BGL Group Limited

Private Motor Insurance Market Investigation

Response to Provisional Decision on Remedies

1 Introduction

1.1 This response sets out BGL Group Limited's (**BGL**'s) views on the CMA's Provisional Decision on Remedies dated 12 June 2014 (**PDR**). It is submitted without prejudice to BGL's right to appeal all or part of the CMA's Final Report.

1.2 BGL recognises the progress that has been made by the CMA in acknowledging some of the more potentially harmful remedies set out in its Remedies Notice published on 17 December 2013. However, as set out below, BGL's view continues to be that the PDR has the potential to cause substantial consumer and market detriment particularly those remedies relating to TOH1.

1.3 Missing from the analysis and conclusions underpinning the PDR is any recognition of the fierce competition that exists within the PMI market when compared to any similar consumer market particularly markets within consumer financial services. The PMI market exhibits those characteristics of multiple consumer choices, ease of consumer access, transparency and variety of provider models that characterise highly competitive markets. This results in a danger that the PDR results in an approach that is neither proportionate or lawful. The powers conferred on the CMA by the market investigation regime under the Enterprise Act should not and do not enable action to be taken where there is a lack of basis for any finding of AEC, a lack of evidence of harm, and a real risk of detriment.

2 Executive summary

2.1 We outline below our substantive points in relation to the Provisional Remedies including our analysis of the legal position. We have focussed on those Provisional Remedies which we believe will cause the greatest level of consumer detriment.

2.2 Our position, consistently outlined in our submissions to this Market Investigation, is that the consumer continues to be overlooked in favour of unproven economic theory. In relation to certain elements of the PDR we consider that extreme care will need to be exercised and widespread engagement undertaken to ensure that unintended consequences of implementation do not result in material consumer detriment.

Price Comparison

2.3 There has been widespread, independent acknowledgment (including from the CMA itself) of the positive value of PCWs in the PMI market and elsewhere. Specifically in relation to the UK PMI market, PCWs have driven price competition and this has been based principally on their ability to negotiate a fair deal with insurers on behalf of consumers. The existence of PCWs and particularly their attempts to negotiate the best deals on behalf of their customers are, of course, unpopular with insurers who have made long-standing and concerted attempts to rewind the clock eradicating or limiting the approach of PCW's. This is perhaps captured in the words of insurer consultancy, Towers Watson: *"Focusing on the period 2002 and subsequent, the conclusion is obvious and rather damning – aggregators have encouraged greater price competition without gaining much profitability themselves…Aggregators cost the UK insurance industry £1 billion in unnecessary price competition, last year…What is most worrying though is that the last 10 years should have been extremely profitable [for insurers] with inflation steady at around 2%...As Ted Kelly, CEO of Liberty Mutual, recently noted 'we've had no inflation for 10 to 12 years, any idiot can make money in personal motor.' Where this might have been true for the US motor market, where aggregators have been completely unsuccessful (and it is better for everyone if they stay that way), it has certainly not been true for the UK motor market"*

2.4 In earlier submissions we have dealt with why we also consider the findings and assumptions that give rise to the PDR to be flawed. We refer to some of those points in the main part of this submission. However, away from the technical and legal

arguments, our view is that the Provisional Remedies as proposed will simply not be effective to provide the outcomes for consumers that the CMA has identified.

2.5 In particular, the CMA predicts that the provisional remedy package will allow insurers to reward PCWs who innovate or discount with better prices and therefore increased sales. However pricing in this market is so complex that no PCW can assess whether it is getting "good" or the best available prices except by relating those prices to the prices on other PCWs, something it will no longer be permitted to do. Prohibiting wide MFNs, far from encouraging innovation, will actually stifle it.

2.6 Whilst we deal with our specific challenges to the Provisional Remedies below, we would summarise our views as follows:-

- We do not consider that the evidence relied upon by the CMA in arriving at this Provisional Remedy bears scrutiny. It is largely theoretical and/or has not been disclosed in sufficient detail to enable its consideration.
- The Provisional Remedy relies heavily on the CMA's findings relating to single homing. These findings, which are broadly based on a significant proportion of customers utilising only one source of searching for prices, are contradicted by wider surveys and even some of the CMA's own evidence.
- Interference with the negotiating positions of the contracting parties (particularly given the imbalance of strength within the PMI market between the parties) is unwarranted and intrusive. Its chief consequence is likely to be to facilitate insurers in softening the competition driven by PCWs and increasing their margins at the expense of final consumers.
- Finally and perhaps of most significance, consumers would no longer be able to buy with confidence knowing that they had secured the lowest price. The market will rewind 10 years or so to a time when whereby consumers need to shop multiple sources, still uncertain as to whether they have paid the right price. Transparency will reduce. Search costs and insurer margins will increase.

Replacement Vehicles

2.7 We concur with and welcome the CMA's provisional decision not to proceed with the following previously identified potential remedies:-

- First party insurance for replacement cars.
- At fault insurers being given first option to handle non-fault claims.
- Measures to restrict consumer rights in relation to non-fault repair/write off costs.
- Prohibition of referral fees.

2.8 As regards the PDR relating to replacement vehicles we continue to be of the view that the proposed cap will clearly have the impact in certain circumstances of rendering the innocent claimant significantly disadvantaged by limiting the recovery of the properly incurred costs of providing a like for like vehicle. This subordination of the rights of the claimant in relation to PMI RTA claims (the rights will continue to exist for all other claims) is, without any appropriate legislative intervention, unreasonable and disproportionate.

2.9 The identified benefits associated with this remedy are based on a flawed comparison between credit hire and direct hire costs. Further the assumption that all or any such savings will be delivered to consumers in the form of reduced premiums, takes as its starting point a linear correlation between costs and premiums that is unsupported by any evidence made available to us.

2.10 However, we welcome the proposal to administer the remedy using the CMA itself and endorse the clear acknowledgement that the GTA lacks the necessary independence to undertake this task. Of course, the crucial outstanding question if this PDR is

implemented will be the rate at which the proposed cap(s) are set. In arriving at this rate we would ask the CMA to ensure that the following factors are afforded appropriate focus and consideration:-

- All industry participants are provided with a meaningful opportunity to provide evidence to the CMA and make representations as to the rate caps and this is not limited to underwriting insurers and CHCs.
- In considering the appropriate cap levels, the CMA pays full regard not simply to average or minimum costs but to the sustainability and on-going competitiveness of the business models of affected market participants. For example, it is easy to envisage how a cap level set too low might be attractive in the short term but lead to consolidation and even dominance within this individual market segment.
- Ensure that incremental costs incurred by market participants in complying with the consumer information elements of these Provisional Remedies are taken into account in setting the appropriate cap levels.

Additional Consumer Information

2.11 We are broadly supportive of all measures to provide consumers with greater levels of information. The key balance that needs to be struck in order to avoid consumer detriment is that between the provision of information and interference with consumer adoption and purchase preferences. In order to ensure this balance is correctly struck, detailed consultation needs to take place with all market participants and especially with those (notably PCW's and brokers) who have the benefit of extensive consumer research and experience in tailoring their product provision to suit current and future consumer demands.

3 BGL Analysis of PDR

3.1 As BGL has previously explained, there is no adequate basis for the CMA's provisional finding that wide MFNs result in an AEC. These matters are considered in more detail elsewhere (in particular BGL's response to the PFs) but in summary:

3.1.1 The CMA's analysis is almost entirely reliant on theoretical considerations. Yet there is virtually no academic support for the theoretical analysis: LEAR's 2012 report for the OFT notes (at para.6.43) that despite "burgeoning" literature on competition among platforms, "to date this literature does not study the competitive effect of across-platform parity agreements" (wide MFNs).

3.1.2 Further, the CMA's theoretical analysis is crucially underpinned by the finding that single homing rates give PCWs market power. However the CMA misstates both the *rate* and *importance* of single homing among PCW users. Single homing is discussed in more detail in the attached annex.

3.1.3 Notably, the CMA has not addressed the recommendations of the LEAR report (commissioned by its predecessor body, the OFT) in relation to analysing MFNs. That report proposes screening devices to identify MFNs with potential to restrict competition. While these are not specifically designed to assess cross-platform parity agreements, it is notable that an application of these devices suggests the wide MFNs under consideration are low risk, and indeed suggests foreclosure is unlikely to be a concern absent concentrated markets.

3.1.4 It is also notable that the CMA has *no* evidence of any actual effect on PMI premiums resulting from the use of wide MFNs, despite the in depth analysis set out (though heavily redacted) in the PFs. Indeed premiums have in fact dropped dramatically in recent years.

3.1.5 The single instance of "foreclosed" or "deterred" entry cited by the CMA in fact appears to be a decision based on factors entirely distinct from wide MFNs.

3.1.6 The anecdotal evidence of pricing or other innovations supposedly not pursued as a result of the incidence of wide MFNs is speculative and in any event emanates from parties who have a clear commercial agenda in relation to wide MFNs.

3.2 The fact that both insurers, certain brokers and a number of PCW operators concur with the CMA's proposed analysis does not make up for lack of evidence, especially given the commercial agendas pursued by the various respondents:

3.2.1 It is self-evident that insurers who stand to benefit from being able to price discriminate more effectively between consumers as a result of the removal of wide MFNs (and, in reality, charge higher prices on more popular PCWs) would lobby for their removal.

3.2.2 The same rationale applies to brokers, who have the added incentive of wanting to weaken a competing sales channel.

3.2.3 Moreover, PCWs that have, in negotiations with insurers and brokers, already conceded defeat on wide MFNs are also likely to want such provisions removed for obvious reasons.

3.3 It follows that any observation on the part of the CMA that the majority of the respondents to the Remedies Notice supported the proposal to ban wide MFNs is not informative. Conversely, the CMA appears to have disregarded compelling independent evidence (including the outcome of its own research), especially with regard to single homing, that supports a more lenient approach to wide-MFNs. The evidence on single homing is addressed in greater detail in the Annex below.

4 Remedy outside the scope of the CMA's powers

4.1 BGL has previously communicated its view to the CMA that EU Regulation 1/2003 (the **Modernisation Regulation**) prevents the CMA from prohibiting MFN clauses, whether wide or narrow.

4.2 In particular, Article 3(2) of the Modernisation Regulation precludes the application of national competition law to prohibit agreements which may affect trade between member states and which either (a) do not restrict competition within the meaning of Article 101(1) TFEU, or (b) fulfil the conditions of Article 101(3) or a block exemption.

4.3 To the extent that wide MFNs do adversely affect competition, they are clearly capable of affecting trade between member states: they would affect for example how new and existing PCWs would enter and expand within the UK PMI market. (Indeed the CMA's own example of entry apparently deterred by the existence of wide MFNs is a cross-border entry.) Art 3(2) is therefore engaged by the provisional MFN remedy. A national authority does not have power to prohibit MFNs under national competition law if they cannot be shown both (a) to fall within Art 101(1) and (b) not to benefit from Art 101(3) or a block exemption.

4.4 The CMA has not even purported to carry out any such analysis, either specifically under the heading of EU law, or generally as part of its consideration of its statutory questions under the Enterprise Act. Without such analysis a national authority cannot prohibit wide MFNs. The reality is that wide MFNs are matters in contracts which can be the subject of challenge under Article 101 whether by way of complaint to a regulator or by private action. There is no reason why it would be necessary or appropriate for them to be dealt with under the market investigation regime which is focussed on market failures not (alleged) individual competition breaches.

It is noted that the OFT which carried out the initial market study and made the initial reference commencing the current investigation did not identify MFNs of any sort as a matter for concern even though it clearly could have done and had the power to apply Article 101.

5 A remedy package which is inchoate and unenforceable

5.1 BGL is concerned that the PDR fails to adequately identify the remedies the CMA proposes to put in place, particularly insofar as they relate to behaviours "equivalent" to wide MFNs. Confirming the provisional decision would create enormous uncertainty permeating all aspects of the negotiations between insurers and PCWs, something likely to lead to considerable adverse consequences to PCWs and consumers. It is also an abdication of the CMA's legal duties arising at the end of a long and costly investigation.

5.2 As the CMA will be well aware, if during a market investigation it identifies an AEC, it is required to decide the following questions:

- whether action should be taken by it for the purpose of remedying, mitigating or preventing the AEC concerned or any detrimental effect on customers so far as it has resulted from, or may be expected to result from, the AEC
- whether it should recommend the taking of action by others for the purpose of remedying, mitigating or preventing the AEC concerned or any detrimental effect on consumers so far as it has resulted from, or may be expected to result from, the AEC, and
- in either case, if action should be taken, what action should be taken and what is to be remedied, mitigated or prevented.

5.3 The duty is to decide if action should be taken and, if so, *what action*. Yet the provisional decision defers this essential question.

5.3.1 It identifies an exceptionally broad and unspecific prohibition: "*behaviours which have as their effect the elimination or reduction of competition between PCWs in a similar way to the harm identified by [as likely to arise from] wide MFNs (namely, restricting entry to the PCW market, reducing innovation by PCWs and increasing premiums for motor insurance to the retail customer)*" (PDR 4.50). This is hardly more specific than the statutory AEC question the CMA set out to answer nearly two years ago.

5.3.2 It acknowledges that guidance is likely to be required to make clear what sorts of behaviours and effects are of concern (PDR 4.50), yet provides no draft guidance, nor indeed any indication of what such guidance might say.

5.3.3 It goes on to acknowledge that: "*for any case of delisting or contract termination, it is not immediately apparent whether the action has been taken to limit competition between PCWs or for some other legitimate reason*" (PDR 4.60). To resolve this, PCWs must report all delistings, and the reasons for them, and the CMA may from time to time give directions requiring PCWs to take (or refrain from) certain actions. PCWs may be required to appoint monitoring trustees to investigate behaviour which is of concern to the CMA (PDR 4.61 and 4.62). Although described as a mechanism for monitoring compliance, this is in fact a mechanism under which the CMA will specify what is prohibited by its remedy *ex post facto and on a case by case basis*.

5.4 This is not compliant with the CMA's legal duties and is unsatisfactory on any view. It is also clearly contrary on the CMA's own Market Investigations Guidelines (April 2013) which state (para 336):

> "...*a remedy should be capable of effective implementation, monitoring and enforcement. To facilitate this, the operation and implications of the remedy need to be clear to the persons to whom it is directed and also to other interested persons. Other interested persons may include customers, other businesses that may be affected by the remedy, sectoral regulators, and the OFT (and/or any other body) which has responsibility for monitoring compliance. The effectiveness of any remedy may be reduced if elaborate monitoring and compliance programmes are required*."

5.5 Such an unspecified remedy is particularly unsatisfactory when it is considered that PCWs face civil damages claims in the event of a breach.

6 Failure properly to analyse the proportionality of the proposed remedy package

6.1 At paras 4.95 to 4.111, the PDR analyses whether the provisional MFN remedy package produces disadvantages disproportionate to its aim. This analysis is however superficial and flawed in a number of material respects.

6.2 **Quantification of supposed benefits**: The quantification of the supposed benefits (at para 4.102) is unsupported by evidence or analysis, and fails to consider in any meaningful way how insurer/PCW relationships will alter following the implementation of the provisional remedy package.

6.2.1 It assumes that a (apparently) typical £5 to £10 commission sacrifice will be agreed across *all* insurer/PCW agreements. This is based on very limited anecdotal evidence that some commission sacrifice agreements at this level have been discussed between PCWs and insurers. There is no good basis to imagine all PCWs will follow this route, indeed the CMA has identified price cutting as a means for a new entrant to establish itself, which is at odds with the notion that all PCWs will pursue it. Furthermore, the approach fails to recognise the limited extent of wide MFNs in the market and the fact that a number of the major PCWs do not operate any at all.

6.2.2 The PDR also fails to explain why its provisional remedy package would bring about the sorts of changes it assumes. As BGL has explained, while wide MFNs prevent insurers from offering precisely the same product to precisely the same customer at different prices on different platforms, this does not in practice prevent price cutting strategies, for example based on differentiating products between platforms. This is elaborated in BGL's response to the CMA's Notice on Possible Remedies (at page 21) Similarly, PCWs can achieve results equivalent to price cuts using mechanisms such as cashback and customer gifts;

6.2.3 In addition the PDR fails to recognise that in a world where MFNs are prohibited, it is difficult to imagine *any* PCW wishing to enter into any commission sacrifice arrangement with insurers, because there can be no meaningful mechanism for it to determine whether it has indeed benefited from reduced premiums on its site. The complexity of PMI pricing means that comparison is the only meaningful way for PCWs and insurers to reach agreement on the levels of premiums.

6.2.4 Finally, the quantification exercise assumes that any commission fee reductions will be passed through to consumers. There is however no material justification or analysis underlying this important assumption. In fact, as BGL argued in its response to the CMA's Notice on Possible Remedies (at page 3), and in its response to the Provisional Findings (at para.2.11), market trends in fact indicate that PMI premiums are primarily influenced by factors *other* than costs, and the weakening of PCWs which would inevitably result from the provisional remedy package would further lessen the pressure on insurers to pass on costs savings.

6.3 **Failure to take account of impact on PCW credibility**: in analysing the costs of the provisional remedy package, the CMA has not sufficiently taken account of the economic costs occasioned by a loss of trust in PCWs generally, and or potential restriction of PCW use and activity as a result. Moreover, use of wide MFN's whilst by no means universal appears from consumer behaviour to be an approach that consumers desire and meets their needs and preferences.

6.3.1 This is despite the striking evidence that consumers expect PCWs to offer the best price on any particular policy. The European Commission's research, cited at para 7.19 of BGL's response to the Provisional Findings, states:

"…*one in eight respondents felt that they had been misled by price comparison websites. In most of the cases, the reason was that they went on to find a cheaper price elsewhere… Such discrepancies, if not*

adequately addressed, risk further confusing and misleading consumers and undermining their overall trust in CTs".

6.3.2 Indeed, the identification of the same product at a better price elsewhere is the *single largest* cause of complaints received by CTM, even where wide MFNs are in place.

6.4 As BGL has previously argued, it is therefore naive of the CMA to dismiss the potential for an impact of credibility (as it does, cursorily, in the PFs). BGL has provided evidence that the ability to offer the best deal on any product listed on its platform is critical to its consumer proposition. A remedy which impacts, as this would, CTM's business model in such a fundamental way puts at risk the very considerable benefits CTM and the other PCWs have brought to PMI consumers.

6.5 **Failure to take account of the costs of regulation and associated uncertainty**: the PDR also fails to take any account of the cost to PCWs of the uncertainty the provisional remedy package would generate, and the tipping in the balance of negotiating power towards insurers. BGL has elaborated on this impact in its response to the CMA's Notice on Possible Remedies (at page 23), pointing out that this level of regulatory constraint is likely to dissuade investment in new and existing PCWs. This further jeopardises the benefits PCWs have brought to consumers in recent years. The CMA has made no attempt to analyse, or take these risks into account.

6.6 **Failure to take account of the impact on narrow MFNs**: Further, BGL considers that the CMA is proposing to draw its prohibition on wide MFNs so widely (encompassing social media links) that this will allow insurers to circumvent narrow MFNs. BGL agrees with the CMA that the removal of narrow MFNs would jeopardise the survival of PCWs, which are acknowledged as enhancing competition in the PMI market, because such clauses (like wide MFNs, only weaker) provide both credibility and help prevent free-riding by motor insurance providers. BGL therefore urges the CMA to revisit its position on this issue to ensure, at the very least, narrow MFNs retain some effect, however limited.

6.7 **Superficial analysis of consumer search costs**: the quantification of additional consumer search costs is also unsupported by proper analysis. The CMA has simply assumed that the result of the remedy will be that all customers who currently single home will in future search on two PCWs. No justification is given. However even on a basic intuitive consideration this assumption is difficult to justify: will those consumers currently searching across two or three PCWs, presumably the most committed and conscientious consumers, not react by expanding their search? Will some – or indeed all – consumers give up on using PCWs altogether and revert to time consuming and inefficient searches direct with individual insurers?

6.8 While such balancing exercises are by their nature hypothetical, particularly where they involve an attempt to quantify future effects, in this case the failure to address whole categories of costs, coupled with the extremely superficial nature of the analysis presented, fatally undermines this aspect of the proportionality exercise, and makes it an unreliable basis on which to take a final decision in this investigation. The enclosed report from Europe Economics offers an example of how a similar exercise, also simplified but taking a more rigorous approach to underlying assumptions, produces a radically different result.

7 CMA's failure to ensure proper transparency/access to evidence

7.1 The Provisional Findings report and appendices (PFs) published on 17 December 2013, together with the WP 'Theory of harm 5: Impact of MFN clauses in contracts between PCWs and PMI providers' (the WP) purport to explain the CMA's analysis of wide (and narrow) MFN clauses. These documents therefore represent absolutely critical evidence in the CMA's investigation of MFNs and, given the gravity of the remedies now proposed by the CMA, should have (or should now be made to) set out very clearly and comprehensively the CMA's analysis in full (at least within the confines of a controlled data room).

7.2 However, as the CMA is very well aware, despite it being obliged to meet a high standard of transparency, most if not all economic data relating to wide (and narrow) MFNs and their impact on premiums (via CPAs) has been redacted from the relevant documents by the CMA (to the extent that the CMA has even attempted any analysis) and continues to be witheld. See, for example, the redaction in Annex D of Appendix 9.3 of the PFs as well as every single table (Figures 3, 4, 5, 6, 7 and tables 1 and 2) containing financial data, and other individual costings and percentages referenced in the text of the WP.

7.3 This renders it impossible for any party other than CMA to undertake any analysis or testing of the data relied on by the CMA to support its conclusions. The CMA's own guidance (paragraph 2.2(a) of the Chairman's guidance on disclosure) acknowledges that by having a better understanding of the CMA's analysis affecting them, the main parties in inquiries are treated fairly. By withholding (or continuing to withhold) such data, the CMA is acting unfairly.

7.4 The CMA is aware that BGL has previously raised its concerns with regard to the withholding of this data by the CMA. See, for example, BGL's response to the PFs (para. 3.2.7). Indeed, given how extensive the CMA's redactions have been in respect of its analysis of MFNs, it is in fact difficult for BGL to assess and communicate the specific relevance of certain data sets, because all potentially relevant data is missing. That said, in February 2014, BGL requested access to certain data sets relating to the CMA's analysis of MFNs, for example:

7.4.1 Appendix 9.3, paragraph 64 (to help assess what is it that implies any ability to earn substantial revenues from captured retail customers)

7.4.2 Appendix 9.3, Annex A, Table 3

7.4.3 Appendix 9.3, Annex D, Figures 1 to 8 inclusive

7.4.4 Appendix 9.3, Annex E, Figures 1 to 3 inclusive

7.4.5 Appendix 9.3, Annex H, Table 1

7.4.6 Appendix 9.3, Annex I, Figure 1 and paragraph 7

7.5 BGL explained that the CMA's redaction of data underpinning the purported AEC in respect of wide-MFNs was so widespread that it rendered any empirical analysis impossible. BGL accepted that the relevant data would need to be anonymised; however, despite its importance, the CMA has still not made the relevant data available, which is unfair (as it is impossible to ascertain the magnitude and validity of the CMA's concerns in this area). Without this disclosure, the gist of the CC's concerns has been obscured, which is unfair to those affected by and seeking to respond to the investigation.

7.6 Notwithstanding the CMA's approach, BGL has itself previously provided data to the CMA in respect of commission fees (or CPAs) between 2010 and 2012. This data indicates that CPAs for policies sold subject to narrow and wide MFNs (particularly those implemented after January 2010) have remained static or even declined relative to inflation (RPI). Even if the impact on a CPA was, in fact, £0.78 as the CMA has suggested, this would represent only 0.17% of the average motor insurance premium. Not only does this support the idea that wide (and narrow) MFNs have no impact on premiums (because they have no tangible impact on CPAs), it also militates against any finding of market power on the part of PCWs, again calling into serious question the proportionality of the CMA's proposed remedy.

8 Flaws in the design of the CMA's remedies

8.1 BGL's position is that no remedies are merited in the context of MFNs, whether wide or otherwise. However, BGL considers that – given the positive consumer benefits associated with PCWs and their reliance on some form of MFN (without which they would become just another shop window or marketing tool) – if the CMA were to draft remedies affecting MFNs and equivalent behaviours, then it would need to ensure that such arrangements could not be abused or manipulated by insurers.

8.2 In particular, BGL considers that by far the greatest risk – in the context of a remedy that is intended to permit narrow MFNs - lies in the direct channel being defined too narrowly. In such circumstances, there would be a real risk of prohibiting legitimate MFNs that protect the credibility of PCWs and the benefits to competition that PCWs deliver.

8.3 For example, if the 'direct channel' were defined so as *not* to include social media, BGL considers that there is a real risk that consumers would begin to use PCWs for preliminary research but before buying to check the insurer's Facebook page to find if there is a cheaper deal. The use of social media in this way would seriously undermine the PCW business model and would jeopardise their continued existence in the market.

8.4 There is a proposal in the PDR to enforce certain restrictive requirements only against those PCW's responsible for more than 300,000 policy sales per annum. This would create a differentiation in the operating position between some PCW's and others which is not reflective of their influence or market position. For example, Google PCW would be unaffected by this element of the PDR.

8.5 BGL strongly disagrees with the CMA that, in the context of MFNs, the greatest risk lies in the under-prohibition of MFNs, not least because the CMA continues to ignore the existing scope for insurers (and other channels) to circumvent MFNs if they are genuinely prepared to invest in new technologies and systems and offer innovative pricing and incentive packages to consumers.

8.6 As regards the prohibition of equivalent behaviours, if the CMA were to develop a list of prohibited behaviours having, so-say, MFN-equivalent effects (as proposed by some insurers) such as:

8.6.1 less-favourable commission terms;

8.6.2 less-favourable solicitation rights for insurers with customers introduced by the PCW;

8.6.3 unreasonable IT change lead times;

8.6.4 changes to the timeliness, cost and quality of market intelligence; or

8.6.5 other additional charges,

This would result in PCWs being held to ransom by insurers in most commercial negotiations. Where any PCW raised legitimate concerns with an insurer's performance (which might otherwise have resulted in delisting or other changes to terms), the insurer would threaten the PCW with action, alleging that the PCW's motivation was MFN-related.

8.7 The ultimate outcome of this arrangement is that it would become increasingly difficult for PCWs to reward and incentivise highly efficient, consumer friendly insurers over those who refused to invest or otherwise deliver a positive consumer experience.

8.8 At the very least, BGL considers that any burden of proof to show that a delisting was for MFN-equivalent behaviours should fall squarely on the insurer making the allegation. Absent clear evidence to the contrary, it should be presumed that every delisting etc is legitimate.

8.9 It is, quite frankly, unrealistic for the CMA to suggest – post-implementation of any remedy - that PCWs could, via the CMA, seek a variation to the remedy if it were felt to allow insurers too much leeway to circumvent.

9 Other issues concerning the reasonableness of the remedies / and timing of implementation

9.1 The timing proposed by the CMA would not allow adequate time to renegotiate contracts. It would not be sufficient to simply agree to the removal of the relevant wide MFN clause.

10. In keeping with our approach throughout this process we would be happy to engage with the CMA individually or collectively to further inform the outcomes.

Annex: Single Homing

10 Single homing

10.1 As noted above, one particular aspect of the CMA's AEC reasoning that causes concern is its flawed use of data and analysis in relation to single homing.

10.2 The CMA states clearly in the PDR[1] (referring back to the CMA's Provisional Findings) that the AEC between PCWs arises:

> *"due to the existence of wide MFNs in conjunction with sufficiently high single-homing rates."*

10.3 In other words, the CMA's theory of harm with regard to wide MFNs rests on the existence of high PCW single homing rates amongst consumers.

10.4 According to the CMA, each PCW commands a sufficiently high number of consumers that use only that PCW's site to access PMI (single-homers) so that insurers have no alternative but to agree to wide MFNs with a PCW because of the potential loss of custom arising from not being listed on that PCW. The CMA posits that any delisting threat is also likely to be effective in dissuading insurers from advertising cheaper prices through competing channels (through, for example, commission sacrifice agreements).

10.5 The CMA's theory works on the assumption that while an insurer would gain from having a lower-priced product on an alternative PCW, the loss it would suffer from not selling any product to the single-homers of the PCW from which it was delisted would outweigh the gain (and hence discourage the insurer from exploring cheaper deals with rival PCWs).

10.6 The CMA notes[2] that:

> *"…if all consumers checked many PCWs before buying, then the threat of delisting would have little consequence on the insurer, as a customer lost through one PCW could be gained on another."*

10.7 The CMA goes on to explain in Appendix 4.1 how it applies its estimates of single homing rates and the price elasticity of demand to assess how insurers might weigh up the costs and benefits of delisting (or a threat to delist). It concludes that single-homing rates are sufficiently high at the four largest PCWs to make delisting an effective threat.

10.8 Upon examination, the CMA's use of data and analysis of single homing is seriously flawed – such that a proper and balanced analysis would not support the conclusions drawn by the CMA in respect of wide MFNs - for the following reasons:

10.8.1 The single homing rates quoted by the CMA in Appendix 4.1 (based on insurer estimates and being in the range of 50% to 80%) conflict in material respects with the CMA's own research, which suggests that only around 30% of 'PCW users' (significantly less than all actual and potential PMI customers) are accessible to insurers through a single PCW.[3]

10.8.2 Indeed, according to the CMA's working paper 'Horizontal Concentration in PCWs', which quotes the results of the CMA's survey of PMI policyholders (from its Survey Report):

> *"…a relatively low proportion (10 per cent) of consumers searched on only one PCW and did not shop around further (ie 'single-homing'). This would suggest that, for a PMI provider, each of the four large PCWs has approximately 2.5 per cent of potential PMI consumers who may not be reachable except through that site. In our view, since 97.5 per cent of potential customers are available through other PCWs or*

[1] Para. 4.3
[2] Para. 4.38
[3] Para. 70 of the Provisional Findings report (Summary).

other sales channels, this suggests that a PCW may be constrained in raising CPAs."[4]

10.8.3 If this single-homing rate is compared against the 'critical single homing rate' identified by the CMA in Appendix 4.1 of the PDR,[5] this indicates that in at least 50% of cases, insurers would be willing to ignore any threat of delisting to pursue a commission sacrifice deal.

10.8.4 Further evidence published by the CMA in its Provisional Findings report suggests that even if the sample is taken from only those consumers that use PCWs (which is artificially narrow as it ignores other sales channels, including other online channels, which account for the majority of PMI business) the incidence of single-homing is still modest. The CMA observes:[6]

"Our evidence suggests that multi-homing in PCWs is relatively common—many consumers check several PCWs in their search for insurance. However, a material number of consumers appear to be accessible only through a single PCW. Our evidence is the following:

(a) The CC consumer survey estimated that 33.5 per cent of consumers who use PCWs use only one PCW. This percentage amounts to 450,000 customers for the smallest of the 'big four' PCWs.

(b) According to the CC consumer survey, consumers on average searched on 2.2 PCWs the last time they shopped around for motor insurance.

(c) Moneysupermarket.com told us that consumers searched on an average of 2.8 PCWs before making a purchase decision and its internal strategic plan noted that [✂] per cent of enquirers compared two PCWs or more."

10.8.5 It is difficult to accept that the CMA has disregarded this research and, indeed, other independent research which shows a low incidence of single homing, despite the fact that this research has been brought to its attention on a number of occasions.

10.8.6 Research published by Consumer Futures indicates that single-homing rates amongst PCW users are (at less than 20%) also materially lower than the figures currently relied on by the CMA for the purposes of the PDR.

10.8.7 According to Consumer Futures:

"For most consumers PCWs are one of several sources of information. The majority (83 per cent) continue their search with other PCWs, using more than one site before making their decision. Over half (57 per cent) use two or three comparison sites while over a quarter (26 per cent) use four or more PCWs before making a decision."[7]

10.8.8 The CMA observes in its Provisional Findings report that 30% single-homing means that any one of the big four PCWs might provide exclusive access to around 8% of PCW shoppers.[8] It follows that 20% single homing would translate to approximately 5% of PCW shoppers.

10.8.9 Further, single homing rates do not reflect any entrenched position on the part of any PCW. It is not the case that consumers are bound – contractually, technologically or financially - to one PCW over another; the

[4] WP Horizontal Concentration in PCWs, para. 12
[5] Para. 14
[6] Para. 9.11 of the Provisional Findings report
[7] *Price comparison websites: consumer perceptions and experiences - A report by RS Consulting for Consumer Futures,* 4 July 2013, page 32. Similar research conducted by Mintel (*Web Aggregators in Financial Services*, June 2013) has also been disregarded by the CMA apparently in favour of insurer estimates.
[8] Para 9.12 of the Provisional Findings report

ability to switch between PCWs is easy and the cost is negligible, which fact has already been drawn to the CMA's attention. It follows that aside from the very modest degree of single homing that actually prevails, the CMA has, quite wrongly, ignored the ability of any insurer to contest single homing rates, for example, through traditional advertising and marketing.

10.8.10 The CMA is proposing a remedy for businesses that, at best and on the basis of a fragile theory and inconsistent evidence, control only a fraction of the UK's PMI business. This control does not confer any credible market power, as amply demonstrated by the fact that over a number of years, PCWs have been unable to increase their commissions or 'CPAs'.[9]

10.8.11 It is therefore extraordinary and, indeed, contrary to the legitimate expectation of the parties, that the CMA should seek to impose such a draconian remedy on the basis of such marginal figures and contradictory evidence.

[9] See, for example, section 3.1.3 of BGL Group Limited's Response to WP ToH 5: Impact of MFN clauses in contracts between PCWs and PMI providers, which view the CMA has itself endorsed in its WP Horizontal Concentration in PCWs, para. 14 (acknowledging that CPAs have risen at or below the rate of inflation, despite PCWs becoming a more popular channel for PMI)

Europe Economics

Assessing the Costs and Benefits of Most Favoured Nation Clauses between Insurers and PCWs

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Europe Economics
Chancery House
53-64 Chancery Lane
London WC2A 1QU

Tel: (+44) (0) 20 7831 4717
Fax: (+44) (0) 20 7831 4515

www.europe-economics.com

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1.1 Introduction

Price comparison websites (PCWs) are internet-based platforms that allow consumers to compare in an easy and quick manner prices quoted by different suppliers. For insurance products, where the price of a policy depends on the characteristics of the potential customer (e.g. risk profile, value of the good for which cover is required etc.), PCWs generate price quotes that are customised to the key characteristic of the individual. In most cases, PCWs allow customers to "execute" transactions on the basis of the search outcome, by redirecting them to the webpage of the relevant supplier, avoiding the need for an additional separate visit to the website of the preferred supplier.

The UK motor insurance market has seen the greatest penetration by PCWs. Many customers have researched motor insurance through a price comparison site, with the majority of these have gone on to buy cover through this channel.

An important feature of PCWs is the Most Favoured Nation provision. It is common for contracts between PCWs and insurance providers to include clauses that require a provider, when offering for sale a particular policy (specifically tailored to an individual customer using the same source data as that provided to the relevant PCW) to offer that policy through the PCW at a price which is no more expensive than the cheapest price offered for that policy through other PCWs or other sales channels. These clauses are referred to as Most Favoured Nation (MFN) clauses. According to these clauses the insurer is not allowed simultaneously to charge a higher price on the relevant PCW than that offered or advertised for the identical insurance policy through a different distribution channel (including other PCWs), though such clauses do not normally prevent other intermediaries or platforms from offering separate incentives to individual customers which have the effect of adding value or lowering prices. These clauses are sometimes referred to as wide MFNs. A narrow version of these clauses is also possible whereby this commitment is restricted to the direct channel only (narrow MFNs). This study is focused on wide MFNs.

These clauses have various potential economic implications, some positive and some negative, e.g.:

- They can enhance the search experience by reducing the need for consumers to shop around to find a cheaper price.
- The can increase the appeal of PCWs leading to more consumers making purchasing decisions based on wide-market price information.
- They may enhance price competition between insurance companies.
- They may increase insurance companies' incentives to become more efficient in order to increase their profit margins by lowering their costs.
- They can avoid free-riding problems, e.g. situations in which consumers use PCWs to gather market information but then purchase products from alternative channels.
- They may have the effect of shifting competition among PCWs from being based on prices to being based on advertising, which in turn might raise barriers to entry.

- They limit the insurers' freedom to differentiate prices across distribution channels which may lead to an overall price increase.
- They may soften competition among PCWs by limiting the access to the market to new entrants
- They may result in PCWs charging higher cost-per-acquisition fees which, in turn, result in higher prices paid by consumers.

This paper sets out to shed light on how some the above factors are balanced in the specific context of the market for private motor insurance.

This report is organised as follows:

- We first describe the theory and practice of PCWs and their role of PCWs in the UK, with particular reference to motor insurance.
- We then describe and summarise the results of a simulation model which assesses the economic impact of MFN clauses.
- Finally we set out our conclusions.

1.2 The role of PCWs in the UK insurance market

Price comparison sites serve in comparing a range of insurance products, such as motor, home, pet and travel in non-life insurance and term products in life insurance. The use of PCWs by consumers of motor insurance is particularly marked.

There is a range of estimates for the use of PCWs to search and also to execute policy purchase. Focusing on the former (search) the OFT found that 72 per cent of those who shopped around at their last purchase used a PCW.[1] Previously, Consumer Intelligence found that about 90 per cent of those shopping for motor insurance used a PCW for search. Research by Mintel in 2011 found that 46 per cent of *internet users* had used PCWs to research motor insurance.[2]

More people use PCWs for search than to purchase. The most commonly quoted reason for not purchasing a policy through a PCW was the belief that more attractive offers could be found by dealing with the insurer directly. Many consumers use multiple PCWs.[3] The vast majority of motor insurance brands are listed on at least one PCW. On the other hand, there remain consumers who either do not search (e.g. simply rolling over contracts with their existing supplier) or else search, but without using a PCW.

1.3 Simulation of the economic impact of MFN clauses

The goal of the simulation exercise we present here is to quantify the economic impact of certain changes to the level of usage of PCWs and the impact of the adoption of MFN clauses on:

- The price of comprehensive motor insurance policies sold in the UK.
- The social welfare associated with the comprehensive motor insurance market.
- The consumer welfare of the comprehensive motor insurance market.

The remainder of the section is organised as follows:

- We provide a general discussion on simulation techniques.
- We provide a description of the theoretical framework adopted.

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1 http://www.oft.gov.uk/shared_oft/market-studies/private-motor-insurance/Motor_Insurance.pdf

2 http://www.mintel.com/press-centre/technology-press-centre/price-comparison-sites-its-a-click-with-60-of-brits

3 Consumer Intelligence's Insurance Behaviour Tracker data found that switchers were particularly likely to use multiple PCWs, suggesting particular price sensitivity.

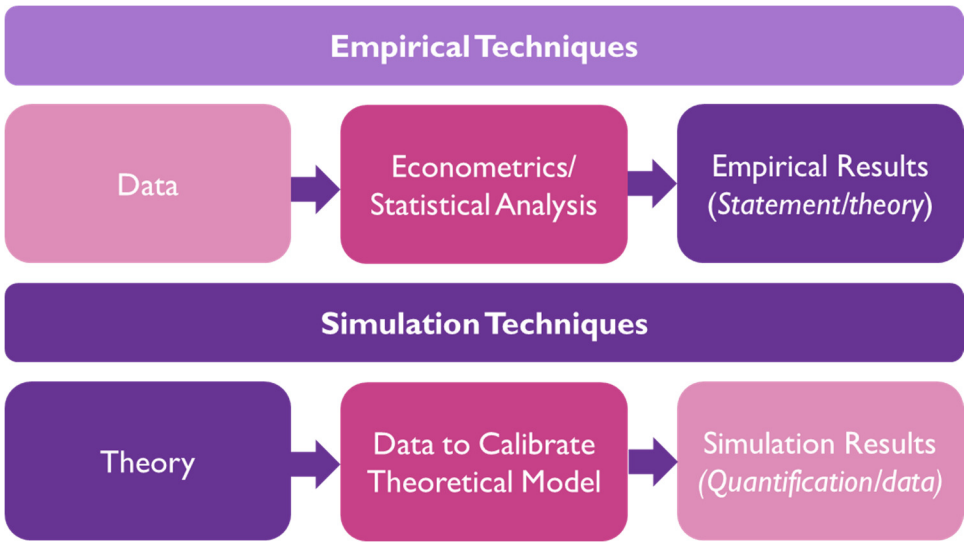
- We illustrate the data sources used for calibrating the model.
- We then present and interpret the simulation results.

1.3.1 The nature of simulation techniques

An economic simulation is an analytical technique that produces quantitative results ("simulation results") based on a pre-determined mathematical structure (the "theoretical model"). The theoretical model is designed to provide a credible representation of the phenomenon under investigation. Unlike empirical quantitative techniques (e.g. econometrics and statistical analysis) which aim at explaining phenomena from observation and the analysis of empirical data, in a theoretical simulation the choice of the stylised conceptual framework describing how the world works is the pre-requisite for quantifying the phenomenon of interest. Once a theoretical framework has been developed, this is populated with real world data. The purpose of this process (known as "model calibration") is to make the data generated by the theoretical model consistent with observed data. Simulation results are then produced by changing some parameters of the model.

Therefore, empirical techniques are inductive by nature (the direction of the reasoning goes from data towards conclusions), whilst simulation techniques are deductive (the direction of reasoning goes from theory towards data). The main difference between simulation and empirical analysis is illustrated in the diagram below.

Figure 1.1: Empirical techniques versus simulation techniques



In the context of the current study, the simulation consists of the following key components:

- A theoretical model that describes the functioning of a market with PCW and MFN clauses.
- A calibration exercise to populate the theoretical models with real-world data.
- An interpretation of the main explanatory variables (i.e. of PCWs and MFN clauses) in terms of the underlying model in order to produce simulations results.
- Simulation results derived based on changes in the parameters describing PCWs and MFN clauses.

1.3.2 Theoretical model

The primary economic role of PCWs is to facilitate consumer search by allowing price comparisons across a wide range of suppliers. Therefore, the most natural framework for describing market mechanisms in the presence of PCWs is represented by microeconomic search models. In economic theory, search models

analyse market competition when price discovery is costly. One of the key properties in these types of model is that, in equilibrium, some consumers make purchasing decisions with full information about the entire range of offers available in the market, whilst others do not. Besides providing a conceptually rigorous framework, these models enable the simulation of the impact of PCWs in a straightforward and intuitive way. In search model terms, consumers using PCWs can be defined as those who make purchasing decisions based on full price information. Therefore the impact of PCWs can be modelled by comparing the outcomes of equilibria with varying shares of consumers with full price information.

Among the classes of search models available, we have chosen a sequential search model where insurers compete by setting prices. A detailed mathematical description of the model is provided in the Technical Appendix and we provide below an intuitive description of its underpinning assumptions, distinguishing between supply-side assumptions demand-side assumptions, and assumptions designed to model the impact of PCWs and MFN clauses.

Supply-side

- Insurance products are assumed to be homogenous. This assumption makes the model more tractable, but ignores real world variation among different providers and products. Such variation essentially dilutes the impact of MFNs: by listing similar products on different PCWs and channels, insurers can effectively vary price by channel, even in the presence of MFNs. This limits both the competition strengthening of PCWs and any competition softening effects of MFNs. It also limits the extent to which MFNs benefit consumers by reducing the need to search. By ignoring this variation, our model tends to exaggerate the impact of MFNs. However, we do not expect it to alter the balance between the different impacts, which is what the model sets out to examine.
- Insurers compete with each other in order to maximise profits —the model accounts for the competitive dynamics among an arbitrary number of firms.
- Insurers compete by price rather than by volume[4] — this assumption is naturally justified on the grounds that insurers compete for the same client (i.e. a client with a pre-defined risk profile) by offering attractive price quotations, and policies are underwritten (i.e. transaction volumes are generated) only after quotes is have been accepted.
- In equilibrium, different firms charge different prices — even in the presence of homogenous products, firms' optimal pricing strategies always lead to price dispersion. This is a particular desirable property of search models and is consistent with the empirical observation that identical products (e.g. CDs, books, etc.) are often sold at different prices. Moreover there is empirical evidence of randomisation of prices by insurers listed on PCWs, where the lowest price insurer on any given day is a poor predictor of the lowest price insurer the next day.[5]

Demand-side

- Consumers make sequential search decisions based on the prices observed — within our model, consumers can decide to stop searching once they are satisfied with the prices they have already discovered. We argue this is a realistic representation of actual search activity.[6]
- Consumers are rational and have a good understanding of the search benefits of PCWs — consumers' shopping-around intensity and purchasing decisions are made after cost and benefit considerations, based on good information. So, for example, a consumer will engage in additional search only if the expected benefit of doing so (i.e. the cost savings that could be realised if a cheaper product is found) outweigh the opportunity cost of the time spent in that additional search. Of course in the real world

[4] Hence the nature of competition is à-la-Bertrand as opposed to be à-la-Cournot.

[5] This is based on the empirical estimation of Rupert Gatti and Paul Kattuman of their own collected dataset in their ESRC research proposal: Price Comparison Websites and Competition.

[6] This aspect differentiates sequential search models from simultaneous search models where, in contrast, consumers decide how much shopping-around to do *before* engaging in any search activity.

full consumer rationality/understanding may not always be present. For instance it is possible that, in reality, consumers may not have an instantaneous and full understanding of how PCWs work and what opportunities might be available through alternative distribution channels, and that this level of understanding can only be reached through a learning process (which may, however, be expedited through money advice websites and conversations with friends). However, this assumption is useful for the purpose of the model's tractability and is widely accepted in standard economic theory. To the extent it ignores any "lag" in consumer understanding, it should in fact be a good predictor of the future, as consumer understanding catches up with market developments (all else being equal).

- Consumers differ in terms of their opportunity cost of searching — in our model some consumers have a "low" opportunity cost of searching and search for a wide range of market prices before making a purchasing decision, while others have a "high" opportunity cost and accept the first price that comes to hand. Whilst this stylised assumption does not capture intermediate search behaviour (e.g. in reality some consumers may search for an intermediate number of products as opposed to the wide range or a single product), it is standard in the economic literature and reflects the idea that consumers differ in their propensity to search. Moreover, we assume that consumers who search for a wide range of products can be further distinguished in two categories: those who search only on a PCW and those who, having searched on a PCW, choose to search across additional distribution channel(s) (including a second PCW). This is obviously critical to the modelling of MFN clauses and more details on this last modelling assumption are provided below.

1.3.3 Assumptions to model the role of PCWs and MFN clauses

Our theoretical framework assumes that there exists an identity between wide-market shoppers and PCWs users.[7] More specifically, we assume the following:

- PCWs provide almost entire market coverage. This assumption is justified by the evidence that PCWs cover the majority of the motor insurance market.[8] In any event, to the extent this assumption ignores direct-only providers, it tends to exaggerate the impact of impact of MFNs, but should not alter the *balance* of positive and negative effects.
- The share of wide-market shoppers is defined as the share of consumers who use PCWs to search for quotes. This includes both consumers who purchase policies through PCWs, and consumers who use PCWs for gathering price information but do not purchase through the PCW.

In order to model the impact of MFN clauses, we first think of a situation in which such clauses do not exist. We model this counterfactual scenario based on the following:

- There are at least two PCWs competing with each other in order to attract insurers and consumers. PCWs are assumed to be virtually identical and so they compete simply by offering the lowest possible cost-per-acquisition fee to insurers for listing their products.[9] This is a simplifying modelling assumption and may not reflect the real world situation.
- Every insurer lists its products on all PCWs and through other channels (such as brokers and direct telephone and web sales). We assume that for each consumer searching a PCW, there is always a better price available through another PCW or some other channel. This is obviously a simplifying assumption (because the consumer may have happened first upon the cheapest priced channel). The

[7] As explained in more detail in the Technical Appendix our modelling assumptions imply a simple relationship between search costs and the share consumers who engage in whole-market search. So, for any increase in share of whole-market shoppers, that associated reduction in search costs can be derived through a simple back of the envelope calculation.

[8] http://www.thisismoney.co.uk/money/bills/article-2364020/Trust-comparison-website-low-says-Which-quotes-vary-1-500.html

[9] Since PCWs are two-sided-markets, they could compete also by charging a downstream fee to consumers. However the evidence is that this market practice is virtually non-existent.

assumption therefore exaggerates the benefits of searching in the counterfactual world, and is conservative in terms of the balance between the costs and benefits of MFNs.

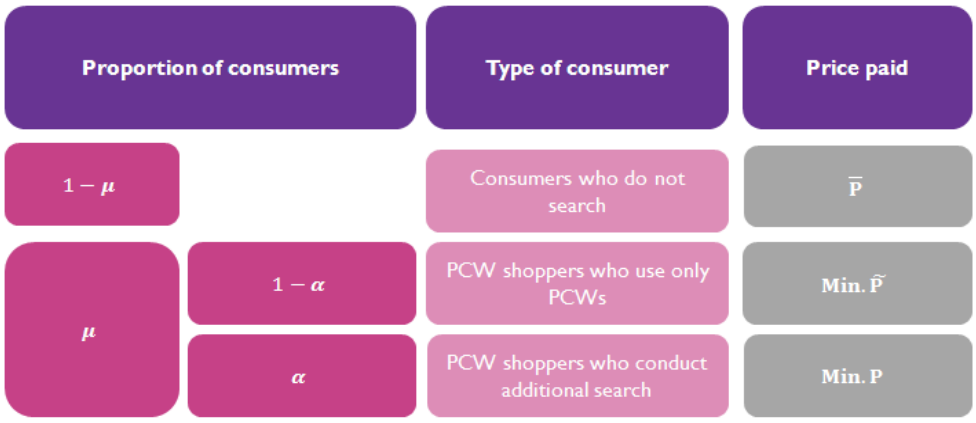
- It is further assumed that the difference between the price listed on the first-searched PCW and the price advertised on the cheapest channel is due exclusively to the higher fee charged by the first-searched PCW (so, if the cheapest channel is the direct on-line channel, the price differential is entirely due to the PCW's fee). This is again a simplifying modelling assumption which implies that any potential reduction or increase in a PCW's fees would be passed onto consumers in full. We acknowledge that this assumption does not necessarily reflect the real world and that is made here for the purpose of model tractability. Moreover, we stress that, within the context of our simulation exercise, the assumption is conservative because it implies that an increase in the price charged by insurance companies as a result of the adoption of MFNs is fully passed onto consumers.

Therefore, in a world without MFN clauses, those consumers who use PCWs to search, have the option of incurring the cost of an additional search (e.g. with another PCW or the online page of one or more insurers) in order to secure a better deal. The decision of whether or not to conduct this extra search will depend on whether the expected benefit of the search (i.e. the price differential between the prices advertised on the first-searched PCW and the potentially lower price offered elsewhere) outweigh the cost of this additional search.

The different types and corresponding shares of consumers, their searching behaviour, and resulting prices paid, are summarised in the diagram below, where:

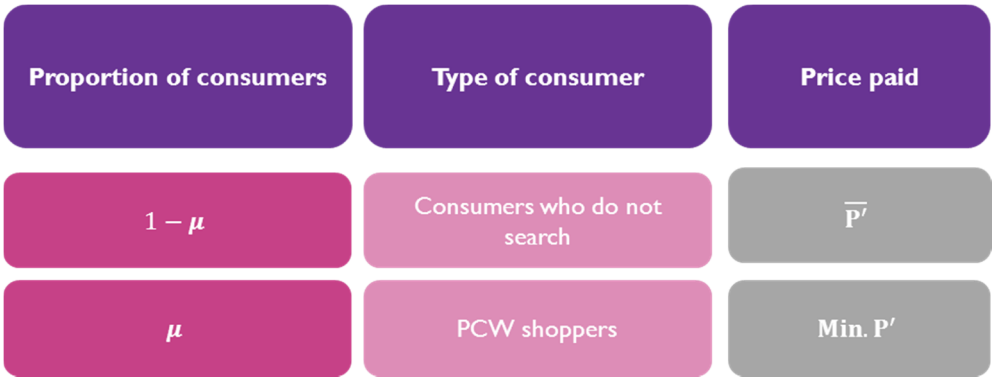
- μ represents the share of wide-market shoppers, i.e. consumers that use a PCW.
- α represents the share of wide-market shoppers who use a PCW and then go on to conduct an additional search.
- $\bar{p}$ is the average price paid by consumers who do not shop around (i.e. they do not search) and stick to the first offer observed.
- $\text{Min}\,\tilde{p}$ is the minimum price observed on a PCW.
- $\text{Min}\,p$ is the minimum price observed on the cheapest PCW or distribution channel (where $\text{Min}\,\tilde{p}$ is always larger than $\text{Min}\,p$).

Figure 1.2: Types of consumers, search behaviours, and prices paid in absence of MFN clauses



Given the set-up described above we model the presence of MFN clauses by imposing an equality constraint between $\tilde{p}$ and p. The direct consequences of this are summarised below.

Figure 1.3: Types of consumers, search behaviours, and prices paid with MFN clauses



As illustrated in Figure 1.3 the implication of the introduction of an MFN clause is twofold:

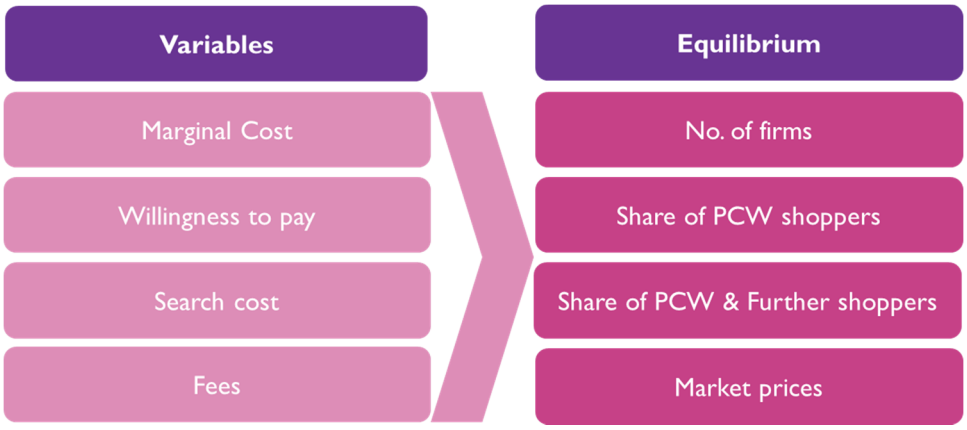
- First, the search function of PCWs is enhanced and any search beyond the first PCW is devalued (hence we no longer distinguish between PCW shoppers who use only one PCW and those shoppers who conduct additional search).
- Second, the price charged by insurers in equilibrium changes because the price-uniformity constraint imposed by MFN clauses has an impact on insurers' profit maximising behaviour. (The impact of MFN clauses on prices is quantified and assessed in detail when we present the simulation results.)

Having described the key assumptions underpinning the theoretical framework, we now break down the model into its mathematical components. The theoretical framework adopted allows us to establish a mathematical relationship between the following variables:

- The number of insurers operating in the market (i.e. "Number of firms").
- The costs insurers incur for providing insurance coverage, advertising, and selling policies (i.e. the "Marginal cost").
- The cost-per-acquisition fee insurers pay to PCWs for having their products listed (i.e. the "Fee").
- The maximum value consumers attach to the insurance products purchased (i.e. the "Willingness to pay").
- The opportunity cost of searching for price quotations through PCWs (wide-market search costs), and the opportunity cost of additional search. For simplicity, in the diagrams below, we refer to both cost categories as "Search cost".
- The share of consumers who use a PCW (i.e. "PCW shoppers").
- The share of PCW shoppers who conduct additional search (i.e. "PCW & Further shoppers").
- The market prices of insurance products (i.e. "Prices").

The model determines which number of firms, share of PCW shoppers, share of PCW & Further shoppers, and market prices (i.e. the "market equilibrium") arise from different levels of marginal cost, willingness to pay, and search cost (the "exogenous variables"). It is therefore useful to think of the causal direction of the theoretical model as proceeding from the variables to the equilibrium (see figure below).

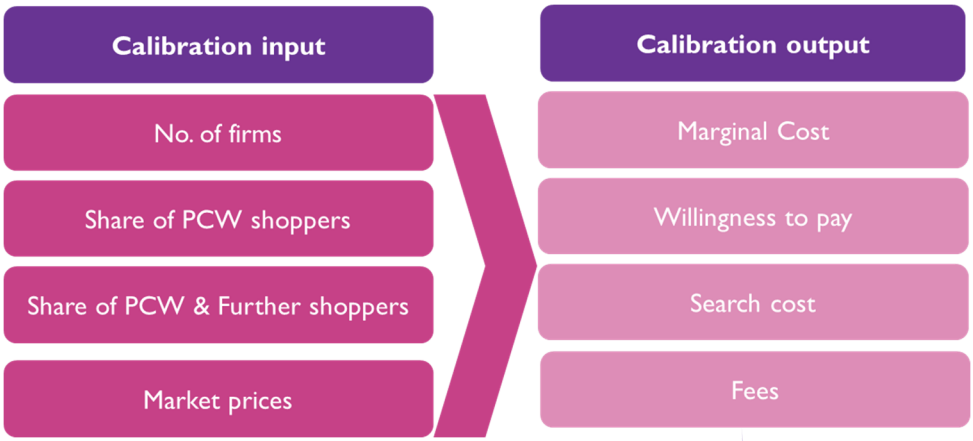
Figure 1.4: Theoretical Model



1.3.4 Model calibration

The calibration exercise makes use of the mathematical structure of the theoretical model but the direction of Figure 1.4 is reversed, as we infer the model's underlying variables (the calibration output) from the initial market equilibrium (calibration input). In other words, the question we ask ourselves when calibrating the model is as follows: given what we observe in the market about the number of firms, the shares of different types of consumer, and the resulting market prices, what should the marginal cost, willingness to pay, search costs, and fee levels be in order for the model to produce the same number of firms, share of different types of consumer, and market prices as we observe? This is illustrated in Figure 1.5 below.

Figure 1.5: Model Calibration



The data sources used for calibration (i.e. the calibration inputs) are as follows:

- Number of insurance firms operating in the market — according to the ABI, 80 per cent of the motor insurance market in the UK is controlled by 10 companies, with the remaining market share divided among a large number of smaller insurers. Our simulation model assumes the presence of 10 firms.
- Share of PCW shoppers — this figure is based on estimates concerning the use of PCWs in the UK. As indicated at 1.2 above, estimates of the use of PCWs for search for motor insurance products vary quite widely. The simulation is run on a baseline of 80 per cent, and the economic impacts of a greater and lower usage of PCWs are quantified, by increasing and decreasing this value. This baseline was used to calibrate the "with MFN" model, and is equivalent in that context to assuming that 80 per cent of consumers shop around (i.e. search). The choice of the baseline affects the quantitative results, but not their qualitative nature (i.e. Table 1.6 would be unchanged).

- Share of PCW & Further shoppers — the Provisional Findings of the UK Competition Commission (now superseded by the Competition and Markets Authority (CMA)) provisionally found that, among those who search prices on one PCW, 63 per cent visit more than one PCW. (Furthermore, it is understood that around 50 per cent of shoppers do not execute the transaction on the PCW on which they have searched.) We interpret this figure as being a proxy of the share of savvy consumers who, in addition to searching for the cheapest insurer on a PCW, still conduct additional search. We stress that the CMA assumption is not accepted by all stakeholders. We use it here as a conservative assumption.
- Market prices — we have used two different sources of price data:
  - Minimum price data — the AA provides an estimate of the average cheapest price of a comprehensive motor insurance policy in the UK (the "Average quoted shop around premium"). This is calculated as an average of the five cheapest premiums for both price comparison sites and the direct and broker market and, in 2012, it was equal to £663.[10]
  - Price dispersion data — based on data gathered through a mystery shopping exercise we conducted as part of a previous study, we found that the average percentage price differential between the lowest and fifth lowest price quote for a comprehensive motor insurance policy in the UK was approximately 50 per cent.[11] We use this figure, together with the minimum price data discussed above, to determine the upper-bound of the price distribution (being: £663*(1+0.5) = £994.50 and which we have rounded to £1,000).
- Fee — even though, strictly, the value of a cost-per-acquisition fee is treated as a calibration output in Figure 1.5, we have used it as another exogenous input for the calibration (this leads to a simplification of the calibration exercise but without compromising its robustness). We have assumed that cost-per-acquisition fees represent a five per cent commission on the price of each policy sold. This value is roughly half of the commission value charged by more traditional insurance distribution channels (e.g. brokers).[12]

The table below summarises the calibration inputs used. These are assumed to be broadly representative for the UK motor insurance market, and for a comprehensive motor insurance consumer with average characteristics. For more precise details on how the calibration has been generated from the inputs reported below we refer the reader to the Technical Appendix.

[10] See: http://www.theaa.com/newsroom/bipi/201401-bipi.pdf

[11] We notice that this is a conservative estimate of price dispersion because it is based only on the five best quotes. Therefore it might underestimate the benefit of using PCWs. See Europe Economics, "Retail Insurance Market Study", 2009 (conducted on behalf of the European Commission). Available at: http://ec.europa.eu/internal_market/insurance/docs/motor/20100302rim_en.pdf

[12] Europe Economics, "Distribution Channels in Insurance" (forthcoming).

Table 1.1: Figures used as calibration inputs

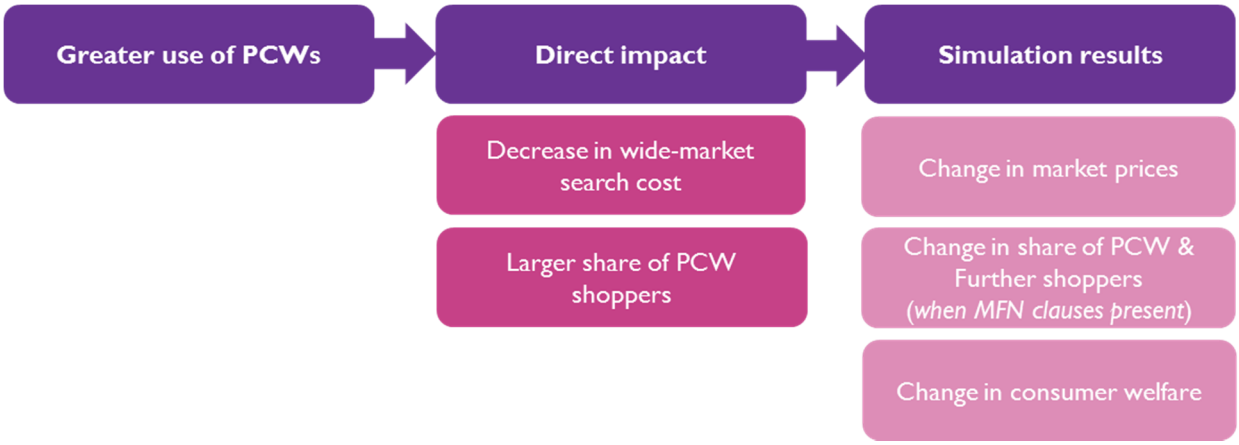
Calibration inputs	
Number of firms	10
Share of PCW shoppers	80%
Share of PCW & Further shoppers (as a % of PCW shoppers)	63%
Lowest market price	£663
Highest market price	£1000
Cost-per-acquisition fee	5%

1.3.5 Interpretation of the impact of PCWs and MFN clauses in terms of our model

In terms of our model, the use of PCWs is associated with a reduction in search cost. The resultant greater reliance on PCWs leads to a larger share of consumers making purchasing decisions based on "wide-market" information. In turn, this affects competition dynamics and market prices.[13]

In the absence of MFN clauses, a change in prices leads to a change in the expected benefits of conducting additional search (e.g. for a cheaper distribution channel), and thus to a change in the equilibrium share of PCW & Further shoppers. Any change in consumer welfare can be easily derived from the changes in price (see Technical Appendix for details). The causal links underpinning the simulated impact of PCWs are illustrated below.

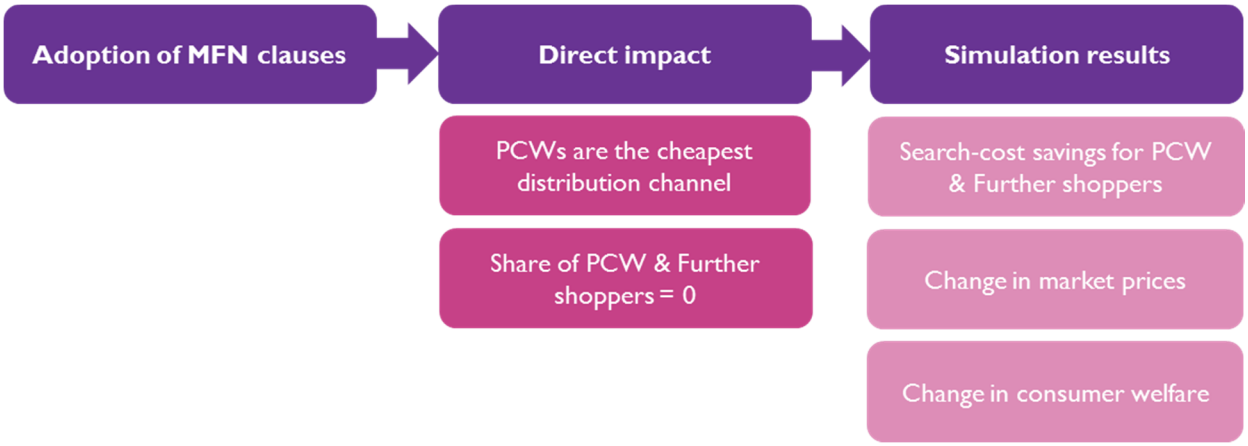
Figure 1.6: The impact of PCWs



With regard to MFN clauses, these have the **direct impact** of ensuring that any additional search beyond the first PCW is of no value (because additional search is costly, and the prices elsewhere for the identical policy cannot be lower). In turn, this leads to search-cost savings for those shoppers who would have incurred search costs had MFN clauses been absent. These clauses have also an impact on prices and therefore on consumer welfare. The causal links underpinning the simulated impact of MFN clauses are illustrated below.

[13] PCWs might also impact on the number of firms operating in the market, e.g. an increased pressure in price competition could force some insurers out of the market. However we do not model this impact here.

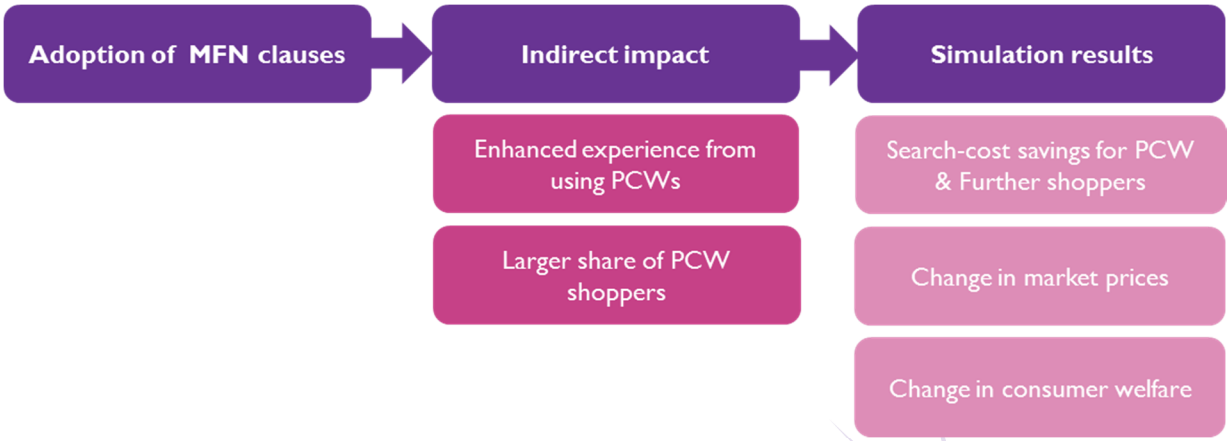
Figure 1.7: The direct impact of MFN clauses



There is also likely to be an **indirect impact**: if the PCW selected by the consumer agrees MFN clauses with all insurers listed on its site, the benefit of using it is twofold. First, it allows identifying the cheapest insurance supplier (i.e. it provides a wide-market search function). Second, any product purchased through that PCW will be at the lowest economic cost (again, because additional search is costly, and the prices elsewhere cannot be lower).

MFN clauses therefore enhance the benefit of using PCWs, and are likely to increase the numbers of consumers using PCWs. (Indeed, in a recent market investigation, the Italian competition authority (AGCM) has noted that the penetration of PCWs in Italy is significantly lower than in other countries, and argues that this is partly due to the possibility of obtaining policies at a discounted price through the insurers' direct channels may dis-incentivise the use of PCWs.[14]) Therefore the indirect impact of MFN clauses is that of increasing the share of PCW users.

Figure 1.8: The indirect impact of MFN clauses



1.3.6 Simulation of the economic impact of PCWs and MFNs

The main purpose of the simulation exercise is to shed light on how MFNs between PCWs and insurers affect consumer welfare in the private motor insurance sector.

In order to do so we consider first how prices and consumer welfare might change for certain (relatively minor) changes in the usage of PCWs. The output of this exercise is useful as we use it later to assess the indirect impact of MFNs. We stress that the moderate changes in usage of PCWs considered here should

[14] http://www.agcm.it/trasp-statistiche/doc_download/3632-ic42-testo-indagine.html

not be interpreted as indicative of the changes in usage that we might expect to or which may result from a complete ban of MFNs (i.e. these impacts could be more drastic).

The simulation results are produced starting from a baseline scenario in which we assume that the share of PCW shoppers (μ) is 80 per cent, and in which MFN clauses are assumed to be widely present.[15]

We first simulate how prices and consumer welfare would change for relatively minor changes in the usage of PCWs as follows:

- Increase in the share of PCW shoppers to 90 per cent.
- Increase in the share of PCW shoppers to 99 per cent.
- Decrease in the share of PCW shoppers to 72 per cent.[16]

We then replicate simulation result for the same levels of share of PCW shoppers, but under the counterfactual scenario in which MFN clauses are assumed to be eliminated.

Therefore, simulation on prices and consumer welfare are produced for eight different scenarios in total:

- MFN clauses are present, and:
  - The share of PCW shoppers is 80 per cent (the baseline scenario).
  - The share of PCW shoppers is 90 per cent.
  - The share of PCW shoppers is 99 per cent.
  - The share of PCW shoppers is 72 per cent.
- MFN clauses are eliminated, and:
  - The share of PCW shoppers is 80 per cent.
  - The share of PCW shoppers is 90 per cent.
  - The share of PCW shoppers is 99 per cent.
  - The share of PCW shoppers is 72 per cent.

We first present simulation in the scenario where MFN clauses are present.

1.3.7 Impact of the use of PCWs in the presence of MFN clauses

For the different values of the share of PCW shoppers (μ) we present simulation results below for:

- The (weighted) average economic cost to / market price paid by an average consumer.
- The (weighted) average consumer surplus — this indicates the value of the surplus of the average consumer in the market, and is reported in bold.

[15] This is a simplifying modelling assumption. To the extent wide MFNs are not in fact widespread, the model will tend to overstate the impact of removing them, but we would not expect this to alter the *balance* between costs and benefits.

[16] Simulations are produced for 72 per cent (as opposed to say 70 per cent) in order to make meaningful comparison with the counterfactual scenario which MFN are eliminated. In the model without MFN clauses any value for the share of PCW shoppers below of 72 per cent result in a trivial equilibria where the share of PCW & Further shoppers is always 100 per cent. An alternative calibration of the model would result in different results — it would not affect the key insights presented here.

Table 1.2: Economic impacts of the use of PCWs in the presence of MFN clauses

Scenario	Average economic cost	Expected surplus
μ=0.72	£738	**£262**
μ=0.8 (benchmark)	£708	**£292**
μ=0.9	£669	**£331**
μ=0.99	£629	**£371**

Before discussing the simulation results presented in Table 1.2, we set out a few remarks on how to interpret them:

- The average economic cost indicates the average price that each consumer is expected to pay in equilibrium.
- The expected surplus is calculated by subtracting the average price from the consumers' willingness to pay. The consumers' willingness to pay is assumed to be equal to the upper bound of the price distribution which is, as discussed earlier, equal to £1,000 (see Technical Appendix from more details on this assumption).

The average price and expected surplus arising for different values of μ are depicted in the charts below.

Figure 1.9: Impact of an increase in the use of PCWs on prices (when MFN clauses are present)

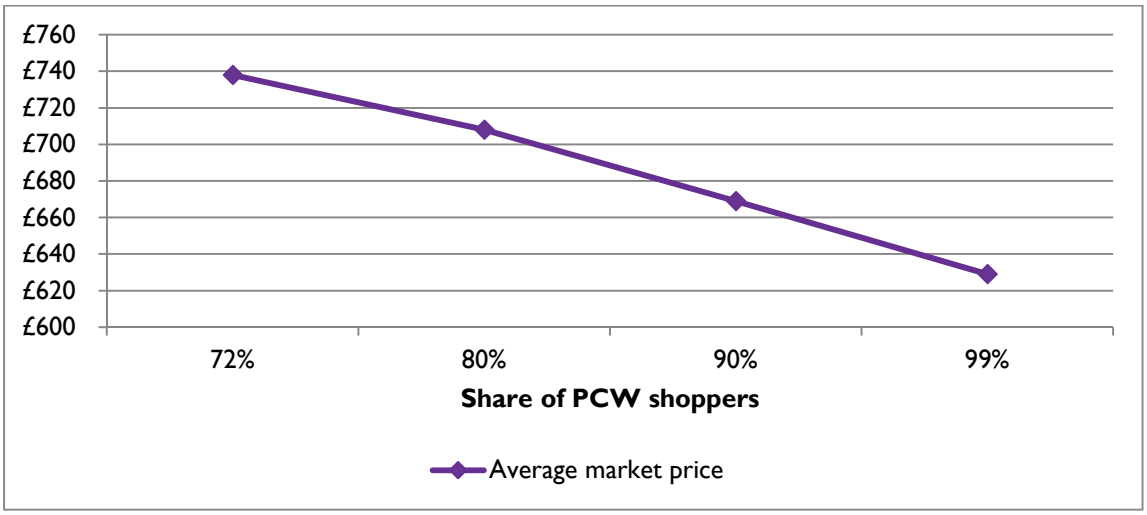
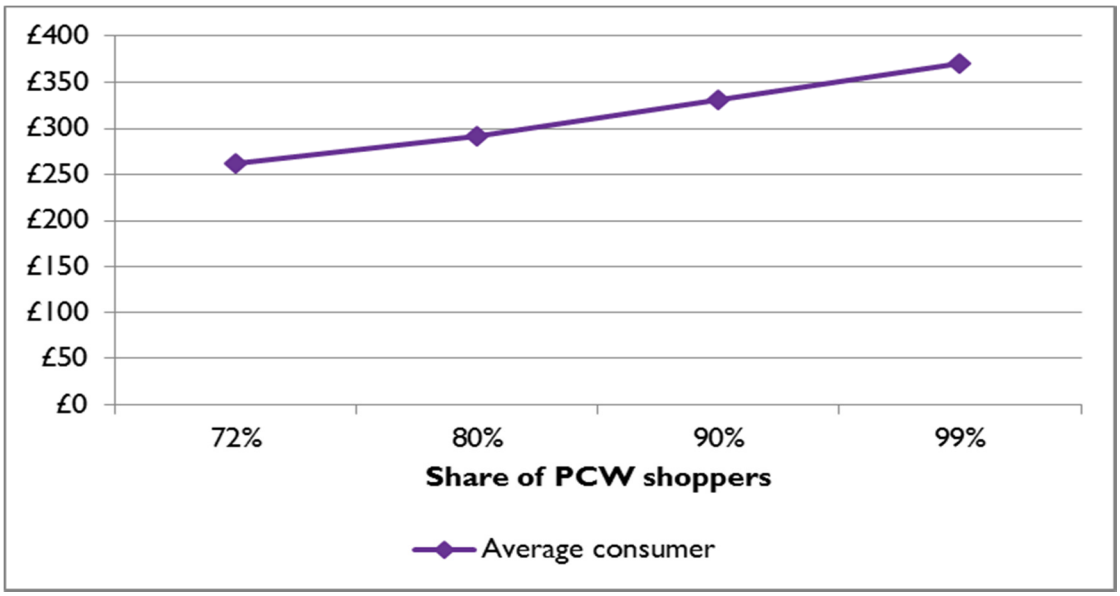


Figure 1.10: Impact of an increase in the use of PCWs on consumer surplus (when MFN clauses are present)



From the simulation results reported above we can conclude that, in the presence of MFN clauses, an increase in the use of PCWs leads to a **decrease** in the average market price and an **increase** in the overall consumer surplus. These result from a combination of the following: insurers charging lower prices on the one hand and a greater share of consumers making purchasing decisions based on wide market information, on the other hand.

1.3.8 Impact of the use of PCWs in the absence of MFN clauses

The simulation results we report in this section (below) provide a quantification of the impact of a greater use of PCWs on prices and consumer welfare under a scenario in which MFN clauses are eliminated. Under this scenario, there is a potential benefit for PCW shoppers to conduct additional search. In the version of the model without MFN clauses, the share of PCW shoppers who do additional search is endogenous and therefore differs depending on the overall share of PCW shoppers' μ.[17]

For different shares of PCW shoppers, the split between whole-market shoppers who use only PCWs and PCW shoppers who do additional search (i.e. "Further shoppers") are reported in the table and chart below.

Table 1.3: Impact of an increase in the use of PCWs on the share of PCW shoppers who do additional search (when MFN clauses are absent)

Type of consumers	μ=0.72	μ=0.80	μ=0.90	μ=0.99
	Shares of consumers			
Consumer who do not search	28%	20%	10%	1%
PCW shoppers	72%	80%	90%	99%
- PCW shoppers who use only PCW	*2%*	*37%*	*72%*	*100%*
- PCW & Further shoppers	*98%*	*63%*	*28%*	*0%*

[17] The technical details of how the share of PCW & Further shoppers is determined in equilibrium are set out in the Technical Appendix.

Figure 1.11: Impact of an increase in the use of PCWs on the share of PCW shoppers who also conduct additional search (when MFN clauses are absent)

First, we note that, in the benchmark scenario with μ=0.8, the share of PCW shoppers who carry out additional search (as a proportion of all PCW shoppers) is 63 per cent, and thus consistent with the "single homing" estimates provisionally reached by the CMA (and which we have adopted as a conservative assumption). Second, the higher the proportion of consumers that use PCWs, the lower the proportion of PCW shoppers that carry out additional searches.

More specifically, our simulation results show that, when the share of PCW shoppers is 72 per cent, the vast majority of these (i.e. 98 per cent) do additional search as well. In contrast, when the share of PCW shoppers is 99 per cent, then the share of PCW & Further channel shoppers goes to almost zero. The intuition behind this negative relationship between use of PCW and search intensity is this: more widespread use of PCWs leads, on average, to lower prices and, in turn, this decreases the consumers' incentives for additional search. This is the case because, if the minimum price listed on a PCW is already relatively low, the benefit of searching for a cheaper channel (represented by a further price reduction) tends to be outweighed by the search cost.

The average price and expected surplus arising for different values of μ when MFN clauses are not present are reported in the table below. In order to enable a direct comparison with the simulation results obtained under the scenario in which MFN clauses are present, average prices and expected consumer surplus are not reported separately for PCW Shoppers and PCW & Further Shoppers, rather a weighted average across these two categories is given.

Since now the average price accounts also for the channel search costs incurred by PCW & Further shoppers, it is therefore referred to as "full economic price".

Table 1.4: Economic impacts of the use of PCWs in the absence of MFN clauses

Scenario	Average full economic price paid	Expected surplus
μ =0.72	£737	**£263**
μ =0.8 (benchmark)	£707	**£293**
μ =0.9	£669	**£331**
μ =0.99	£629	**£371**

The average economic price and expected surplus arising for different values of μ are depicted in the charts below.

Figure 1.12: Impact of an increase in the use of PCWs on prices (when MFN clauses are not present)

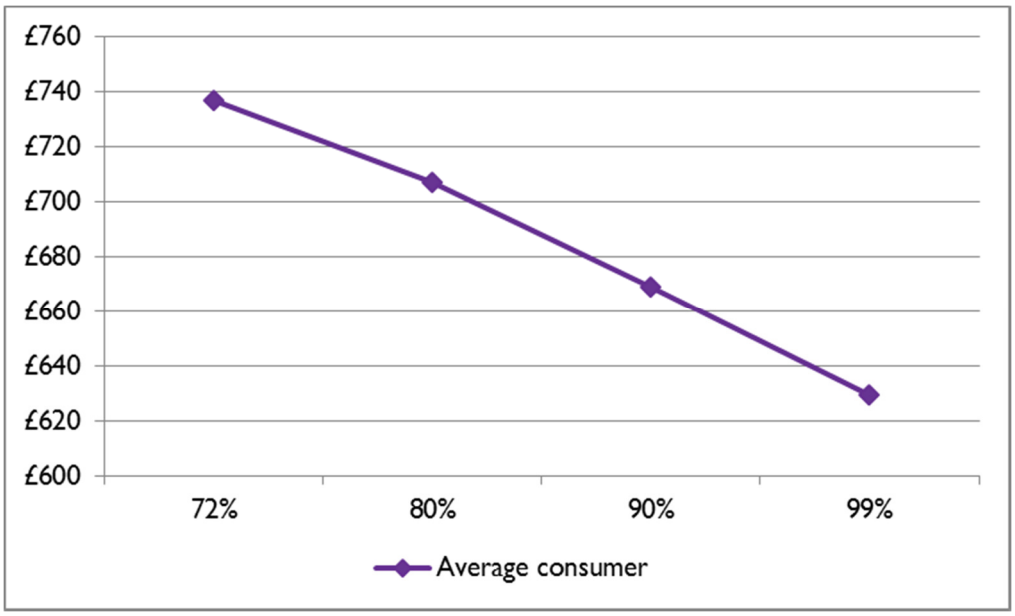
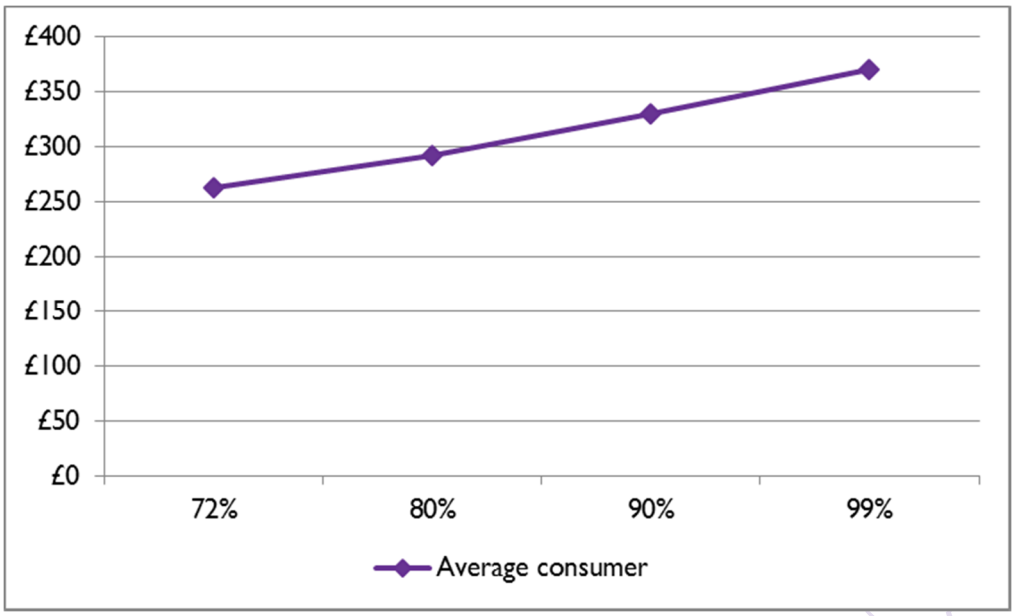


Figure 1.13: Impact of an increase in the use of PCWs on consumer surplus (when MFN clauses are not present)



From the results reported above we see that conclude that, in the presence of MFN clauses, an increase in the use of PCWs has the same impact observed in the absence of MFN clauses, i.e. the average market price decreases and the overall consumer surplus increases.

1.3.9 Impact of the use of MFN clauses

We now turn our attention to the impacts of MFN clauses in the simulation.

The CMA has provisionally identified an increase in the price of insurance policies as a potential detrimental effect of MFN clauses, and the enhancement of the search experience for those using PCWs as a potentially

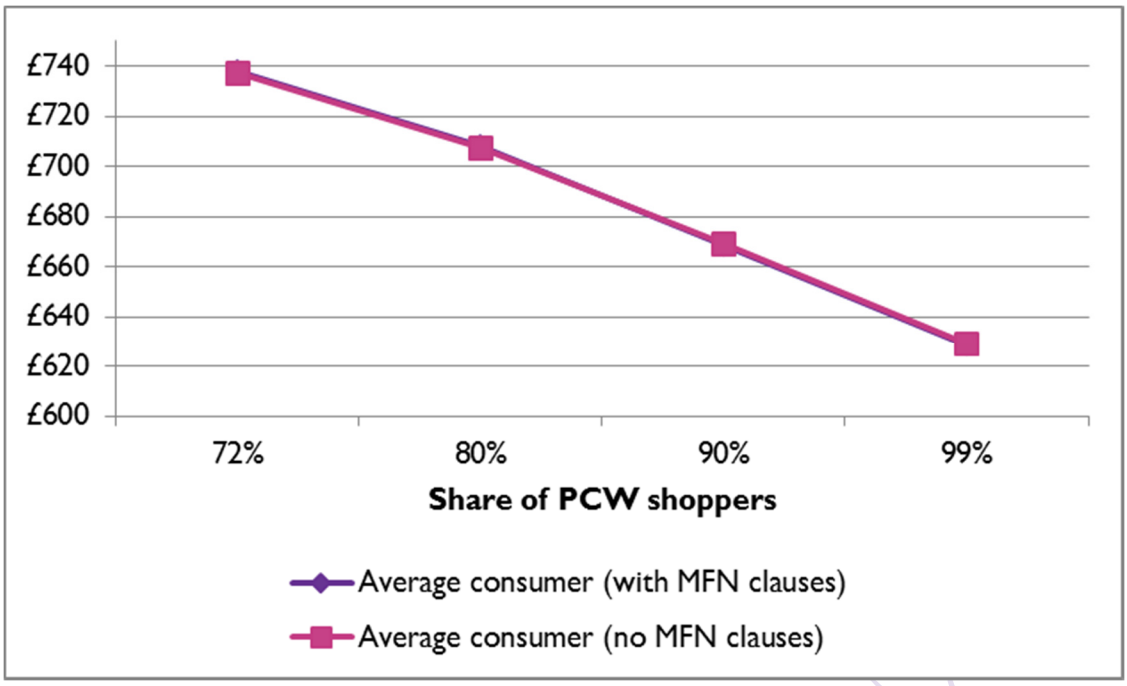
beneficial effect. The simulation exercise we have conducted allows us to model these alleged impacts as follows:

- Changes in price — for a given value of the share of whole-market shopper μ, we can compare full economic prices emerging under the scenario in which MFN clauses are present to the full economic price (inclusive of channel search costs) emerging under the scenario in which MFNs clauses are absent. From this comparison we can also draw conclusions on consumer welfare. This is equivalent to the direct impact illustrated in Figure 1.7 above.
- Increase in search experience — the indirect impact associated with the enhanced benefits of using PCWs as a result of MFN clauses can be modelled through a feed-back effect of MFN clauses on μ. More specifically, we can compare the outcomes arising with the presence of MFN clauses at a given value of μ, to the outcome arising in absence of MFN clauses and a slightly lower value of μ in order to account for the decreased appeal of using PCWs. This is the indirect impact illustrated in Figure 1.8 and is likely to emerge in the medium term.

Direct impacts

In the following chart we compare the average prices arising for different shares of PCW shoppers when MFN clauses are absent to those arising when MFN clauses are present. The average price under the first scenario in which MFN clauses are absent is the full economic price inclusive of search cost (therefore the priced depicted in the charts are those reported in Table 1.2 and Table 1.4).

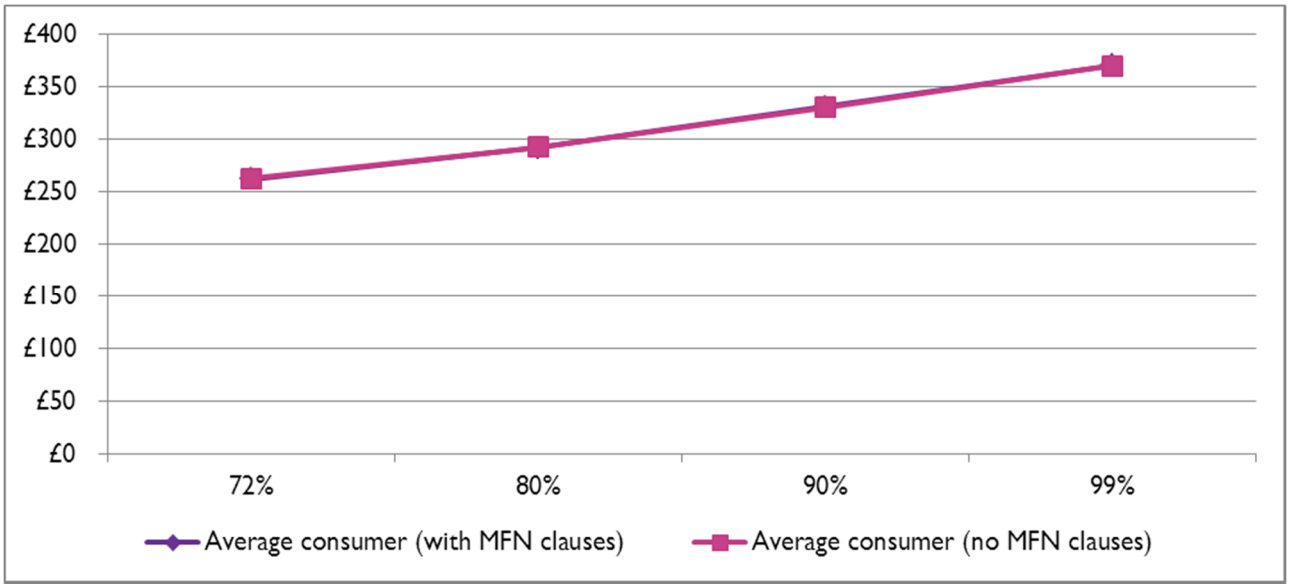
Figure 1.14: Direct impact of MFN clauses on the average price paid an average consumer



The main conclusion we can draw from the above is that the average price paid by the average consumer is the same (to a rounding error) irrespective of whether or not MFN clauses are adopted. This is true for every value of the share of PCW shoppers considered.

Our conclusion concerning consumer surplus (depicted in the chart below) follows directly from the above conclusions on prices, i.e. when MFN clauses are present, the overall expected consumer surplus is the same as the one that that would arise in absence of MFN clauses. This is true for every value of the share of PCW shoppers.

Figure 1.15: Direct impact of MFN clauses on the expected surplus of the average consumer



Indirect impacts

In order to simulate the indirect impact of MFN clauses we compare the average price and surplus arising in the benchmark scenarios with μ=0.8 and MFN clauses (i.e. those reported in Table 1.2) to those arising in a model in which MFN clauses are absent and in which μ takes values *lower* than 0.8 in order to account for the decreased appeal of using PCWs.

The lower values of μ considered are:

- μ=0.78
- μ=0.75
- μ=0.72

It is important to stress that the above usage levels (i.e. 0.78, 0.75, and 0.72) do not represent our estimates of the likely changes in the usage that would result from the introduction of MFNs, and these could be significantly larger. These moderate changes are used primarily for the purpose of showing that even such marginal shifts in the usage could drive a material impact on consumer welfare.

In the table below we show the average prices and consumer surplus arising under the benchmark case with MFN clauses present and also the three scenarios *without* MFN clauses.

Table 1.5: Indirect impact of MFN clauses

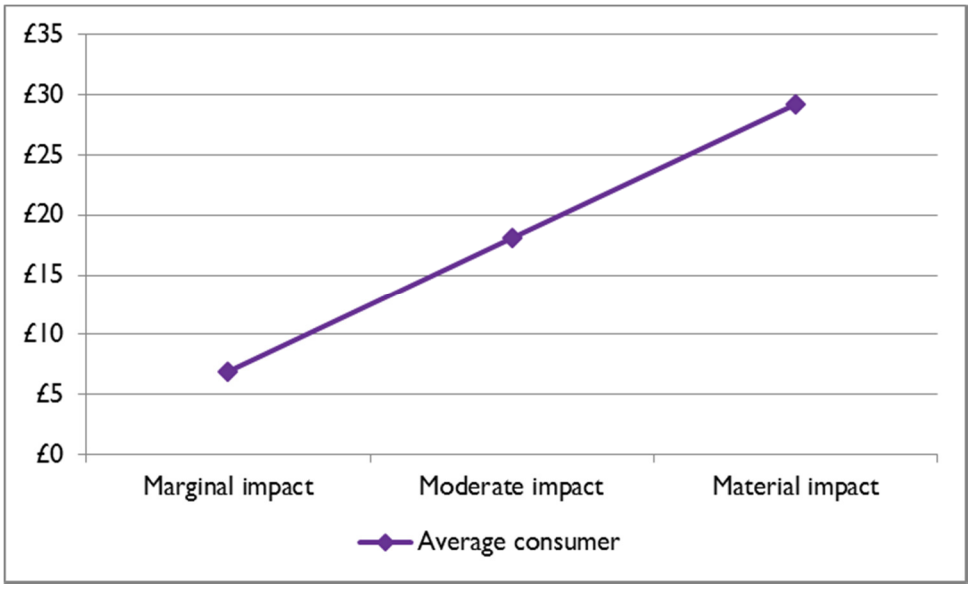
Scenario	Average price paid*	Expected surplus
μ =0.80 and MFN clauses	£708	**£292**
μ =0.78 and no MFN clauses	£715	**£285**
μ =0.75 and no MFN clauses	£726	**£274**
μ =0.72 and no MFN clauses	£737	**£263**

* In the scenarios where MFN clauses are absent the average price is the full economic price inclusive of search costs.

The chart below depicts the potential changes in the expected consumer surplus (the right-hand column in the table above) associated with the presence of MFN clauses relative to these counterfactual scenarios in which MFN clauses are not present (changes in prices would be identical because there is a one-to-one relationship between welfare and price). The three scenarios shown are where the indirect impact of MFN

clauses in increasing the appeal of searching via a PCW varies from the first (i.e. μ=0.78) through the second (i.e. μ=0.75) to the third extent modelled (i.e. μ=0.72).

Figure 1.16: Indirect impact of MFN clauses on expected consumer surplus



We can see from Figure 1.16 that, even assuming that MFN clauses have only a marginal indirect impact (i.e. the smallest impact modelled), they lead to a situation in which consumers are better off by the presence of such clauses.

1.3.10 Summary of simulation model

The main findings of our simulation exercise are as follows:

- Irrespective of whether or not MFN clauses are present, an increase in the use of PCWs leads always to a decrease in the average price paid and an increase in the expected surplus.
- The model's results identify a motivation for consumers to use PCWs for search. (NB Whilst the proportion on consumers using PCWs to do research has increased in the past (and may well continue to do so) we emphasise that our model is only that (i.e. it is by definition an abstraction from reality) and also that it was designed to investigate the impact of PCWs and of MFN clauses — it was not to intended to forecast the future evolution of distribution channel choice.)
- In terms of the direct effect alone, the adoption of MFN clauses has a neutral effect: the net direct impact of MFN clauses on average market prices and aggregate consumer welfare is zero.
- If even a marginal indirect impact of MFN clauses is also taken into account, we find that the adoption of MFN clauses leads always to a decrease in the average price and an increase in welfare. This welfare improvement increases as the indirect impact of MFNs increases.

1.4 Conclusions

PCWs reduce search costs for consumers. This reduced search cost should drive both increased price competition and average lower prices (i.e. in our model, as μ increases so the prices experienced fall).

Our work in this study reveals that the benefits of PCWs are linked to the use of MFN clauses. From our simulation exercise we find the potential impacts of MFN clauses on consumer welfare to be as follows:

Table 1.6: Summary of impact of MFN clauses

	Impact on consumer welfare
Only direct impact considered	Neutral
Both direct and indirect impacts considered	Positive

Technical Appendix

Europe Economics

2 Technical Appendix

2.1 Introduction

This appendix is organised into the following sections:

- We present the mathematical structure of the different components of the theoretical framework.
- We illustrate in detail of the calibration methodology.

2.2 The mathematical structure of the theoretical framework

The theoretical framework is made up of the following mathematical components:

- A core sequential search model to analyse market competition in a setting where a proportion of consumers (i.e. PCW users) make purchasing decisions based on full price information whilst others (i.e. consumers who do not search) do not. The core model does not account explicitly for the presence or absence of MFN clauses.
- An additional mathematical component to model the presence of MFN clauses.
- A variation of the core model to account for a scenario in which MFN clauses are absent.

These are all discussed below.

2.2.1 The core model

The underlying core model is based on a simplified version of the model of oligopolistic pricing with consumer search proposed by Janssen et al. (2005).[18] This is, in turn, a modification of the seminal model proposed by Stahl (1989).[19] This simply means that the model can account for the competitive dynamics among an arbitrary number of firms. The underlying assumptions and the solution of the core model are presented below.

Assumptions

The model assumes there are $n+1$ firms (insurers) that offer a homogenous product (a motor insurance policy). Each firm i incurs a marginal cost of $c > 0$ for offering the policy for which it charges a price p_i. There is a unit mass of consumers, each one willing to pay at most $v > 0$, for the purchase of a single policy. It is assumed that $v > c$. A proportion $\mu \in (0,1)$ of consumers can observe the price quotes of all insurers at no cost, whilst the remaining $1-\mu$ of consumers observe only one price (at no cost), but incur a search cost of k in order to observe any additional price. Within this setting, whenever a transaction takes place, the profit that firm i makes is:

$$\pi_i = p_i - c \qquad \text{[eq.1]}$$

the utility (from purchasing a policy from firm i) of the μ consumers with no search costs is:

$$u_\mu = v - p_i\, c \qquad \text{[eq.2]}$$

and the utility of the $1-\mu$ consumers with search costs is:

[18] Janssen, M.C.W, et al. (2005), "Truly sequential search and oligopolistic pricing", *International Journal of Industrial Organisation*, 23, 451-446.

[19] Stahl, D. O, (1989), "Oligopolistic pricing with sequential consumer search", *American Economic Review*, 79, 700-712.

$$u_{(1-\mu)} = v - p_i - ks \quad \text{[eq.3]}$$

where s is the number of sequential searches the consumer makes before making a purchasing decision.

The timeline of the decisions is as follows. First, each firm sets a price p_i to maximise its profit whilst taking into account the pricing decisions of other firms and the consumers' search strategies. The share μ of consumers who can observe prices at no cost chooses the product that maximises their utility (i.e. the cheapest one). The remaining $1-\mu$ consumers, after observing the first price, decide whether to purchase the product or to do an additional search. Therefore, if the first price observed is p_i, a further search is made only if the marginal benefit of the additional search is greater than the search cost, i.e. a further search takes place if:

$$p_i - E(p) > k \quad \text{[eq.4]}$$

where $E(p)$ is the consumer's expectation over the second price they will observed.

Finally, we make the following simplifying assumption (the consequence of which are illustrated further below) concerning the value of search cost k, that $k > v - c$.

Solution

It can be shown that the model has a symmetric mixed strategy Nash equilibrium where each firm's optimal strategy is to randomise prices according to the cumulative price distribution $F(.)$ over the price support $\sigma = [\underline{p}, \overline{p}]$, and where $1-\mu$ consumers never search beyond the first price they observe. Therefore, the expected profit of firm i from charging price p_i when its rivals randomise according to $F(.)$ is:

$$\pi_i\big(p_i, F(p_i)\big) = (p_i - c)\left[\mu\big(1 - F(p_i)\big)^n + \frac{1-\mu}{n+1}\right] \quad \text{[eq.5]}$$

The first component in the squared brackets above represents the probability of a firm attracting consumers with no search cost by charging a price lower than that of its n rivals, and the second component represents the probability of selling to consumers with search costs.

The role that assumption [eq.4] plays within the model is twofold. First, since no firm would ever charge with positive probability any price below c or above v, [eq.4] ensures that, for $1-\mu$ consumers searching is never optimal. Second, (differently from Janssen et al. (2005) and Stahl (1989)), the consumers' reservation price (i.e. the observed price that makes a consumer indifferent between making a further searching or accepting the current price) plays no role in our model and firms can make a positive profit by charging $p = v$. Therefore, in our model $\overline{p} = v$.

In equilibrium a firm must be indifferent between charging, with probability one, any price within the support σ, i.e. $\pi_i\big(p_i, F(p_i)\big) = \pi_i(p_i)$ for any $p_i \in [\underline{p}, \overline{p}]$. Then, since $\pi_i\big(\overline{p}, F(p_i)\big) = \frac{(1-\mu)(v-c)}{n+1}$, it must be the case that:

$$(p_i - c)\left[\mu\big(1 - F(p_i)\big)^n + \frac{1-\mu}{n+1}\right] = \frac{(1-\mu)(v-c)}{n+1} \quad \text{[eq.6]}$$

Solving [eq.6] for $F(.)$ yields the following expression for the equilibrium distribution function:

$$F(p) = 1 - \left[\frac{1-\mu}{\mu(n+1)}\left(\frac{v-p}{p-c}\right)\right]^{1/n} \quad \text{[eq.7]}$$

Finally, using [e.q.7] to solve $F(\underline{p}) = 0$, give us the following expression for the lower bound of the price support:

$$\underline{p} = \frac{\mu c(n+1) + (1-\mu)v}{1+\mu n} \quad \text{[eq.8]}$$

Thus, the equilibrium price distribution is:

$$F(p) = \begin{cases} 0, & p \leq \underline{p} \\ 1 - \left[\frac{1-\mu}{\mu(n+1)}\left(\frac{v-p}{p-c}\right)\right]^{\frac{1}{n}}, & \underline{p} < p \leq v \\ 1, & p > v \end{cases} \quad \text{[eq.9]}$$

where $\underline{p}$ is given by [eq.8].

This distribution [eq.9] can then be used to calculate the expected price charged (by any given firm), $E(p)$, and the expected minimum price charged in the whole market $E(p_{min})$. These expected prices can then be used to calculate the consumer surplus as follows:

The expected surplus of consumers who do not search is:

$$E(CS)_{1-\mu} = v - E(p) \quad \text{[eq.10]}$$

The expected surplus of PCW shoppers is:

$$E(CS)_{\mu} = v - E(p_{min}) \quad \text{[eq.11]}$$

The expected aggregate consumer surplus:

$$E(CS) = v - \left(\mu E(p_{min}) + (1-\mu)E(p)\right) \quad \text{[eq.12]}$$

2.2.2 Modelling the absence of MFN clauses

In this subsection we expand the core model to take into account explicitly for the absence of MFN clauses. First, we assume that there are at least two PCWs competing with each other in order to attract insurers. PCWs are assumed to be identical and so they compete by offering the lowest possible cost-per-acquisition fee to insurers for listing their products.[20] The fee is expressed as a commission on the price of the policy and is denoted by τ. Each firm i offers its product on all PCWs as well as on other distribution channels. We also assume that among the alternative channels there exists always one which is cheaper (i.e. with lower commissions' fees) than a PCW. It may be convenient to think that the cheapest distribution channel available the direct on-line channel (which obviously has no commission fee). Finally we assume that the PCWs' commission fees are passed entirely onto consumers.

Within this setting, the absence of MFN clauses can be modelled through the core model provided we interpret the price expressed in [eq. 5] as being the economic price enjoyed by firm i, i.e. the price quoted to consumers net of any commission fee charged by the PCW. This implies that, that actual price listed on a PCW is $\tilde{p}_i = p_i/(1-\tau)$, whilst a price advertised on the direct channel is p_i.

Because of the discrepancy between $\tilde{p}_i$ and p_i PCW shoppers, after observing the $\tilde{p}_{min}$ on the PCW, have the option to conduct additional search in order to secure a the lower price p_{min}. If PCW shoppers decide to conduct this extra search, they incur a cost γ and the achieve price savings equal to $(\tilde{p}_{min} - p_{min}) = p_{min}(\tau/(1+\tau))$. Thus, a PCW shopper will do this only if:

$$p_{min}(\tau/(1+\tau)) > \gamma \quad \text{[eq.13]}$$

and, in equilibrium, the share of PCW shopper who conduct additional search is given by:

$$\text{Prob}\left(p_{min} > \gamma\left(\frac{1-\tau}{\tau}\right)\right) = 1 - F(\lambda) \quad \text{[eq.14]}$$

where $\lambda = \gamma(1-\tau)/\tau$, and $F(.)$ is the equilibrium price distribution in [eq.9].

Given the above, the expected price paid by PCW shoppers who do not search for the cheapest distribution channel is:

[20] Since PCWs are two-sided-markets, they could compete also by charging a downstream fee to consumers. However we do not model strategic pricing decision.

$$E(\tilde{p}_{min}|p_{min} \leq \lambda) \quad \text{[eq.15]}$$

and the expected price paid by PCW shoppers who search for the cheapest distribution channel is:

$$E(p_{min}|p_{min} > \lambda) \quad \text{[eq.16]}$$

If we denote $1 - F(\lambda)$ by β, then:

The expected surplus of consumers who do not shop is:

$$E(CS)_{1-\mu} = v - E(p) \quad \text{[eq.17]}$$

The expected surplus of PCW shoppers who do not search for the cheapest distribution channel is:

$$E(CS)_{\mu(1-\beta)} = v - E(\tilde{p}_{min}|p_{min} \leq \lambda) \quad \text{[eq.18]}$$

The expected surplus of PCW shoppers who conduct additional search is:

$$E(CS)_{\mu\beta} = v - E(p_{min}|p_{min} > \lambda) - \gamma \quad \text{[eq.19]}$$

The aggregate expected consumer surplus is:

$$E(CS) = v - \mu[(1-\beta)E(\tilde{p}_{min}|p_{min} \leq \lambda) + \beta(E(p_{min}|p_{min} > \lambda) + \gamma)] - (1-\mu)E(p) \quad \text{[eq.20]}$$

2.2.3 Modelling the presence of MFN clauses

The presence of MFN clauses can be modelled by solving the core model after modifying the expected profit function in [eq.5] in the following way:

$$\pi_i(p_i, F(p_i)) = \mu(1 - F(p_i))^n(p_i(1-\tau) - c) + \left(\frac{1-\mu}{n+1}\right)(p_i - c) \quad \text{[eq.21]}$$

In contrast to the scenario in which MFN clauses are absent, in which the price of [eq.5] represents the economic price enjoyed by firm i, the price in [eq.19] is the actual price advertised on both PCWs and the direct channel (and identical on both). The term $p_i(1-\tau)$ in [eq.21] captures the fact that the economic price enjoyed by firm i when a product is sold through the PCW is lower than the economic price p_i enjoyed when the product is sold directly.

Solving this variation of the core model (following the same approach used for the core model) leads to the following equilibrium distribution function and lower bound for the price support:

$$F(p) = 1 - \left[\frac{1-\mu}{\mu(n+1)}\left(\frac{v-p}{p(1-\tau)-c}\right)\right]^{1/n} \quad \text{[eq.22]}$$

$$\underline{p} = \frac{\mu c(n+1)+(1-\mu)v}{1+\mu(n-\tau(n+1))} \quad \text{[eq.23]}$$

The expressions for consumer welfare are then the same as in [eq.10], [eq.11], and [eq.12], but are based on the equilibrium distribution function provided in [eq.22] and [eq.23].

2.3 Calibration methodology

We have conducted two separate calibration exercises: one for the model with MFN clauses present, and one for the model without MFN clauses. These are discussed in turn below.

2.3.1 Model with MFN clauses

We have used the following calibration inputs used to populate [eq.22] and [eq.23]:

- $\mu = 0.8$ — share of PCW shoppers.
- $n = 10$ — number of firms.

- $v = 1000$ — willingness to pay.
- $\tau = 0.05$ — PCW's commission fee.
- $c = 663$ — *initial* candidate value for marginal cost.

Based on these initial inputs we have solved the model and obtained a numerical value for $E(p_{min})$. The value of $E(p_{min})$ generated by this first simulation was of course higher than £663 (i.e. the initial candidate value input for marginal cost) and therefore not consistent with the evidence provided by AA that the average minimum price of motor insurance policy in the UK is £663. We therefore reiterated the simulation by decreasing the value of c until the simulated value of $E(p_{min})$ was indeed £663 (up to rounding error). This final calibrated value (which has been used for any simulation thereafter) is $= 598$. All simulation results are then produced by changing the value of μ.

2.3.2 Model without MFN clauses

We have used the following calibration inputs used to populate [eq.7] and [eq.8]:

- $\mu = 0.8$ — share of PCW shoppers.
- $n = 10$ — number of firms.
- $v = 1000$ — willingness to pay.
- $\tau = 0.05$ — PCW's commission fee.
- $c = 598$ — marginal cost.

Based on these inputs we solved the model to identify the threshold value λ such that the $1 - F(\lambda) = 0.63$, i.e. we have identified the value of λ that ensures that the share of PCW shoppers who conduct additional search is 63 per cent (which is consistent with the share of PCW shoppers who visit more than on PCW). This value is $\lambda = 612$. Since $\lambda = \gamma(1 - \tau)/\tau$ the resulting value for the cost of searching for distribution channels is $\gamma = 32.21$. All simulation results are then produced by changing the value of μ and use the above calibrated values for γ and λ.

2.3.3 Interpretation of search cost

In our model there are two different types of search costs:

- the costs of searching for a price quotes; and
- the cost of searching for the cheapest distribution channel (when MFN clauses are absent).

The first group are exogenously determined in the sense that they are assumed different for different segments of consumers (i.e. they are assumed to be "high" for those who do not use PCWs and "low" for those who do use PCWs). Therefore this category of search cost should be interpreted as broad enough to include not only the opportunity cost of searching but more generally, a lack of confidence and lack of experience in the use of PCWs. A quantification of these costs is not reported explicitly because the primary role they play within the model is that of rationalising why some consumers do not use PCWs.

The second group of costs are determined endogenously in the model and can be interpreted as primarily representing the monetary value of the opportunity cost of additional search. This aspect of the search cost is equal to £32 can be compared to Government estimates of the value of non-working time of £6.30–£7.10 per hour, implying 4–5 hours of search time.[21]

[21] These data are drawn from the Department of Transport's WebTAG Data Book, Appendix 1.3.1, representing 2012 values.