FieldSolutions

The Importance of Compliance

One major question that needs to be asked (and is usually asked last, though really needs to come first) is, how important is it that we comply with the regulations at all? This is a difficult question to answer - on the one hand, for any reputable lender to admit that they don't comply with the law would (particularly as we look forward to ever-increasing regulation and penalties for non-compliance) be very hard to justify. But there are arguments on the other side:

- In terms of APR calculations, because APRs are rounded to 1dp, any systematic error, provided it's not large, will extremely rarely be detectable. This is true, but sometimes it will be. Suppose the 'true' APR (if one could actually calculate it in practice - more on this below) is 10.450001; suppose because of a systematic error, the lender's system calculates this as 10.449998. Rounded to 1dp, this should be displayed as 10.5, but will actually be displayed as 10.4. This error is within the tolerance permitted by CCA Agreements regulations (but, curiously, not by the CCA2004 settlement regulations). But to claim that because it's within tolerance we don't need to care misses the point that by doing this we've used up our entire tolerance - any other issue (such as a day's delay on funds drawdown) which would normally be absorbed within the available tolerance will now put the APR outside permitted tolerance, and so be illegal and potentially unenforceable.

- In terms of settlement calculations, the range of answers you can get, because of the ambiguities and permitted alternatives in the regulations, is so large that it's almost impossible to show that a systematic error will put the calculated value outside the possible range of values.

- It's impossible to calculate the answer 'correctly' in any case (which is true - computers have a built-in level of inaccuracy, for example a PC is normally accurate only to about 15 significant digits, and even with pencil and paper, it's simply unfeasible to calculate to more than a few decimal places, so there will always be a level of inaccuracy caused by rounding) so why bother trying to get it 'right'? Well - if the systematic errors are of the same order of magnitude as the physical limitations of the calculation device (computer, pocket calculator, log tables, abacus), that's a valid argument. But the systematic errors caused by a failure to implement the regulations as they stand will inevitably be significantly greater than this; arguing that because we can only calculate to 15 significant figures, we needn't bother to be accurate to 3 significant figures isn't going to win many hearts and minds.

Field Solutions' view, inevitably, is that the only strategy that makes sense is to attempt to be as compliant as possible. And since the calculations are all do-able (we've done them!) there is really no excuse. But a lender's risk analysis could come to a different conclusion (and some of the major banks have, indeed, concluded that strict compliance, if it involves any significant development cost, is unnecessary).

APRs

In outline, APR calculations are pretty simple - but as soon as you look at the detail, they become (except in very special, and not very common, situations) really rather complicated. Some lenders have created systems for calculating APRs based on the assumption that their business falls into the special class of business where the simplistic approach works. While this may (possibly) have been true at the time the

systems were created, changes in business practices almost always mean that it just isn't true now. And so (if they notice, which some seem not to have done, yet) they face the complexity of dealing with the rules are they are, in all their glory.

The main computational issue arises because the APR is defined as a discount rate with a discount frequency of annual. In other words, all time periods used in its calculation need to be expressed in years and fractions of a year. But, obviously, a year doesn't neatly divide - indeed, one year in four isn't even the same length!

Where all cash flows (and, for the purposes of the settlement calculations, below, this includes the settlement date itself) are at strictly weekly or monthly intervals, this isn't too tough. A month is a twelfth of a year; a week is a 52nd of a year. But in practice, this nice division of a year often doesn't happen. A lender may have 99% of business which is strictly monthly (unlikely, but possible) - but if *any* deal doesn't fall within this pattern, the APR calculation system has to cope with the consequences. And the consequences are complicated. Regulation 11 of the Total Charge for Credit (TCFC) regulations sets out the rules for working out what fraction of a year any given interval (from start date to drawdown date or to instalment date, or from start, drawdown or instalment to settlement date) actually is. And these rules can treat different intervals in different ways, so the first interval might be calculated on a monthly basis, but the second on a daily basis, and the third on a weekly basis - it depends on the lengths of each individual interval, and (sometimes) on the relationship of all other intervals with this one.

The simple method (finding the annual equivalent of the deal's nominal interest rate), which works absolutely fine when everything *is* strictly monthly or weekly, just does not scale up to deal with the general case. The only way to code it so as to give a compliant result is to follow the rules in Regulation 11 to the letter.

Settlement values

The complexity here arises from several separate (but obviously related) causes:

First, the logic and formula used to calculate the settlement rebate and thence the amount payable by the customer is not simple. It relies on discounting all customer-visible cashflows (advances of credit, repayments of credit) forward from their actual dates to the settlement date (well, no - to a deferred settlement date introduced to allow an element of 'penalty interest'). This discounting is carried out using the APR as the discount rate, and so time periods need to be measured in exactly the same way as for the APR - i.e. following Regulation 11 TCFC.

There is some added complexity around working out what to do with scheduled repayments falling after the actual settlement date but before the deferred settlement date. The maths isn't difficult, but working out the correct treatment certainly is - only a few of the clients with whom we worked closely when this was introduced following CCA2004 got it right first time.

Further complexity is added when you ask how the settlement amount relates to any repayment due on the settlement date (the real one!) itself. Do you assume that the customer pays the instalment due, *and* then pays the settlement amount, or do you assume that the customer wants to know the *total* amount due that day. This has an obvious effect on the settlement calculation itself, but also affects the business process - when do you stop trying to collect DDs?

Second, the legislation is (in our humble opinion) pretty badly drafted. There are many practical uncertainties which need to be resolved before the rules can be coded up. In our calculation Engine, we, obviously, need to handle every possible combination of different interpretations; as a result, the Engine has quite a few parameters which need to be fed into the CCA2004 settlement calculator, to deal with our different clients' differing interpretations of the regulations and with their differing business practices.

Thirdly, while at first sight 'one quarter of the way through' a finance agreement may seem to be an easy thing to determine, in practice there can be significant differences in the actual specimen settlement dates (and hence to calculated figures). For example, a simple 0+36 monthly agreement - is one quarter exactly 9 months from start? Or is it 365 * 3 / 4 (or possibly (365 * 2 + 366) / 4)? And so on, downhill all the way. What if the number of months doesn't divide by 4, and you want to do it monthly? What happens if, doing this on a daily basis, the result isn't (as it usually won't be) a whole number - do you round up (next day, normally higher settlement figure) or down (previous day, normally lower settlement figure)? What is the 'period of the agreement', anyway? For a 3+33 HP deal, is this 33 months, 34 months, 36 months, or what?

When CCA2004 was being introduced, a number of clients came to us with spreadsheets that they'd constructed to try to understand how the calculations work. Our instant and immediate (and, as it turned out, inexorably correct) response was 'you can't do this on a spreadsheet'. But most in-house teams had to try to create spreadsheets, because that was the only way they could specify to their developers what to do - and we never saw a correct one!