_3 = e/12$$

:

$$e_{35} = 35/12$$

$$e_{36} = 36/12$$

Then the revised repayments after the settlement date would be:

$$2983.99 = E_1/1.140^{(1/12)} + E_2/1.140^{(2/12)} + \dots + E_{35}/1.140^{(35/12)} + E_{36}/1.140^{(36/12)}$$

$$= E_1 \times (0.98914 + 0.97840 + \dots + 0.68238 + 0.67497) \quad (\text{since } E_1 = E_2 = \dots = E_{36})$$

$$= E_1 \times 29.60496$$

$$\text{So } E_1 = 2983.99/29.60496 = \text{£}100.79.$$

(In this case, as the payment term remains the same, and all the repayments are to remain equal, this is the same result as multiplying the original repayment by the ratio of the loan outstanding after partial repayment to that outstanding before partial repayment ie the new repayment = £134.57 x 2,983.99/3,983.99 = £100.79.)

The rebate in this case would be £216.08. This is calculated using the formula in regulation 4A(2) of the ESR 2004 as amended by the regulations implementing the CCD (Formula 2 on page 11), by deducting the partial early repayment of £1,000.00 (P in the formula) together with the total payments now outstanding (= 36 x £100.79 = £3,628.44 = K in the formula) from the total amount of the repayments of credit that would fall due for payment after the settlement date if early settlement did not take place (= 36 x £134.57 = £4,844.52 = F in the formula).

(ii) Reduced future term, same repayments of credit as before partial repayment

If the borrower opts to keep the same repayment amounts as before the partial repayment then the outstanding term will be shortened. In this case the number of future repayments, q, might be determined such that

$$E_1/1.140^{(1/12)} + E_2/1.140^{(2/12)} + \dots + E_{q-1}/1.140^{((q-1)/12)} + E_q/1.140^{(q/12)} < 2983.99 < E_1/1.140^{(1/12)} + E_2/1.140^{(2/12)} + \dots + E_q/1.140^{(q/12)} + E_{q+1}/1.140^{((q+1)/12)}$$

$$\text{where } E_1 = E_2 = \dots = E_q$$

$$\text{For } q = 25 \text{ (the number of future repayments), } E_1/1.140^{(1/12)} + E_2/1.140^{(2/12)} + \dots + E_{24}/1.140^{((q-1)/12)} + E_{25}/1.140^{(q/12)}$$

$$= E_1 \times 21.75898 = 134.57 \times 21.75898 = 2928.11$$

$$\text{For } q = 26 \text{ (the number of future repayments), } E_1/1.140^{(1/12)} + E_2/1.140^{(2/12)} + \dots + E_{25}/1.140^{((q-1)/12)} + E_{26}/1.140^{(q/12)}$$

$$= E_1 \times 22.51182 = 134.57 \times 22.51182 = 3029.42$$

Hence, in this case there would be 25 future payments of £134.57, leaving a remaining payment of £2,983.99 – £2,928.11 = £55.88 if paid at the date of settlement. If the outstanding amount is paid at a later date then the amount would be increased with interest at 14% per annum. Thus if paid as a final repayment after 26 months, the payment would be £55.68 x 1.140^(26/12) = £74.23.

If a payment of £74.23 is made as the 26th repayment, the rebate will be £406.04. This is calculated by deducting the partial early settlement figure of £1,000.00 together with the total payments now outstanding (= 25 x £134.57 + £74.23 = £3,438.48 = K in the formula) from the total payments outstanding after the settlement date had partial repayment not taken place (= 36 x £134.57 = £4,844.52 = F in the formula).

If regulation 5(2) of the ESR 2004 as amended by the regulations implementing the CCD applies (making the settlement date 28 days after the debtor's notice is received) then the settlement date will be 29 March 2011. The periods involved are no longer an exact number of months (or weeks) and under the TCCR 1980 have been counted in years and days (or weeks where the periods are an exact number of weeks).

The amount outstanding at the settlement date = £4,024.85 (calculated using the formula in regulation 4(1) as per the example on page 2). If a partial early repayment of £1,000 is made at the settlement date, then P = £1,000.00 leaving £4,024.85 – £1,000 = £3,024.85 as the outstanding amount to be repaid.

Again, the amount of the rebate depends on how the outstanding amount after partial early settlement is to be repaid following the settlement date. Two possible approaches are set out in the following examples. These examples use Formula 3, the optional formula for calculating rescheduled payments, on page 11.

(i) Same term, reduced future repayments of credit

If the borrower has asked for the repayment term to be kept the same and that the reduced future repayments of credit should be of equal amount, then the revised future repayment amounts E_x could be calculated as follows (using the optional formula for rescheduled payments):

Amount outstanding after partial early settlement = 3,024.85

$$E_1 = E_2 = \dots = E_{36}$$

$$r = 14.0/100 = 0.140$$

$$q = 36$$

$$e_1 = 0 \text{ years } 3 \text{ days}$$

$$e_2 = 0 \text{ years } 33 \text{ days}$$

$$e_3 = 0 \text{ years } 64 \text{ days}$$

:

$$e_{12} = 338 \text{ days (NB number of days here and subsequently allows for leap year in 2012)}$$

$$e_{13} = 369 \text{ days} = 1 \text{ year } 3 \text{ days (working in periods of years and days, since period is not a whole number of weeks; in this case the leap year affects the number of days but not the number of years and days)}$$

$$e_{14} = 399 \text{ days} = 57 \text{ weeks}$$

:

$$e_{34} = 1009 \text{ days} = 2 \text{ year } 278 \text{ days}$$

$e_{35} = 1040$ days = 2 year 309 days

$e_{36} = 1068$ days = 2 year 337 days

Then the revised repayments after the settlement date would be:

$$\begin{aligned}
 3024.85 &= E_1/1.140^{(3/365.25)} + E_2/1.140^{(33/365.25)} + E_3/1.140^{(64/365.25)} + \dots \\
 &+ E_{12}/1.140^{(338/365.25)} + E_{13}/1.140^{(1+3/365.25)} + E_{14}/1.140^{(57/52)} + \dots \\
 &+ E_{34}/1.140^{(2+278/365.25)} + E_{35}/1.140^{(2+309/365.25)} + E_{36}/1.140^{(2+337/365.25)} \\
 &= E_1 \times (0.99892 + 0.98823 + 0.97730 + \dots + 0.88581 + 0.87625 + 0.86621 + \dots + \\
 &0.69643 + 0.68873 + 0.68185) \text{ (since } E_1 = E_2 = \dots = E_{36}) \\
 &= E_1 \times 29.89121
 \end{aligned}$$

So $E_1 = 3,024.85/29.89121 = \text{£}101.20$.

(In this case, as the payment term remains the same, and all the repayments are to remain equal, this is broadly the same result as multiplying the original repayment by the ratio of the loan outstanding after partial repayment to that outstanding before partial repayment ie new repayment = $\text{£}134.57 \times 3024.85/4024.85 = \text{£}101.14$. The difference is due to calculating the time periods in a different way.)

The rebate in this case would be $\text{£}201.32$. This is calculated using the formula in regulation 4A(2) of the ESR 2004 as amended by the regulations implementing the CCD (Formula 2 on page 11), by deducting the partial early settlement figure of $\text{£}1,000.00$ (P in the formula) together with the total payments now outstanding (= $36 \times \text{£}101.20 = \text{£}3,643.20 = K$ in the formula) from the amount of repayments of credit that would fall due for payment after the settlement date if early settlement did not take place (= $36 \times \text{£}134.57 = \text{£}4,844.52 = F$ in the formula).

(ii) Reduced future term, same repayments of credit as before partial repayment

If the borrower opts to keep the same repayment amounts as before the partial repayment then the outstanding term will be shortened. In this case the number of future repayments, q, needs to be determined such that

$$\begin{aligned}
 &E_1/1.140^{(3/365.25)} + E_2/1.140^{(33/365.25)} + E_3/1.140^{(64/365.25)} + \dots + E_{q-1}/1.140^{((q-1)/365.25)} + \\
 &E_q/1.140^{(q/365.25)} \\
 &< 3024.85 < E_1/1.140^{(3/365.25)} + E_2/1.140^{(33/365.25)} + E_3/1.140^{(64/365.25)} + \dots + \\
 &E_q/1.140^{(q/365.25)} + E_{q+1}/1.140^{((q+1)/365.25)} \\
 &\text{where } E_1 = E_2 = \dots = E_q
 \end{aligned}$$

and in this case the time periods involved are counted in years and days (or weeks where the periods are an exact number of weeks).

$$\begin{aligned}
 \text{For } q = 25, & E_1/1.140^{(3/365.25)} + E_2/1.140^{(33/365.25)} + \dots + E_{25}/1.140^{(2+3/365.25)} \\
 &= E_1 \times 21.96960 = 134.57 \times 21.96960 = 2956.45
 \end{aligned}$$

$$\begin{aligned}
 \text{For } q = 26, & E_1/1.140^{(3/365.25)} + E_2/1.140^{(33/365.25)} + \dots + E_{25}/1.140^{(2+3/365.25)} + \\
 &E_{26}/1.140^{(2+33/365.25)} \\
 &= E_1 \times 22.73001 = 134.57 \times 22.73001 = 3058.78.
 \end{aligned}$$

Hence, in this case there would be 25 future payments of £134.57 leaving a remaining payment of £3,024.85 – £2,956.45 = £68.40 if paid at the date of settlement. If the outstanding amount is paid at a later date then the amount would be increased with interest at 14% per annum. Thus if paid as a final 26th future repayment one month after the 25th future repayment of £134.57, the payment would be £68.40 x $1.140^{(2+33/365.25)}$ = £89.95.

If a payment of £89.95 is made as the 26th repayment, the rebate will be £390.32. This is calculated using the formula in regulation 4A(2) of the ESR 2004 as amended by the regulations implementing the CCD (Formula 2 on page 11), by deducting the partial early settlement figure of £1,000.00 (P in the formula) together with the total payments now outstanding (= 25 x £134.57 + £89.95 = £3,454.20 = K in the formula) from the total payments outstanding after the settlement date had partial repayment not taken place (= 36 x £134.57 = £4,844.52 = F in the formula).

If the creditor elects to defer the settlement date by a further month for the calculation of the rebate under regulation 6 of the ESR 2004, the settlement date for calculating the rebate is 29 April 2011. The periods involved are no longer an exact number of months (or weeks) and under the TCCR 1980 have been counted in years and days (or weeks where the periods are an exact number of weeks).

The amount outstanding at the settlement date = £3,933.94, assuming payment of the 13th instalment on 1 April 2011 (calculated using the formula in regulation 4(1) of the ESR 2004 (Formula 1 on page 11) as per the example on page 3). If a partial repayment of £1,000.00 is made at the settlement date, then P = £1,000.00 leaving £3,933.94 - £1,000.00 = £2,933.94 as the outstanding amount to be repaid.

Again, the amount of the rebate depends on how the outstanding amount after partial early settlement is to be repaid following the settlement date. Two possible approaches are set out in the following examples. These examples use Formula 3 (the optional formula for calculating rescheduled payments) on page 11.

(i) Same term, reduced future repayments of credit

If the borrower has asked for the repayment term to be kept the same and that the reduced future repayments of credit should be of equal amount, then the revised future repayment amounts E_x could be calculated as follows:

Amount outstanding at the settlement date = 2,933.94

$$E_1 = E_2 = \dots = E_{36}$$

$$r = 14.0/100 = 0.140$$

$$q = 36$$

$$e_1 = 0 \text{ years } 2 \text{ days}$$

$$e_2 = 0 \text{ years } 33 \text{ days}$$

$$e_3 = 0 \text{ years } 63 \text{ days} = 9 \text{ weeks}$$

:

$$e_{11} = 307 \text{ days (NB number of days here and subsequently allows for leap year in 2012)}$$

$$e_{12} = 338 \text{ days}$$

$$e_{13} = 368 \text{ days} = 1 \text{ year } 2 \text{ days (working in periods of years and days, since period is not a whole number of weeks; in this case the leap year affects the number of days but not the number of years and days)}$$

:

$e_{33} = 978 \text{ days} = 2 \text{ years } 247 \text{ days}$

$e_{34} = 1009 \text{ days} = 2 \text{ years } 278 \text{ days}$

$e_{35} = 1037 \text{ days} = 2 \text{ years } 306 \text{ days}$

Then the revised repayments after the settlement date calculated would be:

$$\begin{aligned}
 2933.94 &= E_1/1.140^{(2/365.25)} + E_2/1.140^{(33/365.25)} + E_3/1.140^{(9/52)} + \dots + \\
 &+ E_{11}/1.140^{(307/365.25)} + E_{12}/1.140^{(338/365.25)} + E_{13}/1.140^{(1+2/365.25)} + \dots \\
 &E_{33}/1.140^{(2+247/365.25)} + E_{34}/1.140^{(2+278/52)} + E_{35}/1.140^{(2+306/365.25)} \\
 &= E_1 \times (0.99928 + 0.98823 + 0.97758 + \dots + 0.89572 + 0.88581 + 0.87656 + \dots + \\
 &0.70422 + 0.69643 + 0.68947) \text{ (since } E_1 = E_2 = \dots = E_{35}) \\
 &= E_1 \times 29.21456
 \end{aligned}$$

So $E_1 = 2,933.94/29.21456 = \text{£}100.43$.

(In this case, as the payment term remains the same, and all the repayments are to remain equal, this is broadly the same result as multiplying the original repayment by the ratio of the loan outstanding after partial repayment to that outstanding before partial repayment ie new repayment = $\text{£}134.57 \times 2933.94/3933.94 = \text{£}100.36$. The difference is due to calculating time periods in a different way under the TCCR 1980.)

The rebate in this case would be $\text{£}194.90$. This is calculated using the formula in regulation 4A(2) of the ESR 2004 as amended by the regulations implementing the CCD (Formula 2 on page 11), by deducting the partial early settlement figure of $\text{£}1,000.00$ (P in the formula) together with the total payments now outstanding ($= 35 \times \text{£}100.43 = \text{£}3,515.05$) from the total payments outstanding after the settlement date had partial repayment not taken place ($= 35 \times \text{£}134.57 = \text{£}4,709.95 = F$ in the formula).

(ii) Reduced future term, same repayments of credit as before partial repayment

If the borrower opts to keep the same repayment amounts as before the partial repayment then the outstanding term will be shortened. In this case the number of future repayments, q, needs to be determined such that

$$\begin{aligned}
 &E_1/1.140^{(2/365.25)} + E_2/1.140^{(33/365.25)} + E_3/1.140^{(9/52)} + \dots + E_{q-1}/1.140^{((q-1)/365.25)} + \\
 &E_q/1.140^{(q/365.25)} \\
 &< 2933.94 < E_1/1.140^{(2/365.25)} + E_2/1.140^{(33/365.25)} + E_3/1.140^{(9/52)} + \dots + \\
 &E_q/1.140^{(q/365.25)} + E_{q+1}/1.140^{((q+1)/365.25)}
 \end{aligned}$$

where $E_1 = E_2 = \dots = E_q$

and in this case the time periods involved are counted in years and days (or weeks where the periods are an exact number of weeks).

$$\begin{aligned}
 \text{For } q = 24, & E_1/1.140^{(2/365.25)} + E_2/1.140^{(33/365.25)} + \dots + E_{24}/1.140^{(1+337/365.25)} \\
 &= E_1 \times 21.20435 = 134.57 \times 21.20435 = 2853.47
 \end{aligned}$$

$$\begin{aligned}
 \text{For } q = 25, & E_1/1.140^{(2/365.25)} + E_2/1.140^{(33/365.25)} + \dots + E_{24}/1.140^{(1+337/365.25)} + \\
 &E_{25}/1.140^{(2+2/365.25)}
 \end{aligned}$$

$$= E_1 \times 21.97327 = 134.57 \times 21.97327 = 2956.94.$$

Hence, in this case there would be 24 future payments of £134.57 leaving a remaining payment of £2,933.94 – £2,853.47 = £80.47 if paid at the date of settlement. If the outstanding amount is paid at a later date then the amount would be increased with interest at 14% per annum. Thus if paid as a final 25th future repayment one month after the 24th future repayment of £134.57, the payment would be £80.47 x $1.140^{(2+2/365.25)}$ = £104.65.

If a payment of £104.65 is made as the 25th repayment, the rebate will be £375.62. This is calculated using the formula in regulation 4A(2) of the ESR 2004 as amended by the implementing regulations (Formula 2 on page 11), by deducting the partial early settlement figure of £1,000.00 (P in the formula) together with the total payments now outstanding (= 24 x £134.57 + £104.65 = £3334.33 = K in the formula) from the total payments outstanding after the settlement date had partial repayment not taken place (= 35 x £134.57 = £4709.95 = F in the formula).

1) Current rebate formula for full early settlement (to be retained)

$$\sum_{i=1}^m A_i(1+r)^{a_i} - \sum_{j=1}^n B_j(1+r)^{b_j}$$

where:

A_i = the amount of i th advance of credit

B_j = the amount of the j th repayment of credit

r = the annual rate equivalent of the APR/100 (ie if rate of interest is 12%, $r = 0.12$)

m = the number of advances of credit made before the settlement date

n = the number of repayments of credit made before the settlement date

a_i = the time between the i th advance of credit and the settlement date expressed in years and days, or whole weeks or months, as appropriate, and

b_j = the time between the j th repayment of credit and the settlement date expressed in years and days, or whole weeks or months, as appropriate

Settlement date = up to 28 days plus one month (or 30 days) from date of notification of early repayment, depending on the particular circumstances.

2) Rebate formula for partial early settlement

$$F - K - P$$

where:

F = the total amount of repayments of credit that would fall due for payment after the settlement date if early settlement did not take place,

K = the total amount of repayments of credit that will fall due for payment after the settlement date if early settlement takes place; in calculating K—

(i) the amount of the credit outstanding from the debtor and the amount of the accrued charges remaining unpaid by the debtor under the agreement on the settlement date if early settlement did take place is to be determined in accordance with the formula given in regulation 4(1); and

(ii) the amount paid by the debtor to the creditor where early settlement takes place shall be treated as though it were reduced by the amount (if any) which the creditor may claim under section 95A(1) of the Act,

and

P = the amount paid by the debtor to the creditor where early settlement takes place.

3) Optional formula for calculating rescheduled payments

$$S - P = \sum_{x=1}^q E_x / (1+r)^{e_x}$$

where:

S = amount that remains to be paid calculated at the settlement date (the figure given by the first formula)

P = amount of the early partial repayment

q = the number of loan instalment repayments to be made after the settlement date

E_x = the amount of x th repayment of credit after the settlement date

r = the annual rate equivalent of the APR/100 (ie if rate of interest is 12%, $r = 0.12$)

e_x = the time from the settlement date to payment of the x th repayment, (if following the TCCR these would be expressed in years and days, or whole weeks or months, as appropriate).