

**Peer Review of Part of Cost-Benefit  
Analysis in Mortgage Market Review**

***A Report from Europe Economics for the  
FSA Consumer Panel***

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**7 March 2012**

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# 1 INTRODUCTION

## This Document

- 1.1 This report has been commissioned from Europe Economics by the Financial Services Authority's Consumer Panel. The core task, as specified in the terms of reference is

*to comment on the robustness of the methodology used by the FSA to capture the potential welfare impact on those affected by the MMR proposals, and the FSA's quantification of welfare costs and benefits. The consultant would also consider the reliability and implications of other methods that could be used to capture consumer preferences - for example, those revealed by the sensitivity of housing demand to movements in prices as in classical welfare analysis.*

- 1.2 More specifically, the review centres upon paragraphs 157-195 of Annex 1, ppA1:75-A1:86 of CP11/31 Mortgage Market Review: Proposed package of reforms, FSA December 2011, concerning "Well-being impacts".<sup>1</sup>
- 1.3 This document provides that review. Section 2 considers how a classical welfare analysis of the MMR proposals might be structured. Section 3 considers the well-being analysis conducted by the FSA. Section 4 draws a number of conclusions.

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<sup>1</sup> Hereafter we shall refer to the Mortgage Market Review as the MMR.

## 2 STRUCTURING A CLASSICAL WELFARE ANALYSIS OF REGULATORY MEASURES AFFECTING THE MORTGAGE MARKET

### Classical Welfare Analysis in Economic Theory

2.1 Social welfare as defined by economists is usually calculated by summing “consumer surplus” and “producer surplus”.

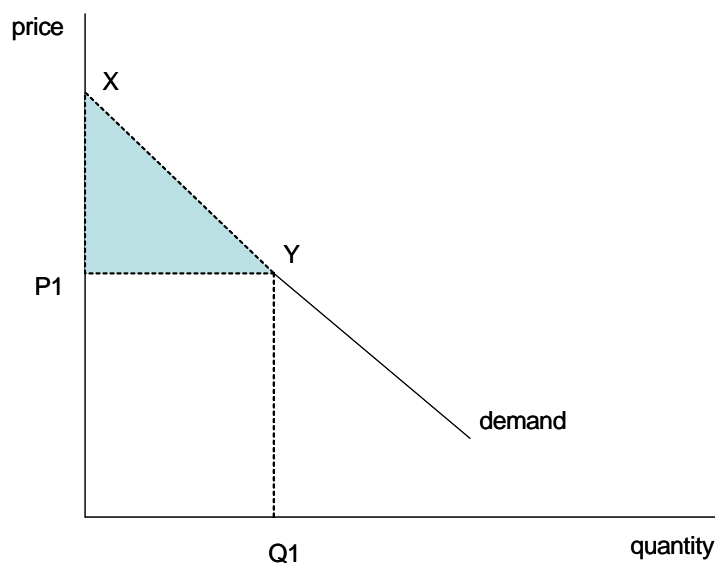
#### Consumer surplus

2.2 Consumer surplus was formally explained by Alfred Marshall in his Principles of Economics. It can be defined as the excess utility (or surplus) above the price actually paid. In Marshall’s words:

“the price which a person pays for a thing can never exceed and seldom comes up to that which he would be willing to pay rather than go without it: so that the satisfaction which he gets from its purchase generally exceeds that which he gives up in paying away its price; and he thus derives from the purchase a surplus satisfaction. The excess of the price which he would be willing to pay rather than go without the thing, over that which he actually does pay, is the economic measure of this surplus satisfaction.”

2.3 The diagram below gives a simple illustration of consumer surplus. Point X is the maximum price that the customer is willing to pay for this particular good or service. P1 is the actual price paid and Q1 the associated quantity consumed at this price. The area XYP1 is the consumer surplus for the marginal customer – or economic benefit.

Figure 3.1: Consumer surplus



2.4 Each consumer’s “surplus” is defined as the difference between what she would have been willing to pay for a product and what she actually did pay — also sometimes call the

consumer's "gains from trade". For example, a consumer who would have been willing to pay £50 for a product or service but only had to pay £15 is said to gain consumer surplus of £35. Consumer "welfare" is then typically conceived of as the sum across consumers of their individual surpluses.

- 2.5 Consumer surplus varies along the demand curve. As the price of the good increases, the consumer's surplus will decrease – as we come closer to her willingness to pay price. Further, the more inelastic the demand curve is, the greater the consumer surplus.<sup>2</sup>
- 2.6 One difficulty with the standard definition of consumer surplus is that, as the price varies, the real income of the consumer changes. Thus, to calculate a more accurate indication of the benefit of the surplus, an adjustment needs to be made to offset the effect of the difference in real income at different price levels (the compensated demand curve). When the income effect is not large, however, consumer surplus, defined as the area below the market demand curve, is usually considered a reasonably good way of measuring welfare.

### **Producer surplus**

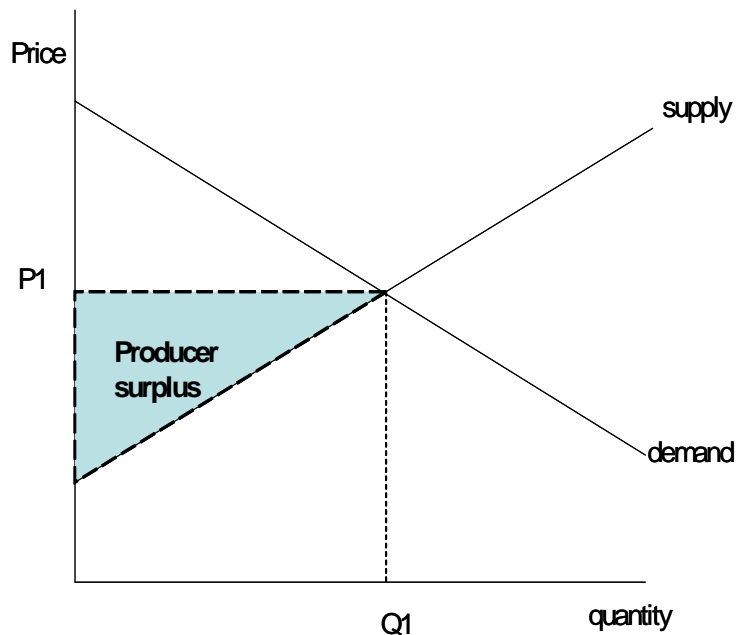
- 2.7 Producer surplus is related to the notion of consumer surplus. It can be defined as the revenue received by a supplier of any particular good or service over the minimum amount he would be willing to accept to maintain the same level of supply. In other words, producer surplus measures the quasi rents that accrue to the producer and that can be defined as the difference between turnover and avoidable economic costs<sup>3</sup>. The diagram below illustrates.

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<sup>2</sup> Elasticity in economic terms refers to how responsive consumption and production are to changes in price. If a good is demand price inelastic, this means that changes in price have a less than proportionate effect on demand. A good along these lines might be an essential commodity such as bread. Conversely, a good that is said to be demand price elastic will exhibit large shifts in demand in response to price changes.

<sup>3</sup> Church and Ware "Industrial Organisation, A Strategic Approach" McGraw Hill, 2000

**Figure 3.2: Producer Surplus**



- 2.8 Obviously, as the supply curve varies, the level of producer surplus will vary. Thus, when supply is more elastic, one would expect producer surplus to be less than if supply were relatively inelastic.
- 2.9 It is important to understand that, in reality, producer surplus, unlike consumer surplus, can be negative. Although a negative producer surplus cannot continue indefinitely, producers may be prepared to accommodate losses at the beginning of a product cycle in order to establish the market. A typical example is an industry that is in the initial phase of the life cycle: companies would have to invest considerable sums of money that would only start to provide positive returns after a few years and therefore it is likely that, in the initial few years, producer surplus would be negative.
- 2.10 At the point of market equilibrium, both consumer surplus and producer surplus can coexist and the sum of these is the economic benefit from the market.

## **Welfare Theorems**

- 2.11 Economic theory demonstrates that the more competitive and contestable<sup>4</sup> markets are, the more effective they are at securing welfare gains. The backbone of neo-classical welfare analysis is the two theorems of welfare economics:

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<sup>4</sup> A “contestable” market is one in which, even if there is only one firm, the threat of a new firm entering the market is sufficient to keep the market operating at the competitive equilibrium.

- (a) The First Theorem can be stated as: In the absence of market failures, a competitive market economy will lead to an efficient outcome;
  - (b) The Second Theorem can be stated as: Any efficient outcome can be sustainable by a competitive equilibrium.
- 2.12 The implication of the First Theorem is taken to be that intervening in well-functioning markets can only make some people better off at the expense of making others worse off (i.e. there is no “win-win” policy intervention). Typically, intervention in such circumstances will reduce economic efficiency, and so should be justified by the presence of a market (e.g. externalities), considerations other than economic efficiency (e.g. equity), and failure of existing regulation (e.g. excessive overall burden of regulation). When considering intervention, cost-benefit analysis is used to determine whether the intervention will improve outcomes overall.
- 2.13 Standard welfare analysis is grounded in the theory of revealed preference. Revealed preference theory is a method for comparing the influence of policies on consumer behaviour, through assuming that what people want is inferred from what they choose. In this framework, in order to objectively measure an agent’s well-being, money is used as a proxy, and in particular, an agent’s willingness-to-pay.

### **How Classical Welfare Analysis Works in Regulatory Impact Assessment: The Standard Case**

- 2.14 If the market or regulatory failure leads to a loss of total surplus, economists call that lost surplus the “deadweight loss”. In a market subject to a market or regulatory failure, one can define a concept of “structural detriment” to consumers, which is the *loss of consumer surplus* due to market failure or regulatory failure. Structural detriment to consumers can arise even when there is no loss of total surplus (where total surplus equals the sum of consumer surplus and producer surplus) if, for example, surplus is simply transferred from consumers to producers. One famous example of this is where there is a monopolist able to engage in perfect price discrimination, charging each consumer precisely her willingness to pay. In such a situation, there is no consumer surplus whatever, for the total gains from trade are all captured by the firm. But total surplus is precisely the same as in a perfectly competitive market.
- 2.15 Ideally, a standard way to deploy classical welfare analysis is to consider how a regulation would change
- (a) demand;
  - (b) supply; and hence
  - (c) prices
- 2.16 One could then form a view as to how the impacts of the regulatory change were distributed between producers and consumers.

- 2.17 To conduct such an exercise in practice, contrary to what is claimed in paragraph 166 of MMR Annex 1 (hereafter often simply “Annex 1”), it is not typically thought necessary to actually construct estimated demand and supply curves. The demand and supply curves, per se, are not of interest. Only changes in them are of interest. Indeed, it is only of limited interest to consider how they are changed except in the environs of the current equilibrium price. If a market is regarded as containing a reasonably large number of players (i.e. it is competitive, even if subject to market failures such as adverse selection, moral hazard, etc.) then changes in compliance costs are typically regarded as being passed through directly to prices. Thereafter, the key focus will depend upon the nature of the regulation. If it is a regulation that especially affects firms, one might assume some change in the number of firms or in their competitive position or their ability to exploit information asymmetries, and think about how supply prices would be affected as a result — with effects on quantities often being noted but not quantified. Alternatively, the measure might especially affect consumers, in which case analysis will focus upon potential changes in demand, and might consider effects on supply mainly in respect of risks of unintended consequences.
- 2.18 It is understood that changes on one market can have implications for other markets. The main way this is of interest is when the market concerned is intermediate between upstream producers and ultimate retail consumers. For example, the market affected by the regulation might be a market for wholesalers (e.g. transporters of medicines). Or perhaps it might be a market for intermediaries, such as insurance brokers. In such cases spillovers onto other related markets are of considerable interest. Indeed, changes to competition etc. are rarely, if ever, regarded as important in respect of their impacts on the profitability of firms. Instead, they are of interest in respect of their impact upon consumers.
- 2.19 It is understood, also, that there might be unintended consequences for other markets. Usually, unless clear and specific evidence of effect is available, such other spillovers are too complex and uncertain to justify more than a passing reference in regulatory impact analysis.
- 2.20 We have described the above very generically, as reflecting a standard regulatory paradigm — let us call it the “Standard Case”. Note some key features:
- (a) There are consumers — typically retail consumers.
  - (b) Our central concern is usually ultimately impacts upon retail consumers. Objectives such as enhanced competition or innovation are typically conceived of as valuable insofar as they improve outcomes for retail consumers.
  - (c) There are producers.
  - (d) Demand for the producers’ products is typically determined overwhelmingly by the characteristics and prices of those products.
  - (e) Though there may be impacts on related markets, analysis of these is justifiably limited.



2.21 Next we turn to thinking about how relevant the above paradigm is to the analysis of the mortgage market.

## **Characteristics of the Mortgage Market**

2.22 Demand for mortgages is a derived demand. In the first instance, there is demand for housing. House buyers have some willingness to pay, based primarily upon salary expectations, employment security, the qualities of the property (including features such as distance to work, number of bedrooms) — demand for which in turn depends on factors such as the number of children, marital status (e.g. whether divorced), ease of obtaining work in different regions of the country, etc. — and the price of the property. If there is a willing seller at that price (which again may depend upon factors such as macroeconomic circumstances, the ability of the seller to obtain a new property to move into, and so on), the house buyer will seek some form of financing to support her house purchase.

2.23 Only around 10 per cent of house purchases are for new-built properties. Around 90 per cent of housing transactions involve second-hand asset trades.

2.24 It is worth noting, even from these short points, how far we are already from the standard paradigm for regulatory welfare analysis:

(a) Demand for mortgages is overwhelmingly determined by demand for and supply of houses, which in turn is overwhelmingly determined by factors outside the mortgage market. Demand for mortgages is a “derived demand”.

(b) In the related market (housing) a very large proportion of transactions involves no “producer”. Instead, there are second-hand transactions. The vast majority of sellers of houses are just as much “retail consumers” (and thus just as entitled to regulatory concern) as are house buyers.

(c) Developments in the mortgage market have direct and profound spillover impacts onto the related housing market, as well as potentially material impacts on further affected markets, such as

- labour markets (if people are unable to move house — as buyers or sellers — their ability to change jobs may be impaired);
- housing market intermediaries (e.g. estate agents, solicitors);
- consumer credit markets (if house prices fall, home-owners are less able to use housing equity as collateral for non-housing loans — a common and widespread practice);
- private rental markets;
- housing construction markets.

(d) These other impacts are not by any means speculative — the mechanisms of effect from mortgage market impairment or enhancement to impacts on the housing market and thence to labour markets, housing market intermediaries, consumer credit and

construction markets are clear and direct. Such effects could not be simply noted but regarded as immaterial.

## Consideration of Welfare Analysis in the MMR

- 2.25 Annex 1 of the MMR does not employ a classical welfare analysis. It does remark upon why it does not do so. Its justification for not doing so is very weak.
- 2.26 The basis offered for not employing a classical welfare analysis is its contention that the market failures it identifies, in particular those involving what it refers to as “behavioural biases”<sup>5</sup> lend themselves to being more fruitfully analysed via a “well-being” analysis. In Section 3 we shall consider and critique this analysis in its own terms. For now, we focus upon the question of whether the justification for using this analysis is adequate. We can think of this as involving two aspects:
- (a) the question of whether impacts upon consumers affected by behavioural biases is most appropriately analysed via a classical welfare approach or a well-being approach;
  - (b) the question of whether impacts upon other affected parties is most appropriately analysed via a classical welfare approach or a well-being approach.
- 2.27 The justification for using a well-being approach can be challenged, and we discuss this below. But much the greater problem with the analysis is that impacts upon other affected parties and integrally related markets are simply ignored. There is analysis of “macroeconomic impacts” in Section G (paragraphs 137-156), but this focuses upon whole-economy impacts. Perhaps the thought is that whole-economy impacts implicitly include impacts on related markets. But if that is the thought, surely whole-economy impacts also include impacts on the mortgage market — and thus the “well-being analysis” would be redundant or involve double-counting.
- 2.28 In any event, the well-being analysis *does* consider impacts on the ability of borrowers to buy homes — and thus does cover at least some impacts on related markets. But it contains no discussion of impacts on the ability of sellers (which might include those trading down who have no mortgage and thus are not even implicitly addressed by the “home movers / remortgagers” category discussed in the well-being analysis<sup>6</sup>), no discussion of impacts on housing market intermediaries, no discussion of labour market impacts, no discussion of impacts on the use of homes as collateral in consumer credit, and no discussion of impacts on housing construction.
- 2.29 It seems natural to suppose that a key reason these other parties and other markets were ignored is that the analysis proceeded via the paradigm of the Standard Case. Because

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<sup>5</sup> e.g. Annex 1, paragraph 166

<sup>6</sup> e.g. Annex 1, Table 4.8

in the Standard Case the main focus is upon the consumers directly affected by the regulation, and impacts on other parties are at best peripheral or questions of unintended consequence, and because the “consumer” of a mortgage is the mortgage-purchaser, it seemed natural to suppose that the only materially affected party was the mortgage-purchaser.

- 2.30 But this is manifestly incorrect in respect of mortgage markets. And even if one accepted the inapplicability of standard consumer / producer (buyer / seller) surplus analysis to mortgage-purchasing decisions, it would not follow that buyer / seller surplus analysis would be inapplicable to other significantly affected parties. The MMR offers no justification whatever for not deploying classical analysis in respect of these other parties.
- 2.31 As well as being methodologically unsound, the failure to consider other affected parties has the potential to overthrow the results. The MMR well-being analysis conclusion depends upon a claim that larger gains from the MMR proposals to a small number of current buyers outweigh smaller losses to a larger number of newly deterred buyers. Including a much larger set of potential losers could potentially reverse that conclusion. If the analysis behind Annex 1 contains a reason for believing that this is not a risk, it does not set it out.

### **Justification for Setting Aside Classical Welfare Analysis in Respect of Mortgage Purchasers**

- 2.32 The description Annex 1 offers of how a classical welfare analysis would proceed, and hence its justification for not conducting one, includes a number of errors, vaguenesses and doubtful claims. We highlight the following:

(a) At 159 the MMR states: *“If one evaluates using welfare then the responsible lending requirements will be more net beneficial the more they help consumers to obtain, and the less they hinder consumers from obtaining, what they prefer.”* This point is vague, and would have benefitted from either greater precision or some elaboration. “What consumers prefer” in this context might mean a number of things. For example, it could concern how they would rank alternatives, ex ante, based on the information they have in practice in the market today. It could concern how they would rank alternatives ex post, once they knew better the risks of falling into arrears and the misery that involved. It could concern how they would rank available products if they knew what the ex post likelihood of falling into arrears were but did not know whether they themselves would fall into arrears. It could concern how much consumers would pay for various products in a first-best market that did not have any market or regulatory failure.

The failure to describe precisely what a welfare analysis would really entail impairs the reader’s ability to evaluate how convincing the rejection of use of such an approach really is. It also may lay behind the failure to comprehend the implications of mortgage demand being a derived demand. For a key relevant preference of consumers is that for housing, not simply that for mortgages.

- (b) At 163 the MMR states: “welfare benefits will arise to the extent that the responsible lending requirements help borrowers who, because of information asymmetries (e.g. being less informed than lenders about their true risk of impairment) or behavioural biases (e.g. over-optimism, overly discounting the future), borrow more than they (on reflection) would ideally like.” But this is an inadequate, misleading, and potentially straightforwardly wrong statement of the implications of the standard theory of asymmetric information. In the standard theory, in equilibrium, because their lack of information relative to (or inability to interpret as well as) firms makes them vulnerable to exploitation, consumers reduce their willingness to pay. In equilibrium, that might even mean that there are no exploited consumers at all<sup>7</sup> — on the claims of paragraph 163, that would mean that there was no gain from addressing an informational asymmetry in such a case.

But informational asymmetries will also typically mean that there are a number of consumers that would not be exploited if they participated in the market that are deterred from doing so by the risk of being exploited, and a number of suppliers of relatively high-quality products that are unable to participate in the market because they are unable to establish credibility with consumers. In classical analysis of markets affected by asymmetric information, impacts on these latter two groups are central, alongside impacts on groups vulnerable to exploitation of their informational or interpretational weaknesses. By failing properly to conceptualise such gains, the Annex 1 analysis potentially **misses a key set of benefits from the proposed package of reforms.**

This lacuna is likely to be a consequence of an issue explored in more detail in Section 3 — namely that Annex 1 focuses upon the current situation rather than considering how matters might evolve in the future. Given the state of the mortgage market at present, with recent years having seen historic lows for the number of transactions, it would not be surprising if there are currently-deterred buyers. Furthermore, the contention of the MMR is that buyers, subject to bounded rationality, follow the momentum of the market — so when house prices are rising they expect them to rise further and when they are falling they expect them to fall further. Such behaviour would be naturally coupled with the expectation that when mortgages have recently been easily available they will be easily available in the future and vice versa. The implication is that recent conditions might lead significant numbers of potential home-buyers to be deterred, either now or in the near future, from taking out mortgages based on an exaggerated expectation of the risk and misery of mortgage lender conditions and foreclosure.

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<sup>7</sup> For example, in classical adverse selection models, in “adverse selection” equilibria, all products offered are of “low quality” (“lemons”), everyone expects all products to be of “low quality”, and so no-one is misled about what they are buying.

Thus, it follows by the logic of the MMR that even if it were believed that there were few deterred mortgage-purchasers during the 2000s, there could be significant numbers of such in the future. Failing to take account of these is a significant failing.

- (c) At paragraph 166 Annex 1 states: *“the conventional approach to measuring impacts on welfare would require estimation of the demand and supply for mortgages to enable us to isolate the welfare effect from restricting mortgage demand as a result of the MMR. However, this approach is not ideal because a key market failure in the mortgage market is that some borrowers choose what they do not truly prefer because of behavioural biases, and this would be reflected in the demand curves.”* As already mentioned, it is not correct to claim that demand and supply for mortgages would need to be estimated. All that would be required is how demand and supply would be changed in the relevant region between the initial and final market equilibria.

In addition, we note that it is far from clear that behavioural biases, even where they exist, always lead consumers to purchasing products other than those they truly prefer. There are many settings in which market equilibria for boundedly rational agents correspond to rational agent equilibrium.<sup>8</sup> A detailed analysis of Annex 1 section A3, and the several other consultation and discussion papers providing the market failure analysis underpinning the proposals falls outside the scope of this peer review. Thus it is reasonable for paragraph 166 to assume that there are indeed behavioural biases, but greater clarity might have been gained by specifying more clearly via what mechanism the behavioural biases claimed resulted in consumers not choosing what they truly prefer. The text as written might naturally be read as implying that, by definition, consumers subject to a behavioural bias will not choose what they truly prefer — which is not so.

2.33 Overall, it is unclear why it would not be feasible or appropriate to proceed as follows, under a classical framework:

- (a) Consider consumer purchases and outcomes
- (b) Consider the behavioural biases one identifies
- (c) In the light of the behavioural biases identified, construct a counterfactual of how many consumers purchase mortgages that should not, and how many are deterred from purchasing mortgages that do so
- (d) Estimate a “consumer detriment” for these two classes of consumers, for example, by estimating, for the group of consumers that should not buy, how much less they ought to have been willing to pay for their mortgages given their actual risks relative to those

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<sup>8</sup> For a number of examples, see Lilico, A. (2004), “Regulating Markets with Short-Sighted Decision Makers”, Europe Economics Staff Working Paper 2004.1 — <http://www.eer.co.uk/download/eeshortstight.pdf>

they perceived; and for the group of consumers that should buy how much they would have been willing to pay for products had they had more confidence (for example, by surveying renters).

- (e) (One could note in passing the issue of providers of high-quality mortgages excluded from the market by credibility issues, but argue that this would be difficult to quantify.)
- (f) Forecast a new equilibrium including the reforms.
- (g) Estimate, for the new equilibrium, how many fewer consumers would not make purchases they should not and how many previously deterred consumers would now buy. The reduction in consumer detriment would be a gain in consumer welfare. This should be set against losses from, for example, those not materially at risk of impairment nor previously discouraged by fears of being sold a “lemon” mortgage, who are nevertheless rationed by the MMR.

2.34 We observe that the well-being approach that Annex 1 uses, and which we shall consider in Section 3, would provide excellent building blocks towards steps (c), (d), and (g) above, in respect of the first class of consumer. Completion of those steps in respect of that class of consumers would mainly be a matter of re-expressing the Annex 1 well-being analysis in terms of how much less consumers ought to have been willing to pay, *ex ante*, given an unbiased and rational expectations-based analysis of the information available to them, relative to the behaviourally-biased analysis Annex 1 assumes.

### 3 COMMENTS ON THE ANNEX 1 WELL-BEING ANALYSIS

- 3.1 Paragraphs 169ff of Annex 1 focus upon the “well-being” analysis. Annex 1 defines “well-being” as follows:

*Well-being is concerned with consumers’ psychological state. It is typically measured on the basis of reports by the consumers themselves. For example, consumers who have a mortgage that they can easily afford are likely to have greater well-being than consumers who have fallen behind with their mortgage payments.*

- 3.2 Well-being is not the only alternative concept to classical welfare available in the literature. For example, the European Commission<sup>9</sup> and other bodies such as the OECD<sup>10</sup> make use of the concept of “personal detriment”. The OECD defines personal detriment as follows:

Personal detriment...focuses on individual experiences. The disappointment and the monetary and time losses that a consumer experiences after purchasing and using a weight loss product that fails to deliver on its advertised promise are examples of such detriment. In addition to money and time costs, personal detriment includes negative psychological impacts such as stress. The situations in which personal detriment can arise include i) scams and fraud; ii) misleading advertising; iii) unfair marketing practices; iv) unfair contract terms; v) sales of unsafe products; vi) inadequate redress in response to complaints.

- 3.3 Nonetheless, well-being is clearly of its own interest and relevance — it is one aspect of welfare, and given the MMR’s analysis of the sources of market failure, a potentially particularly relevant one.

#### Strengths

- 3.4 The approach has a number of good features. These include:
- (a) The way well-being losses are estimated for the group focused upon is intelligent and in its own very narrow terms defensible.
  - (b) The analysis is well-structured and methodical, building up estimates of the numbers affected in different ways clearly and intelligibly.
  - (c) The argument that the gains for those at whom the MMR proposals are directed outweigh the losses to the (larger number of) unintended losers from the proposals is, in its own terms, reasonably convincing.

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<sup>9</sup> e.g. [http://ec.europa.eu/consumers/strategy/docs/study\\_consumer\\_detriment.pdf](http://ec.europa.eu/consumers/strategy/docs/study_consumer_detriment.pdf) deployed for example here: [http://ec.europa.eu/consumers/strategy/docs/study\\_consumer\\_detriment\\_dyna\\_packages\\_en.pdf](http://ec.europa.eu/consumers/strategy/docs/study_consumer_detriment_dyna_packages_en.pdf)

<sup>10</sup> “Consumer Policy Toolkit”, OECD 2010

(d) The use of unemployment distress as a basis for monetization is insightful and helpful.

3.5 Overall, this analysis is a useful contribution — albeit incomplete for the reasons set out in Section 2, but also even in its own terms, for reasons we shall now explore.

### **Data Basis, Counterfactual and Market Reponse**

3.6 The data used for the quantifications in the well-being analysis of Annex 1 are mainly from 2010 and 2011. It is questionable how relevant these years will be as a basis for estimation of future effects. Recent years have seen enormous volatility in housing markets. Prices rose 240 per cent on the Halifax index in the seven and a half years to mid-2007, then fell 22 per cent over a period of just a year and a half, and are now down 30 per cent in real terms from their peak. At the time of writing, UK Bank Rate at 0.5 per cent is at a more than 300 year lowpoint. At some point in the future interest rates will surely be higher, but at the same time the number of households in negative equity or other forms of financial distress will be very different from today.

3.7 In standard impact assessment best practice, it is crucial not simply to compare the situation in the future after the regulatory change is introduced with that prevailing today but, instead, to compare the predicted future in the presence of the regulatory change with how things would be expected to evolve in the future were the regulation not changed. This is termed the “counterfactual”.

3.8 Construction of a counterfactual has a number of key aspects. The counterfactual should consider:

(a) underlying market trends (e.g. changed demographics or tastes changing the pattern of demand in the future);

(b) technological changes (e.g. a new technology might render an identified problem obsolete);

(c) other regulatory / policy changes (other regulations might significantly change the behaviour of firms in ways that eliminate the need for the regulatory change considered, or even makes it effects perverse);

(d) market response (pressure for regulatory change is often associated with particular events, but markets respond to those events also, and the market response might obviate the need for a regulatory change).

3.9 The well-being analysis of Annex 1 contains no clear counterfactual. This is an important weakness, in at least three respects:

(a) Mortgage providers are subject to very profound regulatory changes outwith the MMR but relevant to the behaviours and issues the MMR identifies. In particular, changes to capital requirements make it much less attractive for firms to lend to individuals that



might default. It would have been informative to consider what proportion of borrowers experiencing well-being loss on the Annex 1 analysis would not in the future receive mortgage offers under new capital requirements. Without such estimation, it is difficult to draw any firm conclusions as to whether the MMR proposals would really reduce the number of distressed borrowers at all.

- (b) Interest rates will almost certainly rise significantly within a few years, and the macroeconomic backdrop will be very different. How will that affect the balance of well-being?
- (c) Annex 1 itself contends that the behavioural biases it identifies are connected with market trends — e.g. in booms potential mortgage purchasers become overly optimistic about future house prices. But following such a large price crash as has been seen in recent years, presumably consumers will markedly update their expectations and have a much less optimistic outlook for many years. That could presumably markedly reduce the numbers of those taking out mortgages that, on the MMR analysis, should not. Indeed, on the MMR analysis of behavioural biases, presumably the key market distortion over the next few years would be people being too unwilling to take out mortgages — such that there would be a large loss of well-being associated with under-purchasing. But the Annex 1 approach includes no transparent analysis of this.

3.10 It is possible that analysis of the counterfactual would allow of no straightforward quantification beyond the use of the recent data deployed in Annex 1. It is also possible that qualitative discussion would suggest that the net effect of changes in the future would be modest compared with the detriment quantified in Annex 1. If so, greater transparency and robustness would be achieved by setting out the argument that this was the case. As matters stand, the lack of a clear counterfactual constitutes a further material weakness in the analysis.

## 4 CONCLUSIONS

4.1 Our conclusions are as follows:

- (a) The rationale for performing a well-being analysis instead of any standard welfare analysis is weak and the analysis itself misses central issues, bringing its conclusions into doubt.
- (b) The rationale for not conducting a standard welfare analysis is that the affected parties suffer from rationality deficiencies, undermining the value of standard welfare metrics. However, the analysis misses many (probably most) of the affected parties — including: currently deterred buyers; sellers; estate agents and other housing market intermediaries; labour markets. Most of these other parties could have been analysed according to standard welfare techniques, even under the MMR conclusions regarding the bounded rationality of certain buyers.
- (c) A proper analysis might not have produced quantitative estimates for all these groups. But the MMR well-being analysis conclusion depends upon a claim that larger gains from the MMR proposals to a small number of current buyers outweigh smaller losses to a larger number of newly deterred buyers. Including a much larger set of potential losers could potentially overthrow that conclusion.
- (d) As well as many of the potential losers, the analysis misses what would, under a standard approach, be the main beneficiaries from the MMR reforms — namely buyers currently deterred from participation in the market by a misplaced fear of exploitation.
- (e) The well-being analysis fails to be adequate, even in its own terms, in a key respect: namely that it does not involve a proper counterfactual evolution analysis (i.e. it does not consider how the world might change even in the absence of the regulation).