

**PPI REMITTAL**

**COMMENTS ON THE PROVISIONAL DECISION WELFARE MODELLING**

A REPORT FOR LLOYDS BANKING GROUP

NON-CONFIDENTIAL VERSION

**AlixPartners** Ltd

04 JUNE 2010

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## **1 EXECUTIVE SUMMARY**

### **1.1 INTRODUCTION**

1.1.1 AlixPartners has been asked by LBG to review the CC’s revised welfare analysis as set out in the Provisional Decision (in particular Appendices H, I and J).

1.1.2 Here we summarise our comments on the CC’s analysis and the results of initial sensitivity testing we have carried out in light of these comments.

### **1.2 SUMMARY OF OUR COMMENTS**

1.2.1 Our main comments at this stage are:

- The CC continues to overstate the extent of the welfare problem associated with above cost PPI prices by failing to analyse the extent to which the existing price structure leads to prices of protected and unprotected credit being out of line with underlying costs.
- The CC’s use of loss of convenience evidence appears fundamentally flawed.
- The CC’s basis for moving from a 100% waterbed to an 80% waterbed assumption is unsupported by evidence.
- The CC’s welfare analysis systematically underestimates the adverse impact on both credit and PPI demand of targeting of credit price increases and use of cut-offs.
- The CC’s PPI elasticity assumption does not reflect the full range of evidence.
- The CC continues to apply unreasonable assumptions for the effectiveness of the remedy.

1.2.2 A discussion of each of these points follows.

*The CC continues to overstate the extent of the welfare problem associated with above cost PPI prices by failing to analyse the extent to which the existing price structure leads to prices of protected and unprotected credit being out of line with underlying costs.*

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1.2.3 The CC materially overstates the welfare distortion associated with the current price structure. The extent to which current prices deviate from the underlying cost of providing protected and unprotected credit is much less material than the CC’s analysis (which considers PPI and credit prices and costs separately) suggests. This reflects the fact that as the CC has found impairment costs on protected loans are higher for protected customers (even within the same credit score band).

1.2.4 The extent to which the CC’s estimate of welfare distortions is overstated is likely to have increased since the CC 2009 Report (which examined impairment experience in the three years subsequent to loans sold in 2005) reflecting the further deterioration in loan performance since 2008. Although the CC has examined market developments since the 2009 Report in other areas, the CC has failed to analyse developments in this area.

***The CC’s use of loss of convenience evidence appears fundamentally flawed.***

1.2.5 Having been directed by the Tribunal to incorporate loss of convenience in the welfare analysis the CC now purports to have found that the loss of convenience is for a substantial minority of customers a *gain of inconvenience*. This finding allows the CC to conclude that there is no net loss of convenience effect.

1.2.6 In arriving at this conclusion the CC relies exclusively on one source of evidence – the stated preference survey carried out by Accent. In doing so the CC places survey evidence above the empirical evidence derived from business plans and pilot studies which are typically regarded as superior sources of information to stated preference studies.

1.2.7 Setting aside questions regarding the robustness of the Accent research results, we find that the way in which the CC has incorporated the Accent findings into the overall welfare analysis is flawed in a number of important respects.

- First, the CC systematically underestimates the negative welfare effect on the 60% of Accent respondents who would be inconvenienced by the POSP. The CC assumes the adverse impact of the POSP is limited to the imposition of additional “shopping around” costs and will have no adverse impact on consumers’ ability to evaluate properly the benefit of protection. This is a fundamental flaw as availability at point of credit sale provides far more than the avoidance of ‘shopping around’ costs. The key benefit is to

provide the consumer with the opportunity to evaluate protection needs at the perfect time, i.e. the moment before the consumer commits to a loan. Removal of this benefit will lead to significant further welfare losses not factored in by the CC.

- Second, the positive valuations produced by Accent reinforce the concern that it is highly doubtful that this benefit can in fact be counted as incremental to the imposition of the POSP. The ability shop away from point of credit sale is already available to consumers (or could be secured by a less intrusive remedy). If consumers genuinely attached such a significant value to delay (i.e. approximately £570) this begs the question why they have not acted on that valuation in the past. In view of this we consider it inappropriate for the CC to retain this unfeasibly high valuation in its base case.
- Even taking the very high positive valuations in the Accent report at face value, the CC’s methodology for incorporating the positive valuations in the welfare analysis systematically overstates their real impact. The only sensible interpretation of the Accent research is that for some consumers the availability of PPI at credit point of sale has artificially shifted out their demand curve. To then shift out the demand curve further (including for new PPI consumers attracted by lower post-remedy prices), as the CC does, makes no sense and significantly overstates the welfare impact of the remedy.

1.2.8 Correcting for these errors of implementation alone results in the CC’s base case estimate of £170m annual gains for PPI falling to £11m.

*The CC’s basis for moving from a 100% waterbed to an 80% waterbed assumption is unsupported by evidence.*

1.2.9 The extent to which PPI profits are passed through into lower credit prices is an empirical issue that lends itself to proper analysis which the CC has not carried out. As a result, the CC does not have a sound empirical basis for employing the 80% assumption. The CC’s own analysis shows this is a key assumption: for example for PLPPI, all welfare benefits of the CC’s base case are removed if the waterbed is assumed to be 100%.

1.2.10 Instead, the CC revises its waterbed assumption based on what appears to be weak reasoning. The CC relies on the fact that credit prices have gone up since the 2009 Report

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and that some distributor business plans show a move to stand-alone profitability. However, this is likely to reflect the separate need to re-price credit in light of enhanced risk in a deteriorating economic environment, and the implications of falling take up rates and the prospect of lower take up rates after the imposition of the remedy.

- 1.2.11 We note a potentially significant inconsistency in that the CC effectively assumes a PPI market that is *more* competitive than the credit market. In practice there is likely to be an intrinsic link between the degree of competition in the credit market and the maximum achievable degree of competition in the PPI market. At present the CC ignores the inconsistency of its approach by deploying the 80% assumption. For example, analysis shows that assuming a similar level of competition (and similar proportion of fixed costs) for the credit market as the CC uses for its PPI market assumption implies a 95% waterbed assumption.

*The CC’s welfare analysis systematically underestimates the adverse impact on both credit and PPI demand of targeting of credit price increases and use of cut-offs.*

- 1.2.12 The CC has not addressed its own recognition that the adverse impact of intervention may be underestimated because it has not explicitly modelled the impact of (i) targeting credit price rises on those customer cohorts where PPI penetration is highest and (ii) the raising of credit cut-offs instead of credit prices to restore system profitability.
- 1.2.13 Regarding targeting, the CC assumes that PPI penetration of lost credit demand due to higher credit prices will be the same as retained demand. Relaxing this assumption to reflect targeting of credit price rises at cohorts where PPI penetration is highest has a material impact on the welfare estimates (see paragraph 1.3.5).
- 1.2.14 Regarding cut-offs, the CC ignores the welfare impact of the contraction of credit associated with distributors seeking to restore system profitability by raising cut-offs. Although this strategy removes credit to customers that are only marginal in terms of their profitability, these consumers may enjoy significant levels of consumer surplus which is now removed. This is a fundamental omission and the CC has not examined the extent to which distributors rely (and may increasingly rely) on raising cut-offs instead of attempting to impose further credit price rises. Again our sensitivity analysis suggests this may be a highly material factor (see paragraph 1.3.5).
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*The CC’s PPI elasticity assumption does not reflect the full range of evidence.*

- 1.2.15 To address the Tribunal’s concerns on this issue, the CC has reduced this parameter by 10% (from -1.54 to -1.38) to allow for a difference between the firm elasticity and the market elasticity of demand. However, in doing so, the CC continues to assume that its firm elasticity of demand assumption of -1.54 is robust.
- 1.2.16 Again the CC chooses to base its assumption solely on survey evidence and ignores empirical evidence of how consumers have responded in practice (which in our view strongly suggests an elasticity in the region of -0.4 to -1.2). The CC’s dismissal of its own empirical evidence regarding PPI elasticities (as well as evidence LBG has previously submitted) relies heavily on its cross-check to distributor price-cost margins (estimated at 60%). However, this ignores the fact that (in particular for vertically integrated players) true price-cost margin will be much higher than that suggested by the CC’s analysis. Furthermore, in assessing the scope for PPI price cuts the CC relies on profit margins of up to 73%. The CC’s cross-check also appears to insufficiently account for cross-price elasticity of demand for credit.
- 1.2.17 The CC’s welfare estimates are very sensitive to this parameter: for example on PLPPI an elasticity of -0.7 removes all of the welfare benefits estimated in the CC’s base case.

*The CC continues to apply unreasonable assumptions for the effectiveness of the remedy.*

- 1.2.18 The CC gives the impression of phasing in the effectiveness of the remedy. However, the phasing in appears to relate solely to the build up of new sales as a proportion of the stock of existing sales. In relation to new sales the CC assumes the remedy will be fully effective and new sales will benefit from immediate price cuts down to cost (for example, this involves a price cut of 52% on PLPPI).
- 1.2.19 The CC runs sensitivity tests for the number of customers that search prior to the point of credit sale however the CC does not set out its view of the likely timing of the impact of the remedy to increase searching.
- 1.2.20 The CC bases its price cut assumption on an analysis that seeks to update the profitability analysis previously carried out. The CC’s methodology appears to materially overstate the

potential for PPI price cuts going forward. For example the CC reaches the surprising conclusion that in spite of falling take up rates and credit sales, excess PPI profits climbed from 60% of GWP in 2006 to 73% in 2008.

1.2.21 The CC’s welfare estimates are highly sensitive to the PPI price cut assumption. For example, the benefits under the PLPPI base case evaporate if only half of the hoped for PPI price cuts materialise in practice.

### 1.3 SUMMARY OF OUR INITIAL SENSITIVITY ANALYSIS

1.3.1 The CC’s modelling predicts substantial welfare gains resulting from the POSP of approximately £415m per annum for PLPPI (£170m), CCPPI (£145m), and SMPPI and MPPI combined (£100m). These are compared to implementation costs of the remedy of £60-70m.

1.3.2 The CC carries out sensitivity testing on each key variable adjusting each one individually. This shows that the estimated welfare gains of the remedy are highly sensitive to varying individual assumptions. In particular, the analysis shows that all welfare gains (in relation to PLPPI) are eradicated in its base case if *any* of the following alternative assumptions are used.

- Removing all of the positive valuation attributed to the gain of inconvenience.
- A waterbed effect of 100%.
- A PPI price cut of approximately half of the modelled reduction to marginal cost.
- An elasticity of PPI of -0.7 instead of -1.54.
- An elasticity of credit of approximately -1.5.

1.3.3 These assumptions all fall within the range of plausible assumptions modelled by the CC with the slight exception of PPI elasticity which falls just outside the CC’s range and the elasticity of credit demand (which is an assumption the CC previously used).

1.3.4 Our initial sensitivity analysis shows the following.

1.3.5 Firstly, the list of individual assumptions to which the CC’s results are highly sensitive is longer than the CC recognises. In addition to the individual assumptions set out in 1.3.2 above, the welfare gains predicted by the CC would, based on our initial modelling of these issues, also evaporate if

- Banks target credit price increases at those customer cohorts where PPI penetration is highest such that the average PPI penetration rate in the retained credit demand is 13% lower than pre-remedy PPI penetration rates.
- Banks recouped lost PPI profits by adopting a mixed strategy of raising cut-offs and credit prices (such that 60% of lost credit demand results from raised cut-offs as opposed to increases in credit prices).

1.3.6 Secondly, the CC’s estimates are based on an incorrect methodology for translating the Accent consumer valuations into welfare costs and benefits. Adjusting for this reduces the CC’s base case estimate from £170m to £11m. This has the effect of increasing the proportion of the range of values for individual estimates (set out in paragraphs 1.3.2 and 1.3.5) that result in negative net welfare effects.

1.3.7 Thirdly, the CC’s results are hugely sensitive to combining its own sensitivity tests. The failure to do this means the CC does not give explicit recognition to the size of the potential downside its remedies could entail. For example,

- Simply varying the two central assumptions regarding waterbed and positive valuations of inconvenience together instead of separately results in the CC’s base case model predicting substantial losses (e.g. for PLPPI losses of around £207m per annum instead of welfare gains of around £170m).

1.3.8 Constructing reasonable alternative scenarios illustrates the overall sensitivity of the CC’s results. The following table summarises the assumptions behind our high, medium and low scenarios for PLPPI. The high scenario is similar to the CC’s central scenario but adjusted for the CC’s incorrect implementation of the Accent valuations. The central scenarios uses assumptions that we consider reasonable based on the reasoning set out in the body of the report. The low scenario employs assumptions which it would appear the CC is unable to rule out based on the current analysis that has been carried out to date.

1.3.9 Note that these scenarios do not include adjustments for targeting or cut-offs and are likely to overstate the benefits/understate the costs of intervention.

**Table 1 Summary of scenarios and results**

<b>Scenario</b>	<i>Loss of convenience</i>	<i>Waterbed</i>	<i>PPI elasticity</i>	<i>PPI price cut</i>	PLPPI welfare impact
<i>High</i>	Accent valuations	80%	1.38	52%	<b>£11m</b>
<i>Medium</i>	Equal valuations	90%	1.0	45%	<b>-£255m</b>
<i>Low</i>	No positive valuation	100%	0.62	38%	<b>-£475m</b>

1.3.10 In the report we set out the assumptions regarding the extent and timeframe over which increases in searching would be required to overturn the substantial negative estimates derived from the medium and low scenarios. This illustrates that with what may be considered to be rapid increases in the number of searchers (e.g. a 50% increase per annum), for the central assumption above, welfare benefits would not outweigh costs for at least five years.

## **1.4 CONCLUSIONS**

1.4.1 In light of our analysis we make the following conclusions.

1.4.2 First, the CC’s derivation of its welfare estimates is materially flawed in a number of important areas.

1.4.3 Secondly, the CC’s ability to predict net welfare gains is highly sensitive to a large number of assumptions. In many cases, the inclusion of just one assumption the CC cannot rule out removes all of the anticipated welfare gains the CC predicts.

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- 1.4.4 Thirdly, for key variables the CC has not relied upon the full set of evidence available to it. In particular for loss of convenience and PPI elasticity the CC relies on survey evidence and ignores empirical evidence from actual market experience and natural experiments. The CC also continues to rely on a “best guess” for the credit elasticity.
- 1.4.5 Fourthly, for other key variables the CC has not undertaken sufficient analysis to obtain robust evidence where this would appear feasible. In particular the CC has chosen not to embark on research into key areas (the importance of impairments and the extent which credit price rises are targeted or involve use of cut-offs). Although a thorough examination of these issues would take more time the CC has for some reason chosen not to spend an appropriate amount of time on these issues (in spite of recognising their potential importance).
- 1.4.6 Fifthly, the CC appears not to have undertaken sufficient analysis to appreciate the potential downsides of its remedy. In particular, the CC generally avoids running scenarios that involve assessing sensitivities to key variables at the same time (cumulative sensitivity tests).
- 1.4.7 Our analysis shows that correcting for errors in the CC’s methodology and running reasonable scenarios and cumulative sensitivity tests, the potential for very material downside from the CC’s intervention persists even retaining some or all of the positive valuations of delay the CC relies on from the Accent research.
- 1.4.8 Finally, we note that the CC has not undertaken any comparison with the Annual Renewal remedy. We reiterate that given a likely correlation between the valuations of convenience (in either direction) associated with delay under the POSP and Annual Renewal remedies, the possible welfare benefits of the Annual Renewal remedy are likely to be substantially higher, and risks of welfare losses substantially lower than under the POSP.
- 1.4.9 In light of our findings and conclusions we consider that the CC needs to undertake the following:
- A full analysis of the difference between the profitability of protected and unprotected credit taking account of likely developments in impairments over the next five years, in order to estimate properly the extent of the welfare problem.

- A revised analysis of loss of convenience taking account of (i) other sources of evidence which, even with the CC’s reservations, it would not appear appropriate to discount fully, and (ii) concerns regarding the robustness of the Accent research.
- Empirical analysis of the extent of the waterbed effect including full analysis of system profitability, analysis of price-cost margins for system prices and examination of distributor pricing models.
- A full analysis of the likely use of targeting and cut-offs by distributors and full analysis of the welfare implications of the use of these strategies in lieu of across the board credit price rises.
- A further review of the elasticity of PPI demand evidence placing greater weight on empirical evidence and not relying solely on evidence from one survey.
- Further examination of the likely (as opposed to maximum possible) effectiveness of the remedy in terms of the scope for price cuts and the likely path for increases in searching.
- A more thorough examination of the possible impact of the remedies taking account of combining the range of sensitivities.
- Comparison of the likely impact of the POSP with the likely impact of the Annual Renewal remedy

## 2 COMMENTS ON CC’S REVISED WELFARE MODELLING

### 2.1 INTRODUCTION

2.1.1 This section sets out our comments on the CC’s revised welfare modelling. We focus on the following key areas:

- The extent of the welfare problem
- Loss of convenience
- Waterbed effect
- Targeting and use of cut-offs
- PPI elasticity of demand
- Timing of the effectiveness of the remedy

2.1.2 A discussion of each follows.

### 2.2 THE EXTENT OF THE WELFARE PROBLEM

2.2.1 The CC materially overstates the welfare distortion associated with the current price structure. This is because the extent to which current prices deviate from the underlying cost of providing protected and unprotected credit is much less material than the CC’s analysis (which considers PPI and credit prices and costs separately) suggests.

2.2.2 In the 2009 Report<sup>1</sup> the CC found that impairment costs on protected loans are higher for protected customers (even within the same credit score band).

2.2.3 The CC also found that the scale of the differences is very substantial<sup>2</sup>.

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<sup>1</sup> Paragraphs 10.427 -10.441 and Appendix 10.6 of the Report


<sup>2</sup> For Personal Loans: “Every provider displays a positive absolute difference weighted average, the majority lying between £1 and £6 per £100 advanced, suggesting that, even after controlling for risk score, loan customers with PPI are more likely to enter into arrears or have their balance written off than those without. In relative terms, the figures suggest that the average of the value of loans entering three-month arrears and being written off, weighted across risk scores, is in most cases between one and a half and three times as high for protected loans as for unprotected loans.” (Appendix 10.6 paragraph 18).

For Credit Cards: “We find that the difference in impairments again appears to be large in relative terms—the value of protected credit card balances being written off is approximately twice as high as the value of unprotected credit card balances, even after controlling for the difference in risk already observed, captured in credit risk scores.” (Appendix 10.6, paragraph 32). For

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- 2.2.4 In view of this, moving the market to a situation where PPI and credit prices are both priced at marginal cost will result in losses made on protected customers and profits made on unprotected customers, i.e. the oversupply of protected credit and the undersupply of unprotected credit. As the CC recognises this would be inefficient<sup>3</sup>.
- 2.2.5 In terms of the scale of this issue, it is possible to carry out a back of the envelope calculation combining the analysis in Appendix 10.6 with the CC’s welfare models Appendix 10.11 of the 2009 Report. The CC’s 2009 models assume a 60% price cut would reduce PPI prices to marginal cost. This would remove supernormal profit of £15.60 on each £100 loaned (assuming the one-year loan in the CC’s welfare model is extended to three years). The CC’s analysis suggests that the average additional impairment cost for protected personal loan customers (see footnote 1 above) is between £1 and £6 i.e. explains between 6% and 38% of supernormal profits (an average of approximately 22%). In view of this, the CC’s remedy would have resulted in PPI prices that are 25%<sup>4</sup> below the cost of supplying protected credit.
- 2.2.6 The significance of this point is also likely to have increased since the CC’s Report (which covered the period 2005 – 2008). We consider that it is important for the CC to establish the likely importance of this effect going forward (i.e. in the period following the implementation of the remedy), taking into account the prospect of further deterioration in impairments.
- 2.2.7 The following table sets out loan impairment experience since that period for LBG based on trends in LBGs Asset Quality Ratio (AQR), a metric that compares impairments relative to loan balances. 

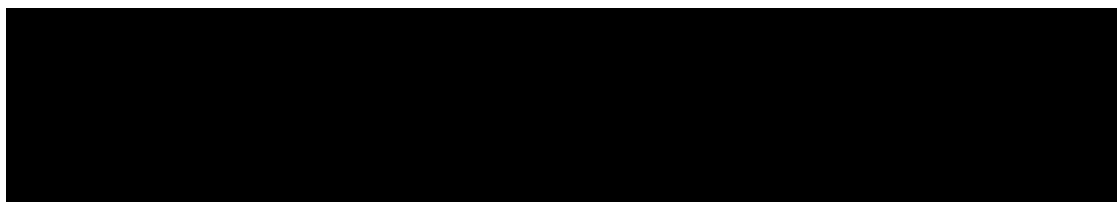
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Mortgages, “the figures suggest that, in relative terms, customers with protected mortgages may be up to twice as likely to suffer an impairment”. (Appendix 10.6, paragraph 25).

<sup>3</sup> “In part A we found that there was a difference in the impairment experience of insured and non-insured credit accounts. This may indicate that PPI customers represent a higher credit risk than credit customers that do not take out PPI. This difference in risk is not, however, fully accounted for in the credit risk scoring process. If this is the case, there may be informational efficiencies connected to the ability of providers to observe whether or not a credit customer also intends to purchase PPI, and to use this information to charge individuals higher credit or PPI prices in order to reflect the additional risk. **The benefits resulting from such a mechanism could take the form of more efficient prices (prices that better reflect the costs of providing credit or the credit and PPI bundle to an individual)...**” (Paragraph 35, Appendix 10.6, emphasis added.)

<sup>4</sup> Assuming the CC’s estimate of excess PLPPI profits of 60%. The impairment adjusted marginal cost of protected credit would be  $40 + (60 * 0.22) = 53.5$ . The CC’s assumption of 40 is 25% below this figure.

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**Table 2 LBG Impairment experience since 2006-2009**A large black rectangular redaction box covers the content of Table 2, which would otherwise show LBG impairment experience data from 2006-2009.

2.2.8 We consider that the CC’s reasoning set out in the 2009 Report for dismissing the relevance of this issue is unconvincing. The CC first considered that its own methodology may overstate the difference (due to using credit score bands that may be broader than ones actually used by different banks). However, this is simply an empirical issue and the Report implies that the CC does not believe this to be a material issue<sup>5</sup>. Secondly the CC considered that high PPI prices may *cause* higher credit impairments due to adverse selection. However, there are material deficiencies in the CC’s reasoning as follows:

- The CC admits it has no idea of how material this adverse selection effect is: *“We do not have sufficient information to measure the extent or severity of the adverse selection effects on credit and PPI costs”* (Appendix 10.6, paragraph 102).
- The CC assumes<sup>6</sup> a link between risk of PPI claim and risk of credit default which the CC has not investigated empirically.
- The CC’s conclusion that the differential is driven by high PPI prices causing low credit risk customers to switch from the protected group to the unprotected group implicitly assumes that at competitive PPI prices the credit risk of protected customers and unprotected customers will be the same<sup>7</sup>. There does not appear to be any evidence that supports this assumption, and the CC’s own evidence (finding that PPI customers tend to be higher credit risk) suggests otherwise.

2.2.9 Taking into account impairments can have fundamental implications for the welfare analysis the CC has carried out. For example, during the original inquiry, *“HSBC provided its own*

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<sup>5</sup> Appendix 10.6, paragraph 16. See also paragraph 54, and footnote 11.

<sup>6</sup> See appendix 10.6, paragraphs 85-87.

<sup>7</sup> Paragraph 90 states that *“The diversion of many low-risk potential PPI customers to the credit-only group, as a result of high PPI prices, will diminish the average credit risk of the group that do not purchase PPI and inflate the average credit risk of the group of customers that do purchase PPI.”* This would only arise if the two groups have the same credit risk in the first place. If protected customers have higher credit risk to start with, switching of lower credit risk protected customers (who nonetheless have higher credit risk than unprotected customers) serves to raise the average credit risk of both groups: the impact on the differential is therefore indeterminate.

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*analysis in which it extended our analysis to include an exogenous difference in the marginal cost of credit between PPI and non-PPI consumers. This analysis showed that intervention to reduce PPI prices would result in a net harm to consumers of up to £600 million.” (Paragraph 10.489). The CC rejected this on the basis that “we do not agree that there is an exogenous difference in the marginal cost of supplying these two groups of customers. In our judgement, the analysis set out in Appendix 10.6 shows that the most likely cause of our observation of a difference in credit impairment experience between PPI and non-PPI consumers (set out in paragraphs 10.433 to 10.435) is the interaction of high prices for PPI and adverse selection.” (Paragraph 10.490). Hence, the CC unreasonably moves from a position where it admits that “we do not have sufficient information to measure the extent or severity of the adverse selection effects on credit and PPI costs” to a position where it asserts that in fact these effects are likely to explain away all of the differential the CC’s analysis revealed.*

2.2.10 In view of the potential materiality of this key issue and in light of the fact that impairments have deteriorated since the CC carried out its original report, there must be a strong case for a thorough examination of welfare implications of the structure of PPI and credit prices taking into account impairments, and on this occasion the proper investigation of the materiality of the adverse selection effects the CC relied upon in its report.

2.2.11 Finally, we note that the CC’s concern that distributors are not explicitly factoring in the impairment experience of protected versus unprotected customers when setting PPI or credit prices, would appear to have no relevance when it comes to assessing the welfare implications of its intervention. For example, in a previous inquiry where the CC also took account of waterbed effects on welfare (*Mobile Termination*<sup>8</sup>), the CC adjusted regulated prices to allow for “network externalities” irrespective of the lack of evidence that these externalities were explicitly included in operators’ pricing models.

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<sup>8</sup> *Vodafone, O2, Orange and T-Mobile: Reports on references under section 13 of the Telecommunications Act 1984 on the charges made by Vodafone, O2, Orange and T-Mobile for terminating calls from fixed and mobile networks.* Competition Commission (2003).

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## 2.3 LOSS OF CONVENIENCE

2.3.1 In this section we set aside questions regarding the robustness of the Accent research results to consider how the CC has used the Accent results in its overall welfare analysis. We first summarise the CC’s approach and then consider the way in which the CC models the welfare effects of the negative and positive valuations separately.

### *The CC’s approach*

2.3.2 The CC’s approach to modelling loss of convenience can be summarised as follows

- The evidence from pilot studies and business plans is ignored (for the reasons set out in Appendix C of the Provisional Decision) and the Accent research is relied upon exclusively.
- Based on the Accent research (for PLPPI) the CC assumes that
  - 60% of consumers experience a negative cost as a result of the delay imposed by the POSP equivalent to 23% of the cost of PLPPI policy. The CC refers to these as Group 1 consumers.
  - 30% of consumers receive a positive benefit from the delay imposed by the POSP equivalent to 60% of the cost of the PLPPI policy. The CC refers to these as Group 2 consumers.
  - 10% of consumers are indifferent to the delay. The CC refers to these as Group 3 consumers.

2.3.3 Based on these inputs the CC reduces/uplifts the consumer surplus that the Group 1/2 consumer groups experience as a result of the remedy.

2.3.4 The CC runs a sensitivity test to the inclusion of the positive benefit for Group 2 which shows that only if most (approximately 91%) of this benefit is ignored would the CC’s base case predict negative net welfare effects of the remedy.

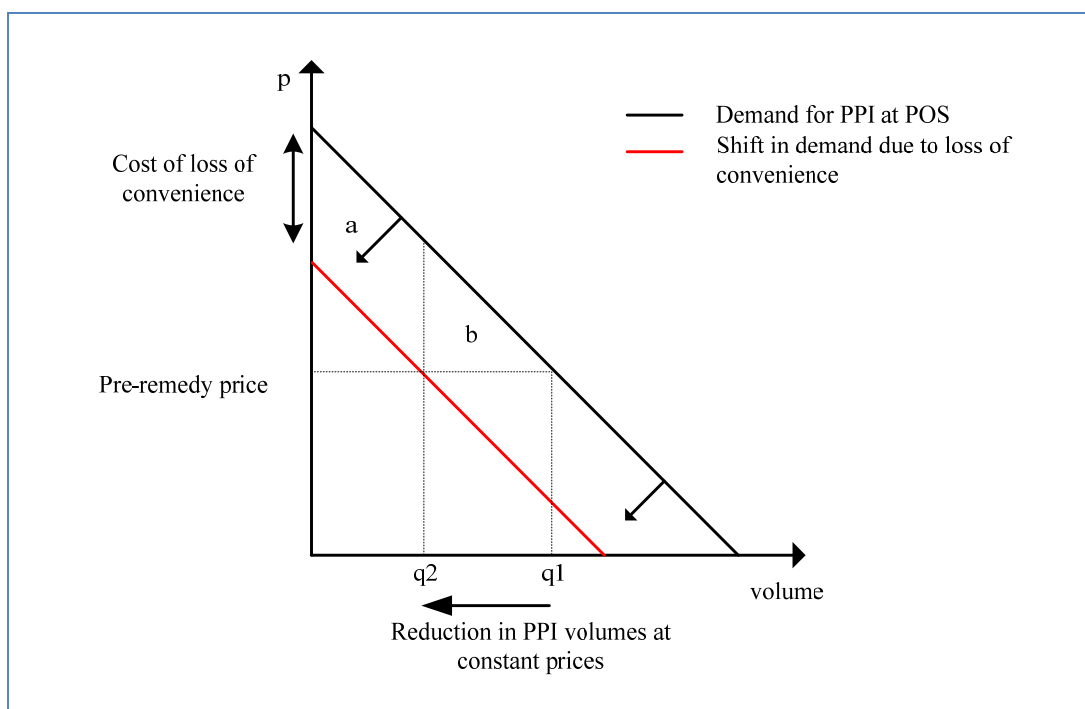
### *Modelling the negative impact of delay*

2.3.5 We believe that the way the CC models the impact on welfare arising from the negative cost of delay systematically understates the true welfare effect.

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2.3.6 The CC models the negative effect of loss of convenience as a downward shift in the demand curve for PPI for the Group 1 consumers. This is illustrated in Figure 1 which shows that as a result of the remedy demand will contract at the pre-remedy price (from  $q_1$  to  $q_2$ ).

**Figure 1 Adverse effect of POSP remedy for Group 1 consumers**



2.3.7 For an average PLPPI price of £32 per month the Accent research estimated loss of convenience to be equivalent to £7.30. This alone causes an inward shift of 32% for the Group 1 cohort (this represents a reduction in total PPI demand of approximately 19%). The CC calculates the welfare effect as equivalent to £7.30 per month for all retained consumers (area a) and the lost consumer surplus for lost consumers for whom cost now outweighs benefit (area b).

2.3.8 We believe that this will systematically underestimate true welfare effects because the CC ignores the impact of its remedy on the ability of consumers to properly evaluate costs and benefits of protection. The CC has failed to consider properly the various elements of convenience associated with the availability of PPI at point of credit sale. Such availability provides far more than the avoidance of ‘shopping around’ costs. More fundamentally it

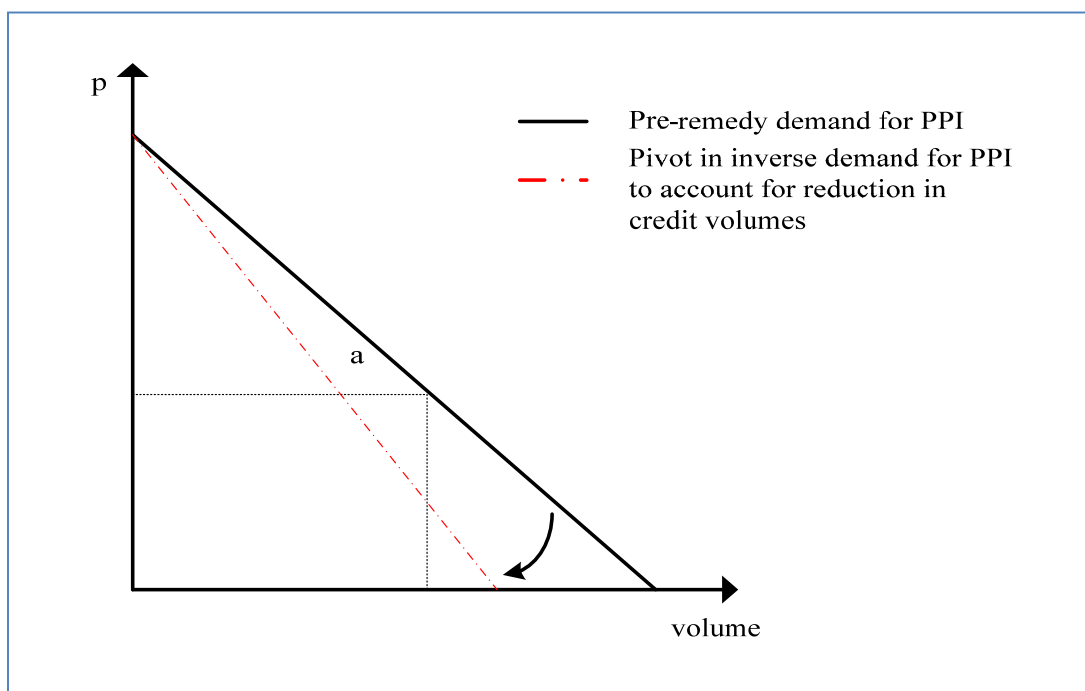
provides the consumer with the opportunity to evaluate protection needs at the perfect time: the moment before the consumer commits to a loan. The CC’s welfare estimates are derived from only the most marginal customers dropping out when faced with the added inconvenience cost. In practice the withdrawal of an ability to properly evaluate the benefits of protection at the optimum time is highly likely to lead to less marginal consumers (i.e. those with a higher valuation of the product) not obtaining protection that they would otherwise have valued.

2.3.9 The CC appears to reject<sup>9</sup> the notion that the POSP may impair the ability of consumers to evaluate the benefit of protection. However, the CC provides no evidence to support its assertion. Instead the CC merely asserts that it believes the parties are overstating the potential loss of convenience associated with the POSP.

2.3.10 We consider that the CC has unduly narrowed the interpretation of what is meant by convenience and that this is a fundamental flaw in its approach. In view of this, we believe it is more correct to model the welfare effects as a pivot inwards of the demand curve. This is summarised in figure 2 below.

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<sup>9</sup> “MBNA told us that, if convenience was modelled only as a cost, it would ignore adverse effects of customers failing to take out insurance even though it would be in their interest to do so. We did not agree with this: we thought that, if customers fail to take out insurance, this is because the value of the insurance to them is less than the sum of the price of the insurance and the possible costs of loss of convenience to them. Therefore, the failure to take out insurance is taken into account in the model by modelling the loss convenience to consumers who value convenience as a cost”. (paragraph H62).

**Figure 2 Inward shift of demand curve**

2.3.11 A potential way of utilising the Accent results would therefore be as follows:

- Use the 32% demand reduction but to recognise that infra-marginal consumers are just as likely to not purchase as marginal consumers, estimate the area of consumer welfare loss as area “a” in figure 2 (i.e. in the same way as the CC treats the reduction of PPI demand resulting from reduced credit demand caused by increased credit prices).
- Estimate the welfare loss of consumers that continue to purchase PPI as the cost identified by Accent.

2.3.12 Such an approach would be consistent with the CC’s recognition of costs imposed on both lost and retained customers.

*“LBG told us that the loss of convenience factor should reflect both for those who don't buy at all and those who buy at greater cost in terms of time spent. We took this into account in our modelling, by considering the welfare impact of loss of convenience to consumers who value convenience both as the possible reduction in PPI volumes due to the cost of convenience, and the reduction in surplus because of the cost of convenience to consumers who continue to buy PPI even though they value convenience” (Paragraph H65).*

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2.3.13 Adjusting for this error alone reduces the CC’s base case estimate of welfare gain for PLPPI from £170m per annum to £101m per annum.

*Modelling the positive impact of delay*

2.3.14 We have two serious reservations with the way the CC approaches the treatment of the benefit of delay identified in the Accent research.

2.3.15 First, the inclusion of the Accent estimates in the CC’s base case is highly unreasonable. Secondly, the CC’s modelling of positive benefits overestimates the welfare implications of these valuations.

*Inclusion of benefits in the CC’s base case*

2.3.16 The positive valuations in the Accent research illustrate the point that it is highly doubtful that this benefit can in fact be counted as **incremental** to the imposition of the POSP. The ability to shop away from point of sale is already available to consumers (or could be secured by a less intrusive remedy). If consumers genuinely attached such a significant value to delay (i.e. approximately £570<sup>10</sup>) this begs the question as to why they did not act on that valuation.

2.3.17 Furthermore, a key problem with the research is that it may reflect 20/20 hindsight by respondents who may have concluded that, having not claimed, they do not *ex post* value the product as highly as they did *ex ante*. Accordingly, these responses would represent a poor guide to likely future behaviour.

2.3.18 In view of these serious concerns we agree with the CC’s decision to model sensitivity of its estimates to inclusion of these positive benefits. However, we consider the CC should do more than simply include this as one of the many binary sensitivity tests it carries out whilst essentially retaining this unfeasibly high valuation in its central assumption in the welfare modelling.

*Evaluating the welfare impact of the positive valuations*

2.3.19 Even taking the very high positive valuations in the Accent report at face value, we have serious reservations with the CC’s methodology for incorporating these valuations in the

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<sup>10</sup> Based on the Accent survey average premium for PLPPI of £32 assuming an average policy length of 2.5 years.

welfare analysis and believe that the CC’s approach systematically overstates welfare impact.

2.3.20 The implication of the Accent responses is that some customers have bought PPI when in retrospect they would only normally do so at a lower price. Hence, the only sensible interpretation is that the availability of PPI at credit point of sale has artificially shifted out the demand curve for these consumers. To then shift out the demand curve further as the CC does (including for new PPI consumers attracted by lower post-remedy prices), does not appear to make any sense. As a result, the CC’s approach very significantly overstates the welfare impact of the remedy.

2.3.21 The welfare distortion implied by these valuations is that some customers would not have bought PPI if faced with their true demand curve and that the availability of PPI at credit point of sale has converted these “sub-marginal” customers into marginal and infra-marginal customers. Assuming this is correct, the welfare impact of correcting for such an artificial shift out of the demand curve is far more limited than that estimated by the CC. This reflects the fact that for a proportion of the Group 2 customers any artificial boosting of their demand for protection may not have impacted on their purchase decision as they would still buy (i.e. would not be sub-marginal) at lower valuations of the benefits of protection.

2.3.22 To more accurately estimate the welfare impact of these positive valuations would therefore involve the following:

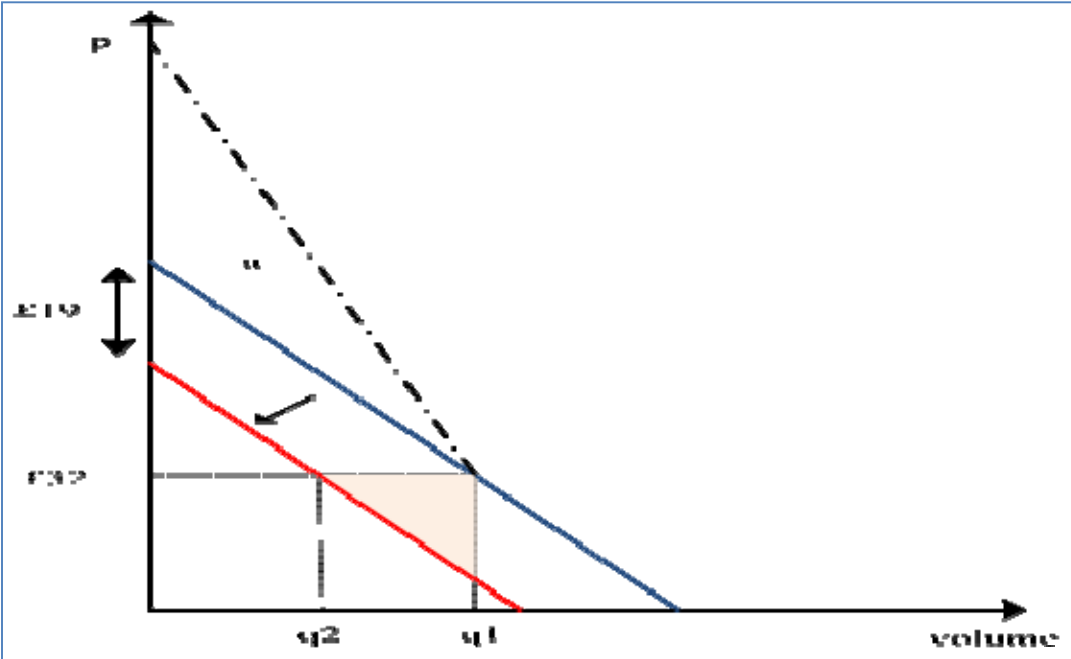
- Shift in the demand curve to reverse the increase in consumer surplus for each consumer (estimated at 60% of the average monthly premium of £32, i.e. £19).
- Identify the number of consumers for whom the purchase decision has been affected (i.e. q1-q2 in figure 3 below which represents those whose demand has been artificially boosted by the availability of PPI at credit point of sale). Calculate the welfare loss associated with these consumers paying for a product that delivered a marginal benefit that is lower than the marginal cost represented by the purchase price. This is given by the shaded triangle in figure 3 below, and compares with the triangle “a” which the CC has used to calculate its welfare gain<sup>11</sup>.

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<sup>11</sup> This is a correct representation of the CC’s approach prior to the post-remedy price cuts. In fact the CC also attributes a further benefit (effectively increasing the size of the area “a”) in light of the positive valuations to new customers attracted into the market by lower post-remedy price cuts. This is clearly inappropriate.

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Figure 3 Calculation of welfare loss to Group 2 consumers



2.3.23 Adjusting for this error alone reduces the CC’s base case estimate of welfare gain for PLPPI from £170m per annum to £79m per annum.

2.3.24 Adjusting for both the errors (i.e. in relation to the negative and positive valuations) reduces the CC’s base case estimate of welfare gain for PLPPI from £170m per annum to £11m per annum.

**2.4 WATERBED EFFECT**

2.4.1 The CC revises its waterbed assumption based on what appears to be weak reasoning and there is little or no empirical support for its revised assumption of 80%.

2.4.2 The CC states:

*“We found some indications that the recent economic conditions may have had an impact on the amount of cross-subsidization. There is strong evidence that the price of credit has increased as a result of the credit crunch. We also found some references to a reduction in cross-subsidization in internal documents. [ ] presented the pricing for the regular-premium product replacing [ ] single-premium PPI product. The document stated that ‘In the past,*

*loan PPI prices were set in conjunction with the APR of the underlying loan as there was a cross-subsidy between the two. However loans are now priced to be self-funding and so the cross-subsidy no longer needs to be considered’.*” (Paragraph I55).

- 2.4.3 Regarding the fact that credit prices have gone up following the credit crunch, it is unclear how this is of itself evidence of a reduction in the degree of pass-through of PPI profits into credit prices. Clearly, the credit crunch has brought about a need to re-price credit in light of enhanced risk in a deteriorating economic environment.
- 2.4.4 Regarding the fact that some distributor business plans show a move to stand-alone profitability, the CC does not appear to have considered whether this reflects the continued deterioration in PPI take-up and the potential need for distributors to prepare for a post-remedy world where take-up rates may be substantially lower. Indeed, the move to stand-alone profitability in light of these factors would illustrate the point that PPI profits have been passed on to credit consumers, and that absent a remedy that entails the risk of substantially reduced take up rates, credit prices would continue to reflect profits from sales of PPI. The CC has also not investigated the extent to which the business plans the CC refers to is representative of the market as a whole.
- 2.4.5 Separately, the CC relies on the fact that Barclays considered the CC should use a model of monopolistic competition (which can imply less than 100% pass-through). The CC shows that using this theoretical model and relying on one estimate of firm-elasticity from Barclays would imply a pass-through of “about 80 per cent”.
- 2.4.6 In our view, none of these arguments are compelling. The extent to which PPI profits are passed through into lower credit prices is an empirical issue and the CC has no empirical basis for employing its 80% assumption. A proper empirical analysis of pass-through would involve carrying out a profitability analysis of credit and PPI combined. In doing so the CC should identify the extent of fixed costs that are recovered in credit markets to determine the implied price-cost margin associated with credit market competition. As the CC recognises this will determine the degree of pass-through. Such an empirical analysis would represent a far superior approach than merely relying on one data point from Barclays (in particular given the CC’s recognition of the difficulty of accurately identifying credit elasticities<sup>12</sup>).

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<sup>12</sup> See Appendix I paragraph 100 et seq.

2.4.7 In our view it is also unreasonable for the CC to assume a PPI market that is *more* competitive than the credit market. In practice there is likely to be an intrinsic link between the degree of credit market competition and associated degree of pass-through and the maximum achievable competition the CC could hope for in the PPI market. At present the CC ignores the inconsistency of its approach on these two issues. If the CC assumes that PPI competition will be so competitive as to remove excess profits (but to allow the recovery of common costs), then our analysis<sup>13</sup> suggests that assuming a similar level of competition for the credit market implies a waterbed assumption of approximately 95%.

2.4.8 Furthermore, we also note that where PPI profits are recovered through credit price rises, the CC also underestimates the required actual credit price rise to the extent that its model (by construction) assumes that the post-remedy credit price equals the marginal cost of credit. In fact if the marginal cost of credit is below this price (which it is likely to be) the optimal credit price rise may be significantly higher reflecting the fact that the distributor needs to also recover lost contributions above marginal cost. Again this is a material factor.

## 2.5 TARGETING AND USE OF CUT-OFFS

2.5.1 The CC has not addressed its own recognition that its estimates of welfare impact may be underestimated because it has not explicitly modelled the impact of the following two important factors:

- targeting credit price rises on those customer cohorts where PPI penetration is highest; and
- the raising of credit cut-offs (which has the effect of withdrawing supply of credit).

2.5.2 The CC has acknowledged that its analysis did not explicitly take this into account:

*“The effects could in practice be larger than this because PPI consumers may be more heavily affected by increases in credit prices, and tightening of credit score cut-offs”.* (footnote 1, Appendix 10.11 of the 2009 Report). This referred to its estimate of the possible downside of intervention.

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<sup>13</sup> Using the £43 figure from paragraph 2.7.7 (see below) for common costs of distributing PPI this accounts for approximately 5% of GWP, and the average premium figure from the Accent survey assuming an average policy length of 2.5 years.

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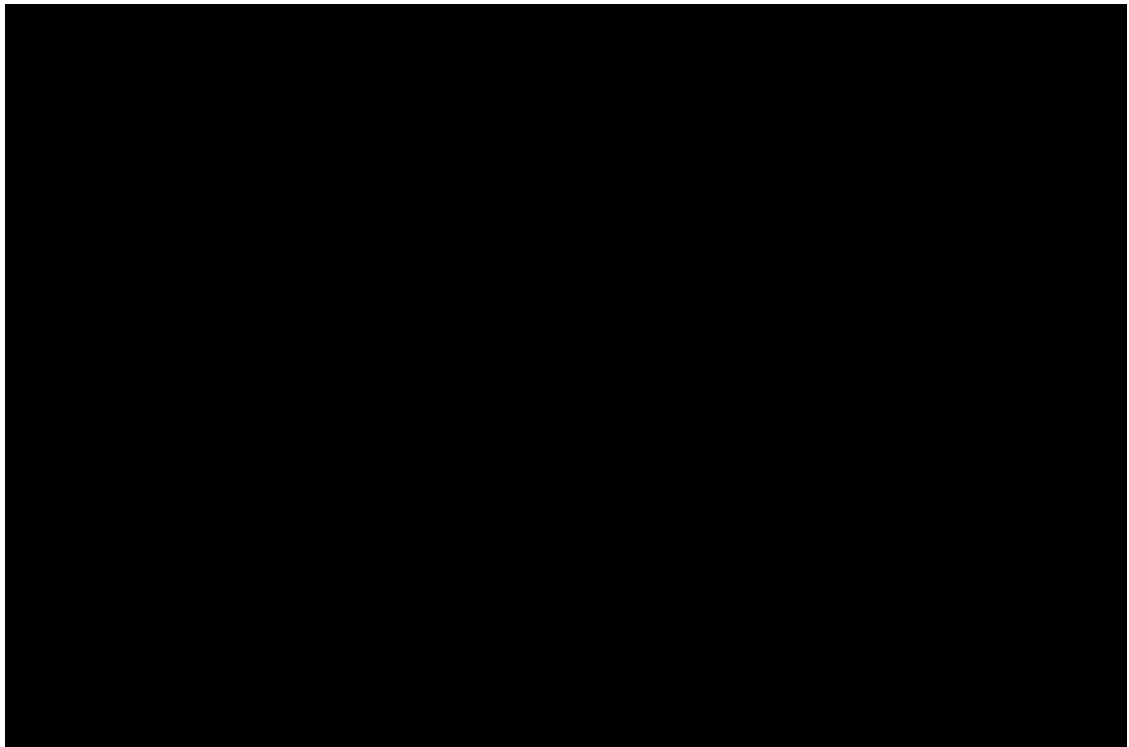
2.5.3 A discussion of each of these points follows.

*Targeting*

2.5.4 The CC assumes that PPI penetration of lost credit demand due to higher credit prices will be the same as retained demand. This ignores the fact that credit price rises will be targeted at cohorts where PPI penetration is highest. As a result the CC substantially understates the consumer welfare loss of lower PPI sales that arise when credit prices are increased.

2.5.5 In the CC’s model penetration rates of lost credit demand are the same as those for retained credit demand. As the CC is aware<sup>14</sup> TURs vary considerably by customer cohort split by credit score. For example, figure 4 below repeats the evidence HBOS submitted to the CC on this issue. In view of this it would be rational for distributors to target credit price rises on those cohorts that have the highest TURs and whose combined profitability will be most severely affected by reductions in PPI prices.

Figure 4 TURs by credit score (2007)<sup>15</sup>



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<sup>14</sup> See Appendix 10.6 of 2009 Report.

<sup>15</sup> See HBOS response to CC working paper on profitability, 29 February 2008. Figure 2, page 37, TUR and Average LEL Comparison by Scoreband for H2'07 (Scored Business only)

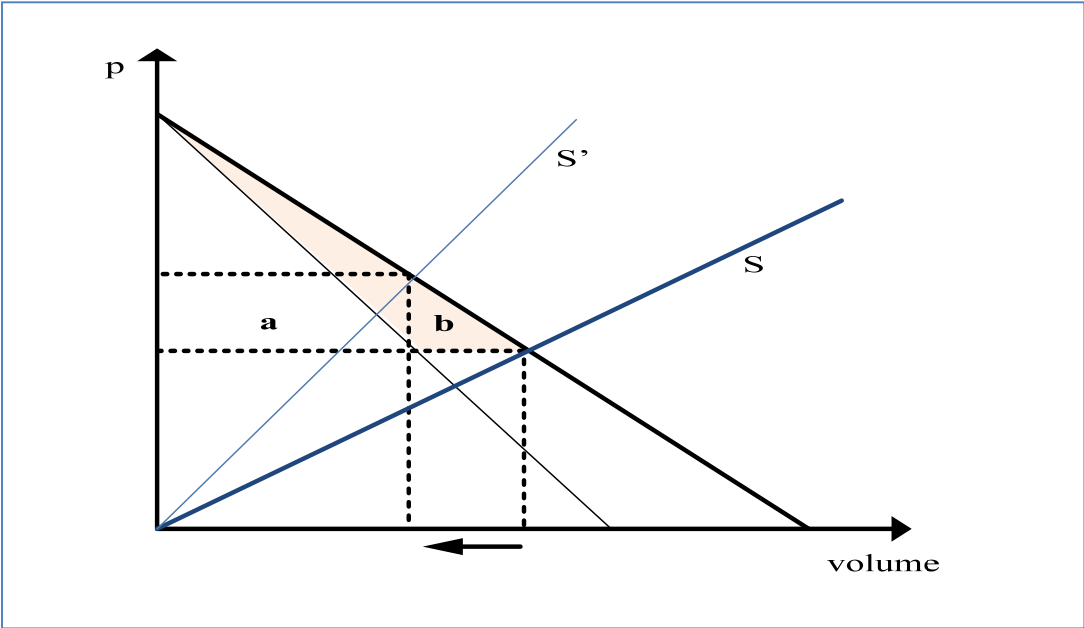
2.5.6 In Section 3 we set out the full sensitivity of the CC’s results. For illustration, were distributors able to target to the extent that the TURs of retained credit demand were 13% lower than pre-remedy demand, this would remove the CC’s base case estimated welfare benefits. In our view this demonstrates the importance of the CC undertaking a proper exercise to determine the potential for targeting and to incorporate this into its analysis.

*Cut-offs*

2.5.7 The CC also ignores the welfare impact of the contraction of credit associated with distributors seeking to restore system profitability in light of reductions in PPI profits. This is a fundamental omission in the CC’s analysis. In particular, the credit crisis has brought about the need to raise credit prices already and as a result, further room for manoeuvre by continuing to raise credit prices may be limited. That this material factor has changed since the 2009 Report implies that the CC needs to amend its modelling of welfare impacts in light of likely future market conditions.

2.5.8 This point is important as welfare estimates are highly sensitive to this factor. Figure 5 illustrates the welfare impact of simply raising credit prices: welfare losses are denoted by areas “a” and “b”. Retained customers face a higher price and lost customers lose the consumer surplus they previously enjoyed. However if the demand contraction is achieved by a combination of raised prices and withdrawal of supply (denoted by the shift from S to S’) by raising credit-cut offs, the welfare implications are likely to be higher than those measured here. This is because, whilst raising of cut-offs would target the most marginal customer cohorts from a profitability perspective, these consumers may not be the most marginal from a consumer surplus perspective. Assuming *average* consumer surplus would imply welfare loss equivalent to the shaded area in figure 5 below.

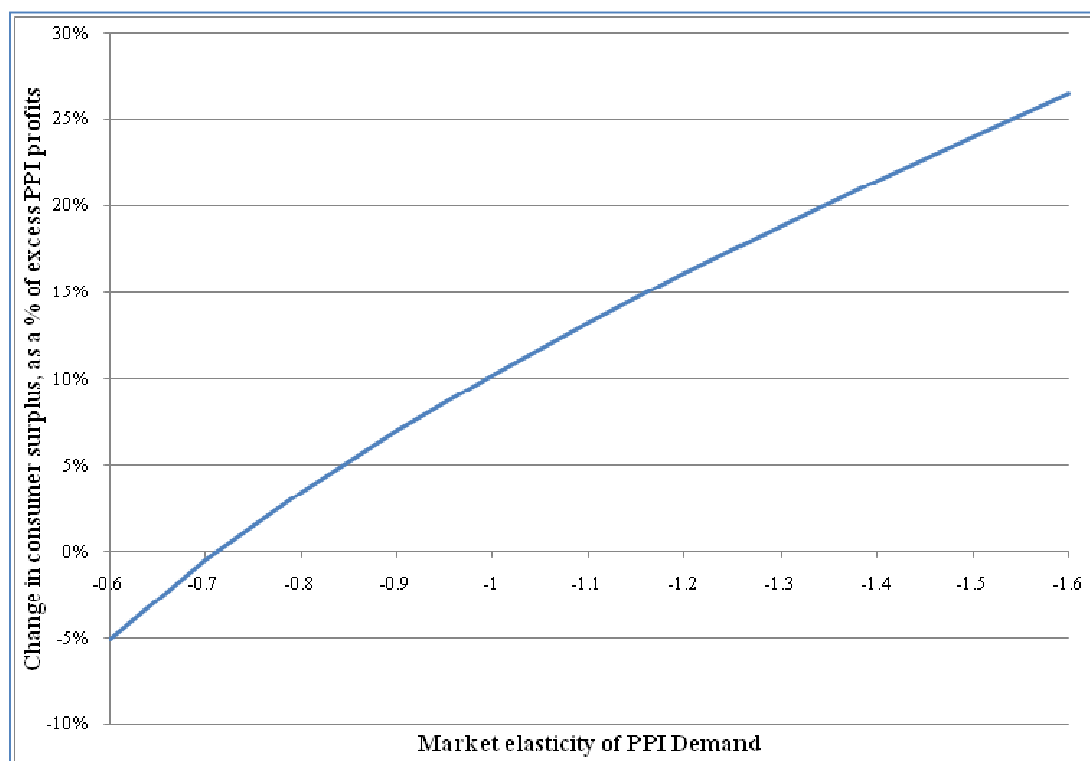
Figure 5 Welfare impact on credit consumers from raising of cut-offs



2.5.9 The CC’s current approach takes no account of this. In Section three we set out the full sensitivity of the CC’s results to this issue. For illustration, were distributors to use a mixed strategy of cut-offs and credit price rises such that 60% of the lost credit demand resulted from the raising of cut-offs instead of increased credit prices, we estimate that this would remove all of the welfare benefits in the CC’s base case estimates. In our view this demonstrates the importance of the CC undertaking a proper exercise to determine the implications for welfare of raising cut-offs instead of credit prices.

**2.6 PPI ELASTICITY**

2.6.1 The CC’s results are also very sensitive to this parameter. As figure 6 illustrates an elasticity of -0.7 removes the welfare benefits estimated in the CC’s base case.

**Figure 6 Sensitivity to elasticity of PPI assumption**

2.6.2 The CC has reduced this parameter by 10% (from -1.54 to -1.38) to allow for a difference between the firm elasticity and the market elasticity of demand. In doing so, the CC continues to assume that its firm elasticity of demand assumption of -1.54 is robust. However, again the CC chooses to base its assumption solely on survey evidence and ignores empirical evidence of how consumers have responded in practice which, in our view, strongly suggests an elasticity in the region of -0.4 to -1.2.

2.6.3 The CC’s dismissal of its own empirical evidence regarding PPI elasticities (as well as evidence LBG has previously submitted) relies heavily on its cross-check to distributor price-cost margin (estimated at 60%)<sup>16</sup>. However this ignores the fact that (in particular for vertically integrated players) true price cost margin will be much higher than that suggested by the CC’s analysis. This is also inconsistent with the CC’s use of higher levels of profitability (up to 73%) in assessing the scope for PPI price cuts.

2.6.4 More fundamentally the CC’s cross-check fails to take into account the cross-price elasticity of demand for credit, a factor that significantly undermines the CC’s reliance on this

<sup>16</sup> See paragraph 90 of Appendix I.

approach. As HBOS pointed out<sup>17</sup> in the original inquiry, this factor would explain why distributors do not raise PPI prices when faced with comparatively low PPI elasticities.

2.6.5 In our view, these points raise significant doubts regarding the appropriateness of the CC’s cross-check and the CC should rely more on empirical analysis including the analysis it has itself carried out.

## 2.7 EFFECTIVENESS OF THE REMEDY

2.7.1 The CC assumes that its remedy will be fully effective in bringing about immediate price-cuts that remove all excess profits. However there are important difficulties with the assumption regarding timing and the extent of the assumed price cut.

### *Timing of remedy effect*

2.7.2 The Provisional Decision gives the impression of phasing in the effectiveness of the remedy. However, the phasing in appears to relate solely to the build up of new sales as a proportion of the stock of existing sales.

2.7.3 In relation to new sales, the CC assumes the remedy will be fully effective in relation to new sales i.e. new sales will benefit from immediate fully effective price cuts (e.g. for PLPPI of 52%).

### *Extent of price cut*

2.7.4 There are good reasons to suggest that the CC has overstated the potential effectiveness of the remedy. This is because the CC’s assumed price cut is based on an unreasonable extrapolation from historic data that involves a number of inappropriate short-cuts.

2.7.5 The CC uses the same approach to determine profitability, and therefore the appropriate price cut, as in its 2009 Report<sup>18</sup>. The CC calculates excess profits (as a margin over GWP) for each year from 2005 to 2009. The CC ignores the results for 2009 as these were not comparable because of the move to regular-premium policies<sup>19</sup>. The CC obtains an average margin of 62% for PLPPI for 2005 to 2008 based on margins increasing from 54%

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<sup>17</sup> 2009 Report, Section 3 footnote 15.

<sup>18</sup> Provisional Decision (2010), paragraph 4.11.

<sup>19</sup> Provisional Decision (2010), Appendix I paragraph 45.

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to 64% in 2007 and 73% in 2008. It is not clear why margins increase over this time period (given reductions in revenue) as the CC does not provide supporting data for its calculations<sup>20</sup>. The CC reduces the average margin for years 2005 to 2008 by seven percentage points to adjust for increases in claims in 2009<sup>21</sup>.

2.7.6 Implicit in the CC’s updated profitability analysis is an assumption that all costs (including the cost of capital) are variable despite previously recognising that some of the costs are not short-run variable or are common costs<sup>22</sup>. The CC’s assumption means that as volumes and revenues fall, so do costs (including the cost of capital). However, in practice, costs may only fall by those costs that are avoidable over the shorter timeframe the CC now considers. While the CC did not formally split out its £100 cost per policy assumption, it did refer to distributor estimates of short-run variable costs of £12 (paragraph 47) and, from another distributor, of common costs (allocated to PPI) of £43 (out of a total cost of £116). This suggests that costs may only fall by between 12% and 64%, and not the 100% the CC appears to assume. In terms of the cost of capital, in our opinion it is unlikely that either regulatory capital or fixed assets could be considered a short-run variable cost.

2.7.7 This suggests that the CC’s updated profitability results overstates likely profitability going forward and as a result also overstates the potential for price cuts resulting from the remedy.

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<sup>20</sup> We have attempted to replicate the CC’s results using the data it provided on GWP and assuming that all costs are variable and capital is 12% of revenue. It is only possible to derive the CC’s estimates for 2007 and 2008 if the commission rate is increased from 66% in 2006 to 75% in 2007 and 84% in 2008.

<sup>21</sup> Provisional Decision (2010), Appendix I paragraph 46.

<sup>22</sup> In its Final Report, Appendix (4.4) (2009), the CC discussed cost estimates by distributors. It noted in paragraph 45, that one distributor with an Activity-Based Costing system suggested a cost of £20-£60 for PLPPI sold through its branch network. These costs comprise both variable costs, which are defined as those that move linearly with volume over a 12-month period, and other costs (fixed direct and indirect) although a breakdown between these was not provided. Another significant distributor estimated short-run incremental costs of £12 although noted that these were initial estimates (paragraph 47). The evidence from another distributor suggested long-run incremental costs of £73 and allocated common costs of £43 (paragraphs 50 and 51). The CC assumed a cost figure of £100, which implicitly includes allocated common costs, which reflected the range of £20-60 from the distributor with an ABC system uplifted for uncertainties; additional costs from the FSA’s thematic review and a margin of error allocating for differences in cost bases and efficiency between banks. Another distributor provided estimates of £54 for selling the PPI product and £236 shared costs with loans.

### 3 SENSITIVITY ANALYSIS ON CC’S REVISED CALCULATIONS

#### 3.1 THE CC’S SENSITIVITY ANALYSIS

3.1.1 The CC’s modelling can be summarised as follows:

- The CC’s Provisional Decision predicts substantial welfare gains resulting from the POSP of approximately £415m per annum for PLPPI (£170m), CCPPI (£145m), SMPPI and MPPI combined (£100m).
- The CC compares this against implementation costs of the remedy of between £60-70m.

3.1.2 The CC carries out sensitivity testing on each key variable adjusting each one individually. The CC’s analysis shows that its estimated welfare gains of the remedy are highly sensitive to varying individual assumptions. In particular, the analysis shows that all welfare gains (in relation to PLPPI) are eradicated in its base case if *any* of the following alternative assumptions are used:

- Removing all of the positive valuation attributed to the gain of inconvenience.
- A waterbed effect of 100%.
- A PPI price cut of approximately half of the modelled reduction to marginal cost.
- An elasticity of PPI of -0.7 instead of -1.54.
- An elasticity of credit of -1.5.

3.1.3 The CC summarises its sensitivity analysis as follows:

*“9.90 We then ran sensitivities to test the robustness of the results to changes in the values of the inputs or changes to the assumptions in paragraph 9.86(a) to (d) above. We therefore tested whether the results were robust if the price of PPI after the remedies reduced less than to the competitive price, if the extent of pass through was more or less than in our base case, if a proportion of consumers search for PPI prior to making credit decisions after the remedies and if the valuations found by the Accent survey were different.*”

9.89 For MPPI and CCPPI, we found that the results of the model were robust to all the sensitivities we ran, ie the model predicts that the package of remedies will increase net consumer welfare for all sensitivities that we tested.

9.90 For PLPPI and SMPPI, the results of the model were robust to most of the sensitivities that we ran, but not all. For PLPPI, there were two departures from the base case where the model predicted that consumer welfare might decrease: if the pass through of PPI profits to credit was 100 per cent prior to the remedies (ie all PPI profits are competed away in the form of lower credit prices), or if we completely ignored, in the model, the positive valuations associated with the POSP by consumers who prefer to buy later. For SMPPI, the model predicted that consumer welfare might decrease if we ignore most of the positive valuations associated with the POSP by consumers who prefer to buy later (so that there positive valuation was less than 10 per cent of current price).

9.91 As in the 2009 report, we therefore modelled whether these results continue to hold if we remove the assumption that all consumers are myopic in the modelling. Indeed, in paragraph 10.487 of the 2009 report, we noted that none of our remedies was aimed at reducing PPI prices without also improving the ability to search for PPI price at the same time as credit price, and we were confident that we would not be in a situation of imposing an effective remedy which had no impact on search. We therefore examined what would happen if we assume that a proportion of credit consumers search for PPI—or otherwise anticipate the cost of PPI—prior to making decisions on credit after the remedies are in place.

9.92 For PLPPI, we found that, if just over 10 per cent of credit consumers or more searched for PLPPI—or otherwise anticipated the cost of PLPPI—prior to buying credit, the model predicted that consumer welfare would increase for any individual sensitivity checks of the inputs and assumptions that we considered. For SMPPI, we found that, if 20 per cent of credit consumers or more searched for SMPPI—or otherwise anticipated the cost of SMPPI—prior to buying credit, the model predicted that consumer welfare would increase for any individual sensitivity checks of the inputs and assumptions that we considered.”

## 3.2 OUR SENSITIVITY ANALYSIS

3.2.1 We have conducted an analysis to assess the sensitivity of the CC’s results as follows:

- First, we assess whether the CC’s list of key sensitivities is comprehensive.
- Second, we amend the CC’s analysis for the methodological errors we have identified in implementing the loss of convenience effects into its welfare analysis.
- Third, we consider the impact on welfare if sensitivities are carried out in a combined fashion as opposed to separately.
- Fourth, we develop what we consider to be high, medium and low scenarios incorporating some (but not all) of the shortcomings we have identified for which it is possible to develop alternative reasonable estimates.

### *Number of key variables to which the results are sensitive*

3.2.2 Firstly, the list of individual assumptions to which the CC’s results are highly sensitive is longer than the CC recognises. In addition to the individual assumptions set out in 3.1.2 above, the welfare gains predicted by the CC would, based on our initial modelling of these issues, also evaporate if

- Banks target credit price increases at those customer cohorts where PPI penetration is highest such that the average PPI penetration rate in the retained credit demand is only 13% lower than the average pre-remedy penetration rate (see figure 7 below).
- Banks recouped lost PPI profits by adopting a mixed strategy of raising cut-offs and credit prices, such 60% of the lost credit demand is due to raised cut-offs as opposed to raised credit prices (see figure 8 below).

3.2.3 The sensitivity to targeting and cut-offs is summarised in the following graphs.

Figure 7 Sensitivity to targeting assumptions

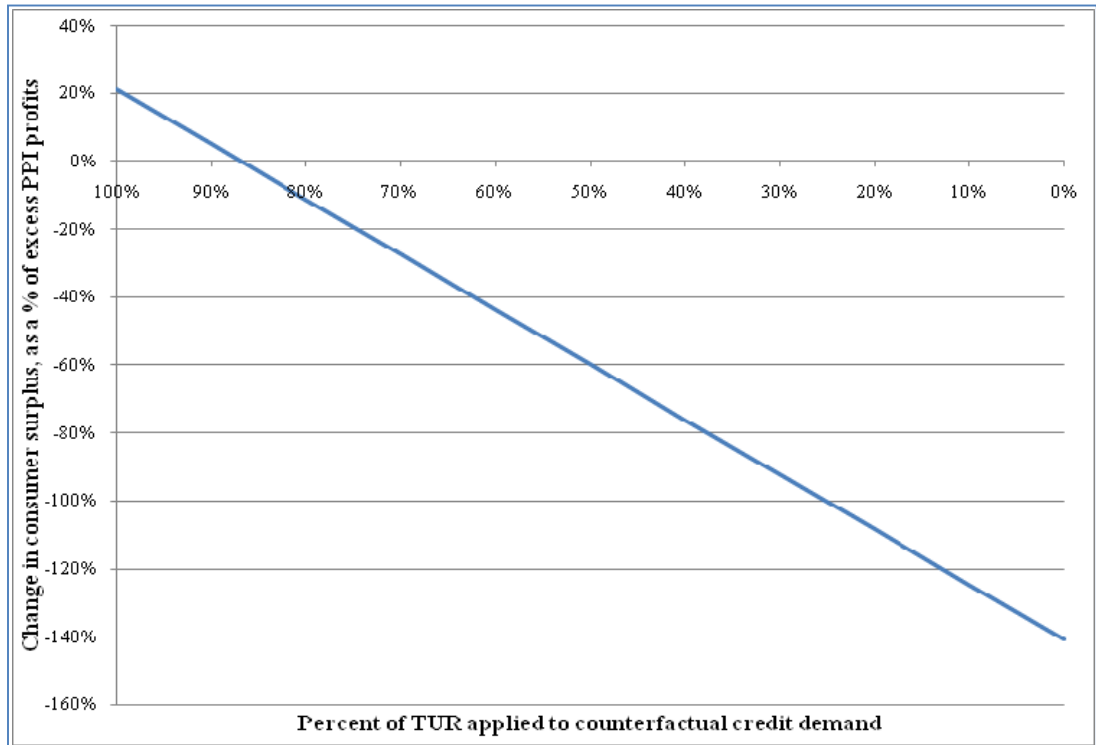
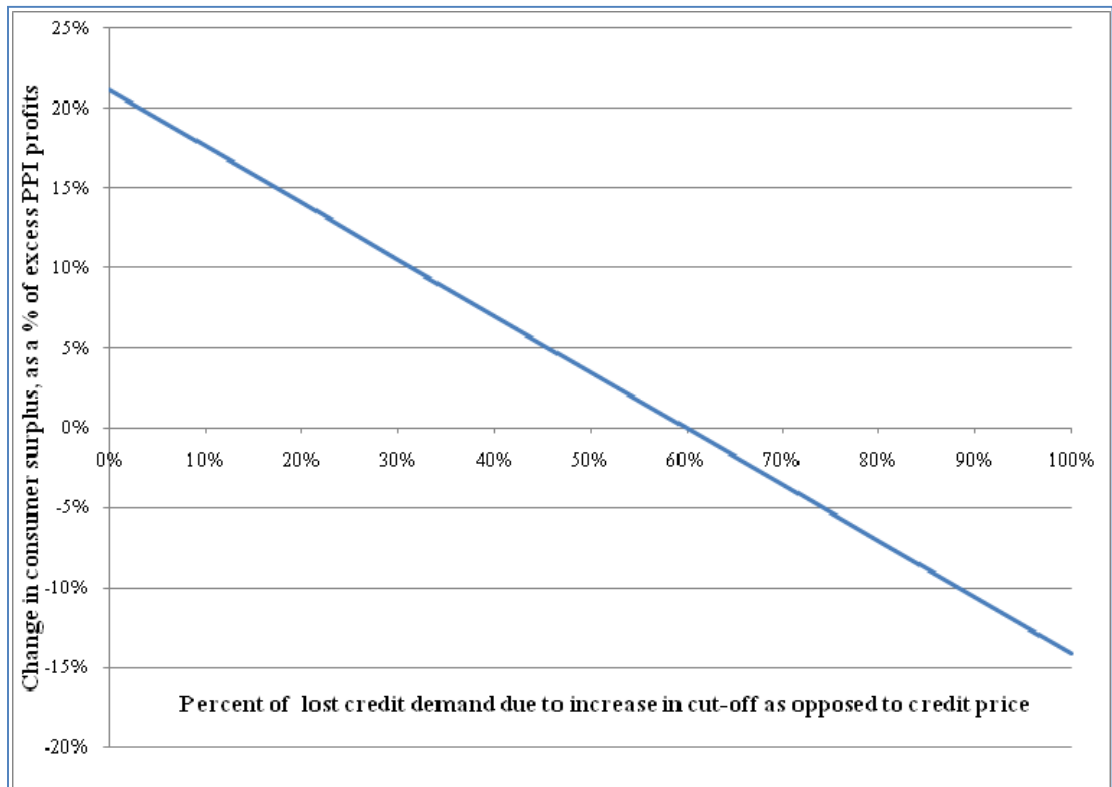


Figure 8 Sensitivity to cut-off assumption



*Accuracy of sensitivity tests*

3.2.4 All of the CC’s sensitivity tests results are affected by the methodological errors we have identified in implementing the loss of convenience effects into the welfare analysis.

3.2.5 The impact of correcting for these errors is as follows:

- Adjusting for the incorrect modelling of the negative impact of the POSP alone reduces the CC’s base case estimate of welfare gain for PLPPI from £170m per annum to £101m per annum.
- Adjusting for the incorrect modelling of the positive impact of the POSP alone reduces the CC’s base case estimate of welfare gain for PLPPI from £170m per annum to £79m per annum.
- The combine effect of adjusting for these errors reduces the CC’s base case estimate of welfare gain for PLPPI from £170m per annum to £11m per annum.

3.2.6 Amending the CC’s base case also clearly has the effect of increasing the proportion of the range of values for individual estimates (set out in paragraph 3.1.2) that result in negative net welfare effects.

*Importance of combining sensitivity tests*

3.2.7 The CC’s results are very sensitive to combining its own sensitivity tests. The CC’s failure to do this means the CC does not give explicit recognition to the size of the potential downside its remedies could entail.

3.2.8 For example, simply varying the two central assumptions regarding waterbed effect and treatment of the positive valuations of inconvenience together instead of separately results in substantial losses (e.g. for PLPPI around £207m per annum instead of welfare gains of around £170m) in the CC’s base model.

*Revised scenario analysis*

3.2.9 Constructing reasonable alternative scenarios illustrates the overall sensitivity of the CC’s results. The following table summarises the assumptions behind our high, medium and low scenarios for PLPPI.

3.2.10 The high scenario is similar to the CC’s central scenario but adjusted for the CC’s implementation of the Accent valuations. The central scenarios uses assumptions that we consider reasonable based on the reasoning set out in Section 2 of this report. The low scenario employs assumptions which it would appear the CC is unable to rule out based on the current analysis that has been carried out to date.

3.2.11 Our approach to alternative reasonable assumptions is as follows:

- *Loss of convenience.* In view of doubts regarding the scale and incrementality of the positive benefits, we have modelled a central case where the scale of positive benefits is equal to scale of the negative costs identified by the Group 1 respondents. The high scenario retains the CC’s figures. The low scenario employs the CC’s zero positive benefit sensitivity.
- *Waterbed.* Our central scenario employs a 90% waterbed effect, which is halfway between the high scenario based on the CC’s current approach and the low scenario based on the CC’s previous approach.
- *PPI elasticity.* Our central scenario assumes an elasticity of 1.0 which is towards the top end of the range implied by the CC’s econometric analysis. The high scenario employs the CC’s figure and the low scenario employs a figure symmetrically lower than the central assumption.
- *PPI price cut.* Our central assumption is 45% based on the reasoning set out in our April paper<sup>23</sup>. The high scenario employs the CC’s assumption. The low scenario employs a figure symmetrically lower than the central assumption.

3.2.12 Table 3 sets out the results of these scenarios.

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<sup>23</sup> PPI Remittal Revisions to the CC’s Welfare Modelling, 22 April 2010, Appendix 2.

**Table 3 Summary of scenarios and results**

<b>Scenario</b>	<i>Loss of convenience</i>	<i>Waterbed</i>	<i>PPI elasticity</i>	<i>PPI price cut</i>	PLPPI welfare impact
<i>High</i>	Accent valuations	80%	1.38	52%	<b>£11m</b>
<i>Medium</i>	Equal valuations	90%	1.0	45%	<b>-£255m</b>
<i>Low</i>	No positive valuation	100%	0.62	38%	<b>-£475m</b>

3.2.13 These scenarios show the prospect of very substantial welfare losses.

3.2.14 These estimates are derived from the CC’s non-system model which may (depending on the assumptions used) understate the likely benefits of intervention if remedies are effective at increasing searching by consumers.

3.2.15 To illustrate with what may be considered to be rapid increases in the number of system searchers (e.g. 50% increase per annum), we have estimated (based on the CC’s revised system model<sup>24</sup>) the degree of searching that would be required to translate these losses into benefits. This shows the following

- Under the central assumption above, welfare benefits would not outweigh costs for at least five years.
- Under the low scenario, welfare benefits would not outweigh costs even with 100% searching.

3.2.16 This shows that there is the prospect of immediate and substantial losses associated with the POSP and that even with substantial levels of searching these losses may persist for a number of years.

<sup>24</sup> We agree that this revised approach is the more accurate way of modelling searching effects.