

PPI REMITTAL**Consultation document on the modelling approach****Introduction**

1. In our report [Market investigation into payment protection insurance](#) of 29 January 2009 (the report), one of the inputs to our assessment of the proportionality of imposing the remedies package, including the point-of-sale prohibition (POSP), was the use of a model to estimate the magnitude of one part of the static consumer detriment associated with the adverse effect on competition (AEC) that the remedies package would address. This model was only one element of our assessment of the proportionality of the remedies package. For instance, this model did not take into account the dynamic consumer benefits that we expect from the package of remedies.
2. In the Competition Commission (CC) [consultation document](#) on the CC's approach to reconsidering the POSP as part of its remedies package (published on 11 December 2009), we proposed to use this model again, amending it as appropriate (paragraph 27 of the consultation document). This document presents the model that was used in the report and its assumptions, and sets out the main amendments we are proposing to make to the model.
3. In summary, we propose to use the same base model as was used in the report, but to update the inputs in the model to take account of recent market conditions. We also intend to include in the modelling the costs of implementing the package of remedies. We intend to conduct some analysis relaxing the assumption that all consumers are 'myopic' after the package of remedies is in place (that is to say, the assumption that consumers do not anticipate the price of payment protection insurance (PPI) when making decisions about credit), and to take into account any

loss of convenience from the POSP in the modelling. We will use the model as one of the elements of our assessment of the proportionality of the remedies package, alongside other evidence contained in the report and that we are gathering.

4. We invite comments on our proposed approach to modelling, and suggestions of methodologies or sources of data that might assist our analysis. Comments that include additional or alternative lines of analysis should outline the specific benefits of any such analysis. Please provide all comments by or on 5 pm on Thursday 18 March 2010.

Modelling approach in the report

5. In the report, we developed a number of models to help the assessment of whether the package of remedies can be expected to have a positive impact on total consumer welfare. This analysis is described in Appendices 10.9, 10.10 and 10.11 of the report. Although this was not their primary purpose, these models were also used to estimate the magnitude of one part of the static consumer detriment associated with the AEC that the remedies package would address.
6. The impact of the package of remedies will depend on whether the remedy can be expected to alter consumer behaviour such that consumers are increasingly aware of the cost of PPI before making decisions about credit. We therefore developed two sets of models:
 - (a) 'non-system remedy model', where we assumed a remedy where PPI prices were reduced but there was no increase in the amount of searching for PPI before the credit point of sale; and
 - (b) 'system remedy model', where we assume a remedy which increased information such that all consumers were able to search effectively for both credit and PPI before arriving at the point of sale of credit.

7. We noted that system and non-system remedies were best thought of as two extremes of a spectrum of possible remedies packages (paragraph 7 of Appendix 10.9 of the report). All other things being equal, the benefits to consumers from non-system remedies tend to be lower than the benefits from system remedies. This is because, with a non-system remedy, consumers only observe that the credit price has increased prior to making the decision whether or not to purchase credit; they do not observe whether the price of buying credit with PPI has decreased. Some consumers may therefore cease to purchase credit, even though they would have been willing to purchase credit and PPI if they had observed that the price of buying credit with PPI had decreased. In contrast, with a system remedy, consumers observe the price of PPI prior to the credit point of sale, and therefore the demand for credit will fall less than with a non-system remedy.
8. In practice, we expected that our package of remedies would impact on consumers' search behaviour (paragraph 10.487 of the report). However, consumer benefits from the package of remedies were calculated using the non-system model, reflecting a cautious approach to the estimation of customer benefits.
9. We intend to continue using the 'non-system model' as our base model for quantifying the effects arising from our package of remedies. We now describe the assumptions underlying the non-system model. The modifications that we intend to make to the model used in the report are presented in paragraphs 18 onwards.

Methodology and assumptions for the base model in the report

10. We developed a basic model which did not take into account the possibility that consumers' search behaviour may change after the remedies are in place (the non-system model). We then varied some of the assumptions in our basic model to conduct sensitivity analyses. The methodology and the assumptions underlying the

non-system model are described in Appendix 10.9 of the report. We summarize here the methodology and the main assumptions.

11. In our basic model, we made the following assumptions:
 - (a) There are 'n' identical firms which compete in the markets for credit but are monopolists over PPI sales to their respective credit customers. This assumption reflects the market definition in the report, where we found that distributors were effectively monopolists over the supply of PPI to their own credit customers.
 - (b) Only those customers who have taken out credit go on to observe PPI prices (ie PPI information is provided after the credit decision). This assumption reflects our finding that the majority of consumers do not currently 'full life cost' in that, when choosing their credit product, they do not consider the subsequent price of PPI.
 - (c) In our base case, we assumed that competition for credit customers was vigorous such that firms make no excess profits overall over the sales of PPI and credit. We relaxed this assumption and explored the welfare effects of lower pass-through rates, whereby firms were able to retain some or all of the excess profits earned from PPI.¹
 - (d) We assumed that the observed prices and volumes of PPI and credit were optimal and the firms were profit maximizing.
 - (e) We assumed that the demand curves for PPI and for credit were linear.

12. We made the following assumption on the extent of competition after the remedies are in place. We assumed that competition for PPI consumers would be vigorous after the package of remedies is in place, such that distributors would no longer make excess profits on PPI with the remedies in place.

¹We noted in paragraph 10.461 of the report that there was 'some uncertainty over the intensity of competition for credit customers going forward, for example given recent events in the credit markets involving the proposed consolidations of some credit providers and, at least in one case, the running down of some business lines'.

13. We also needed to make some assumptions on the demand function for PPI after the remedies package comes into force. In our base model, there is a waterbed effect on credit prices (ie credit prices are artificially lower in anticipation of high margins on PPI). The effect of remedies in the base model is to remove the waterbed effect: the lower PPI prices after the remedies feed through to higher credit prices, and therefore lower credit demand. We would therefore expect the demand function for PPI to shift inward after the remedies, because fewer customers are passing through the credit point of sale. In order to calculate this demand shift, we made a further simplifying assumption. We assumed that, at a given PPI price, the new PPI demand function for lower credit demand would be such that the penetration rate of PPI would remain the same.

14. In order to construct a working model, we then calibrated the model using observed data on penetration rates, prices of PPI, prices of credit, profitability, and elasticity of the demand for PPI for personal loan PPI (PLPPI), mortgage PPI (MPPI) and second-charge mortgage (SMPPI) separately. These values were based on our analysis of the data for 2006.

15. We did not use this model for retail PPI because we did not find that there were any waterbed effects for retail PPI (paragraph 10.496 of the report). This remains our conclusion. We also did not use this model for credit card PPI (CCPPI) because we did not have specific survey information on the elasticity of the demand for CCPPI. However, we said that we would expect that the effects of intervention for CCPPI would be similar to the effect we found for MPPI and SMPPI (paragraph 10.485 of the report). As set out in paragraphs 57 and 58, we now propose to construct a version of this model for CCPPI.

16. The Appendix to this document is a spreadsheet which shows, through an example, how the basic model that we used in the report works. The values of the parameters in the example are not based on actual observations from the PPI market (ie the model is not calibrated), as we have not yet finalized our analysis of the updated inputs which will be used to calibrate the model. As a result, nothing should be read into the values used. Instead, we use hypothetical values for prices, PPI and credit elasticities of demand, margins and penetration rates in the example. The spreadsheet then shows how the outputs are calculated using these hypothetical values for the inputs.
17. We now present our suggested approach to updating the data in the model. We then present other changes we intend to make to the model.

Updating the data used in the model

18. The following inputs to the model used in the report were based on data for 2006:
 - (a) 'excess margin' data for each type of PPI;
 - (b) penetration rates for each type of PPI;
 - (c) price of each type of PPI relative to the price of the insured credit; and
 - (d) total excess profits for each type of PPI.
19. We have collected data for 2008 and the first 11 months of 2009 from the main PPI distributors and underwriters in order to assess the extent to which some of these inputs have changed since 2006.
20. Our analysis of the data we received shows that gross written premium (GWP) and sales of PPI policies dropped in 2008 and 2009, across all types of PPI. This appears to be largely a result of the following factors:
 - (a) a large fall in credit sales;

- (b) many providers have stopped offering secured loans completely;
 - (c) some providers have temporarily² ceased selling PPI (particularly PLPPI) or reduced their PPI offering;
 - (d) for the distributors who have continued to sell PLPPI, a continuing trend of falling penetration rates;
 - (e) the move from single- to regular-premium policies (for PLPPI), which had a large effect on annual GWP in 2009.
21. Some parties also told us that rebates on terminated single-premium policies were starting to outweigh the GWP received on existing and new regular-premium PLPPI policies; as new business fell away and the number of resolved customer complaints about PPI policies rose, refunds started to exceed the premiums written for new business.
22. As set out in the [consultation document](#), we will be modelling what we expect to happen in 2011 and beyond. We set out here, for comment, the inputs we propose to use in our base case for modelling the state of PPI markets in 2011 and beyond. We will run sensitivities along these base values.

Margins

23. Excess profit margins (derived from the profitability analysis in paragraphs 4.60 to 4.82 of the report and Appendix 4.4) were used in the model to estimate the level of price which we expect after the package of remedies is in place. We assumed that, after the remedies, the price of PPI would be such that distributors would no longer make excess profits for PPI.

²We have yet to complete our analysis of what parties have done and what their future plans are. A preliminary review of the documentary evidence suggests that many providers that have stopped selling PLPPI have done so on a temporary basis. However, our modelling will take account of our final conclusions on this point.

24. These excess profit margins represent the amount by which the PPI price in the absence of the remedy is in excess of the price that we would expect in a competitive market. These are equal to:

$$m = \frac{\text{Pre - tax excess profit} - \text{Capital cost}}{GWP}$$

25. We consider that both 2006 and 2009 might not be representative of 'excess profit margins' from 2011 onwards. 2006 may be a period of lower claims and higher sales, whereas 2009 may be a period of higher claims and lower sales. We therefore suggest updating the model by using the average 'excess profit margin' on PPI for the five years to 2009. This will cover both periods of low claims and high claims. We propose to use this approach for MPPI and CCPPI margins.
26. As set out in paragraph 21, our initial analysis of the evidence we gathered from distributors suggests that PLPPI margins were heavily affected by the shift from single-premium to regular-premium policies in 2008 and 2009. The shift from single premium to regular premium had a large effect on GWP in 2009, because with regular-premium policies the GWP is spread over the life of the policy, whereas with single-premium policies all the premiums are received in the year in which the policy is sold. This means that the PLPPI margins for 2009 are not comparable to margins in the previous years. Margins were not affected by the drop in sales of PPI; we found that most of the costs of selling PPI are variable costs.
27. For PLPPI, it is therefore not meaningful to average margins from 2005–2009. We therefore propose using the average margin for PLPPI from years 2005–2008. This average margin may be relatively high as it does not account for a possible increase

in claims in 2009 (although it will take account of the increase in claims in 2008³), and therefore we will conduct a sensitivity analysis on the margin for PLPPI.

28. For SMPPI, 2009 is also a highly unusual year because almost all the large distributors stopped selling secured loans in 2009. We therefore propose using the average margin for SMPPI from years 2005–2008. As with PLPPI, this average margin may be relatively high as it does not account for the possible increase in claims in 2009, and therefore we will conduct a sensitivity analysis on the margin for SMPPI.

Penetration rates

29. PLPPI penetration rates have continued their declining trend in 2008 and 2009. We will use 2009 penetration rates in our analysis as they are the most recent data available. It may be that penetration rates will continue their declining trend after 2009 in the absence of remedies, and therefore that the most appropriate penetration rate for use in our model would be lower than the 2009 level. The consumer benefits from our package of remedies could then be higher than the benefits estimated using 2009 data. The decision to use 2009 penetration rates reflects a cautious approach to estimating the static benefits from the package of remedies.
30. SMPPI penetration rates have also continued to drop; however, 2009 is a very unusual year because most distributors have ceased selling any secured loans (at least temporarily), and therefore we will use 2008 penetration rates in our analysis.
31. CCPPI penetration rates have not changed significantly since 2006; therefore we will use 2009 data.

³See paragraph 10.14 of the report.

32. MPPI penetration rates increased slightly in 2009; however, this could be an effect of the economic slowdown. Therefore we will use data on average penetration rate for 2006–2009.

Relative price of PPI and credit

33. Our initial analysis of the data we gathered from distributors suggests that both the price of credit and the price of PPI may have increased. This could suggest that there has not been a significant change in the price of PPI relative to the underlying price of credit. If this is the case, we propose to continue using the same inputs as we had used in the report for the relative price of PPI and credit. We will run sensitivities to account for possible changes in the price of PPI relative to the price of credit.

Total excess profits

34. The output from our model is an estimate for the total increase or decrease in static consumer welfare after the package of remedies is in place, expressed as a percentage of excess profits in the PPI market prior to intervention (see Excel spreadsheet in the Appendix). This proportion was then multiplied by actual excess profits (as derived from the profitability analysis) to estimate the static consumer detriment that the package of remedies addresses (see paragraph 10.494 of the report).
35. We first note that consumer welfare change is expressed as a percentage of pre-tax excess profits, not post-tax profits, in the model. Therefore, we will multiply this percentage by total pre-tax excess profits in the PPI market.
36. As for updating the data on excess profits, again we note that 2009 is an unusual year. This is largely because of the move to regular-premium policies for PLPPI, which has a large impact on GWP and income in the transition years after the shift. In

addition, many distributors temporarily withdrew from supplying PLPPI in 2009, which further depressed profits.

37. We propose to use average excess profits over the period 2005–2009. This will cover periods of relatively large credit sales and periods of relatively low credit sales. We are considering whether we should adjust our excess profit calculations for 2009 to account for the fact that PLPPI distributors switched to regular-premium policies, and that many distributors temporarily withdrew from supplying PPI in 2009, and we welcome views on whether this is appropriate and how we could do this.

Elasticity of demand for PPI

38. An important input to the model that we used in the report is the market-level price elasticity of demand for PPI. In the report, the elasticity value that was used for calibrating the model was the firm-level price elasticity of demand for PPI. Market-level price elasticities are generally lower than firm-level elasticities, because the latter also incorporate switching between firms in the market. In other words, the difference between market- and firm-level price elasticity is the amount of switching by consumers between PPI providers in response to a small price increase.
39. We found strong evidence of a lack of substitution by customers between PPI distributors. This evidence is summarized in paragraphs 3.3 and 3.4 of the report. In light of this evidence, we concluded in paragraph 3.4 that there is currently only limited substitutability between PPI policies offered by different distributors. For this reason, we think that the market-level price elasticity of demand for PPI is likely to be very close to the firm-level price elasticity of demand for PPI before the remedies are in place, and therefore think it would be a good proxy for the market-level price elasticity of demand for PPI. We do not think that there is a better measure available.

40. We are proposing to continue to use the firm-level elasticity of demand as a proxy for the market-level price elasticity in our base model. We also intend to conduct sensitivity analysis, to test the robustness of the predictions of the model to lower levels of the market-price elasticity of demand for PPI. We welcome comments on this approach, including any further evidence on the correct levels for the market-price elasticity of demand for the different PPI products.

Elasticity of demand for credit

41. Another input in the model was the market-level price elasticity of demand for credit. We intend to gather information from publicly available sources, and from the distributors' answers to our questionnaire, on the market-level elasticity of demand for credit. We welcome any further evidence on the correct levels for the market-price elasticity of the different credit products.

Size of the waterbed effect

42. One of the inputs to the non-system model developed in the report was the extent of pass-through of PPI profits to lower credit prices. In our base case, we assumed that competition for credit customers was vigorous such that firms made no profits overall over the sales of PPI and credit (ie 100 per cent pass-through rate). We relaxed this assumption and explored the welfare effects of lower pass-through rates, whereby firms were able to retain some or all of the excess profits earned from PPI prior to the remedies being in place.
43. We welcome any further evidence on the proportion of PPI excess profits which are passed through to lower credit prices, and in particular evidence on whether this proportion has changed in the past couple of years.

Accounting for the costs of implementing the remedies package in the modelling

44. We intend to take into account the costs of implementing the remedies package in the model.
45. The evidence on the costs of implementing the remedies is discussed in paragraphs 10.497 to 10.508 of the report. We found that most of the set-up costs were for IT system changes (which are likely to be largely fixed costs), whereas most of the ongoing costs related to marketing and communication (which are likely to be largely variable). We will update these cost estimates to take account of any more recent evidence supplied by parties as to the costs of implementing the remedies package.
46. In so far as most ongoing costs appear to be variable, our proposal for including the costs of implementation of the remedies in the modelling is to add the estimated ongoing costs of implementation to our calculation of the post-remedy unit costs.
47. As for one-off costs of implementation, these are largely fixed costs, and therefore we would not normally expect these to be passed on in the prices of PPI after the remedies are in place. Our preferred approach is not to include these costs in the modelling, but to compare these one-off costs against any consumer benefits from the remedies over a period of several years.
48. We welcome views on whether this is the right approach, or whether the one-off costs of implementation should be included in the model because they can be expected to be passed on in the prices of PPI. We also welcome evidence underpinning these views, and in particular evidence on the extent to which the one-off costs of implementing regulatory changes have been factored into the pricing of PPI in the past.

49. If we included some or all of the one-off costs in the model, our proposed approach would be to spread these costs over a number of years, as we would expect these costs to have a useful economic life of more than one year. We welcome evidence on the appropriate time period used for recoupment of such one-off costs by distributors and underwriters.
50. Having included the ongoing costs of implementing the remedies into the modelling, the output of the model will be an estimate of the static effect of the remedies on consumers net of ongoing implementation costs, and therefore we propose not to compare this figure to the ongoing costs of the remedies to avoid double counting. For one-off costs, as set out in paragraph 47, our preferred approach is not to include these costs in the modelling, but to compare these one-off costs against any consumer benefits from the remedies over a period of several years.

Accounting for the costs of marketing and advertising in the modelling

51. As well as increasing the amount of searching by consumers for PPI after the point of sale and increasing the intensity of competition between PPI distributors, increased marketing and advertising of PPI will increase information to consumers on PPI prior to the credit point of sale, and therefore can be expected to increase the number of consumers that are aware of the cost of PPI before making decisions about credit.
52. We intend to review distributors' and underwriters' business plans as a source of information about planned marketing expenditure. We also intend to use advertising to sales ratios in other related industries as a guide for future advertising in PPI. We will balance these costs against the benefits to consumers from increased search prior to the credit point of sale. In practice, this means that we may amend our base model to allow for an increasing proportion of consumers starting to behave in a non-myopic manner as advertising and marketing expenditure increase. We could do so

by introducing, in our basic model (which assumes all consumers are myopic) a proportion of consumers who shop for the bundle of PPI and credit; this proportion would increase with the level of marketing and advertising expenditure.

Accounting for any loss of convenience from the point-of-sale prohibition

53. We are gathering evidence on the impact for consumers of not being able to purchase PPI at the associated credit point of sale from a number of different sources, and we have commissioned consumer research to assess the value to consumers of being able to purchase PPI at the credit point of sale.
54. We will assess what this evidence tells us as to the possible cost to consumers arising from any loss of convenience after the POSP, which will inform our assumptions on the demand function for PPI after the package of remedies is in place.

Mis-selling and dynamic benefits

55. There remain a number of factors that we think important to our assessment of the proportionality of the POSP, and that may be better considered outside but alongside the model.
56. We are still considering the welfare implications, if any, of reduced mis-selling resulting from the POSP. In principle, this is relevant to the model, as the existence of mis-selling may imply that some sales of PPI prior to the remedies being in place should not have been made. We have identified two possible approaches:
 - (a) to adjust penetration rates used as an input to the model—in order to take account of the possibility that not all PPI sales should have been made; and
 - (b) not to address mis-selling in the modelling, but to take into account the possibility that some mis-selling is occurring or has occurred in our overall assessment of the proportionality of the POSP.

57. Our suggestion is to deal with mis-selling outside but alongside the model (option (b)).
58. We are also considering the further benefits from the package of remedies which were not quantified in the model, such as the dynamic benefits from the package of remedies. Again, we think that these may be best considered alongside the model, as part of our overall assessment of the proportionality of the POSP.

CCPPI

59. In the report, we did not develop a model for CCPPI. We said that we would expect similar effects for CCPPI as for MPPI and SMPPI, because PPI income on credit cards forms a small percentage of overall income for credit card providers (paragraph 10.485). However, we did not estimate the static benefit to consumers from the package of remedies in the CCPPI market.
60. We intend to calibrate a model for CCPPI, using data on penetration rates, relative prices of PPI and credit, margins and excess profits in CCPPI, and following the same approach as set out above regarding updating the inputs for the calibration of the CCPPI model. We did not gather specific survey information enabling us to derive information on the price elasticity of the demand for CCPPI. We suggest extrapolating the elasticity for CCPPI from information on the price elasticity of demand for PLPPI, MPPI and SMPPI, and running sensitivities around this value. We welcome comments on this approach, including any further evidence on the correct levels for the market-price elasticity of demand for CCPPI.

Sensitivity/robustness test

61. As we did in the report, we will continue to run sensitivities against the values of the different parameters in the model, to test the robustness of our results.