

# Mind the gap: why the MPF vs WLR+SMPF price differential should be aligned with costs immediately

A report for BT

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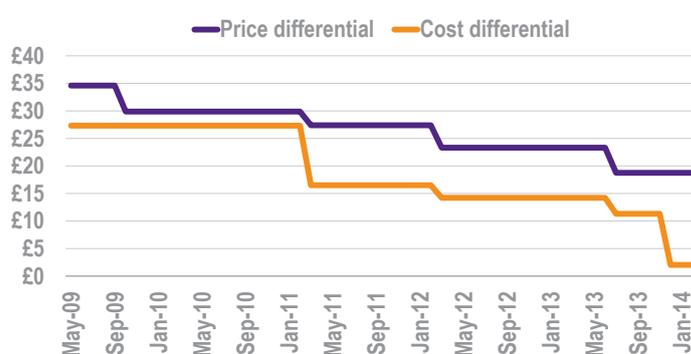
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## Executive Summary

Ofcom are consulting on the approach to setting the price differential between wholesale inputs for broadband services - unbundled local loop (metallic path facility - MPF) and wholesale line rental (WLR) supporting voice and Shared Metallic Path Facility (SMPF) supporting broadband.

Ofcom estimate that the cost difference between MPF and WLR+SMPF is around £2 per annum, whereas the price difference is £19 per annum i.e. there is a cross subsidy of £17 per annum per unbundled line. The following figure shows the development of the price differential and the estimated cost differential over time.

SMPF+WLR vs. MPF differentials



Source: Ofcom

This wholesale input price distortion was introduced in 2005 when BT lowered the MPF price from £105 to £80 per annum as part of a package of measures following the Ofcom the Strategic Review of Telecommunications. At the time Ofcom stated that they were “committed to ensuring that appropriate regulation is put in place to provide the most positive environment for the success of LLU.”

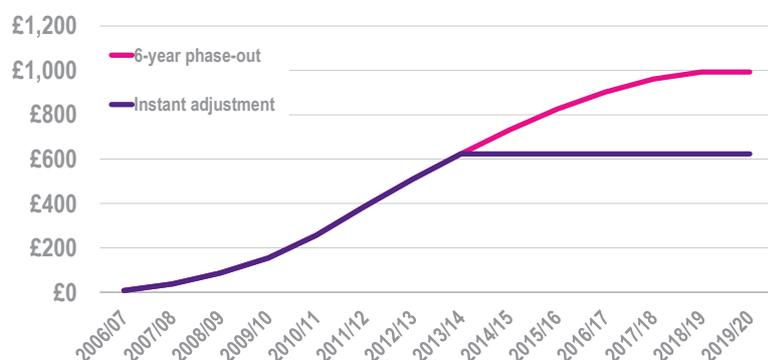
Ofcom recognises that the price distortion should be removed. In May 2009 Ofcom noted that this distortion was harmful in terms of efficient broadband provision, efficient investment and efficient competition. Further, Ofcom stated prices should move to reflect cost differences by 2012/2013.

Following a downward revision of the estimated cost differential, Ofcom are now considering extending the phase-out beyond the next 3 years, and possibly over 6-years. A gradual phase out is put forward by Ofcom on grounds of respecting investor expectations and regulatory commitment and predictability, and thus to support investment and innovation.

We first calculate a measure of the magnitude of the cost advantage to MPF by multiplying the volume of unbundled local loops times the difference between the price differential historically using the most recent estimate of the cost differential (Ofcom described this approach in December 2008 as a measure of the upper bound of the static welfare loss).

The estimated additional magnitude of distortion involved with a further 6-year phase-out versus immediate phase-out is substantial at £369 million, versus £623 million to date since 2005, as the following figure illustrates.

## Cumulative impact, £m



Source: Plum Consulting, Ofcom

In relation to the 2005 rationale for the cross subsidy we note that competitors operating at scale are now established and that 7.6 million lines had been unbundled by December 2013. No further cross subsidy is required to achieve the objectives of the 2005 policy. Competition should now be on the merits.

Continuation of cross subsidy would see the cumulative cross subsidy increase by 59% versus the level today based on the projected level of unbundling and the magnitude of the price distortion. This cross subsidy not only no longer serves a purpose now that competition and unbundling are established, but involves a real cost in terms of the ongoing distortion of wholesale input choices and potentially the unbundling of further exchanges where it is not socially worthwhile.

Further, a transition to fibre is underway with 18 million homes passed and take-up of over 10%. Ongoing cross subsidy to promote unbundling of copper loops is not consistent with the shift in the market and in policy priority towards fibre.

Not only would cross subsidy encourage investment in unbundling where subsequent transition of customers from copper to fibre may strand the investment, but the existing distortion of competition would be carried over to the fibre market (since fibre providers utilising GEA in addition to MPF versus WLR would face different input prices). Fibre competition should not start from this legacy distortion.

In relation to investor expectations we note that Ofcom clearly signalled in 2009 that the differential is inefficient and should be removed by 2012/13. Further, the estimated cost differential has been revised downward in the past, so the risk of further revision could reasonably have been anticipated.

However, it is also important to consider the public interest alongside investor expectations. We assess two interpretations of consistency and predictability. First, that it implies consistency of the price differential. Second, that it implies consistency of approach in setting the price differential based on available evidence. We conclude that the latter interpretation is appropriate in this instance.

We also note that whilst changes in relative prices necessarily involve winners and losers, there may be offsetting scope for adjustment by those made worse off. First, operators may adjust their use of inputs if the prices change. Second, the retail market price may also change. These adjustment mechanisms may reduce the bottom line impact.

We conclude that it is in the public interest to eliminate the distortion of wholesale input prices immediately for new lines, with immediate or rapid (inside 3-years) removal for existing lines.

# 1 Objectives of regulation and policy

## 1.1 Regulatory duties and policy goals

Under the Communications Act 2003 the principal duty of Ofcom is to further the interests of citizens in relation to communications matters; and to further the interests of consumers in relevant markets, where appropriate by promoting competition. Ofcom must also have regard to, amongst other things, the desirability of encouraging investment and innovation in relevant markets.

## 1.2 Regulatory policy regarding input price differential

Ofcom has consistently recognised that the price differentials between wholesale products should reflect the incremental cost differential in order to promote efficiency and competition on the merits.

For example, in December 2013 Ofcom stated that:<sup>1</sup>

*“We propose to maintain the policy position that for these markets the relative charges of WLR+SMPF and MPF should ultimately reflect the difference in the respective LRICs.”*  
Paragraph 8.3

In 2011 Ofcom expressed the view that the price difference exceeded the cost difference and would decline:<sup>2</sup>

*“...the price differentials are likely to be greater than the absolute LRIC difference and are declining towards the LRIC difference over time. In the longer term, we expect to continue reducing the price differentials to the differences in absolute LRICs.”* Paragraph 7.4

In October 2009 Ofcom stated that:<sup>3</sup>

*“...we consider the differential between MPF and WLR+SMPF to be particularly important. We consider that the differential should reflect cost differences because of the risks of distorting the choice of wholesale products. We do not consider it appropriate to base charges on demand based factors (such as Ramsey pricing which would set charges according to elasticity of demand) as MPF and SMPF+WLR are alternative wholesale inputs for CPs to provide the same retail services. We consider that setting charges so that the differentials broadly reflect incremental cost differences would be consistent with removing any productive efficiency distortions and that setting charges on the basis of CCA FAC is consistent with achieving this. We consider that dynamic efficiency considerations also support the use of CCA FAC.”* Paragraph 5.14

In May 2009 Ofcom stated that:<sup>4</sup>

*“Prices should move to the underlying FAC by 2012/13”, Page 43*

<sup>1</sup> Ofcom. December 2013. “Fixed access market reviews: Openreach quality of service and approach to setting LLU and WLR Charge Controls.” <http://stakeholders.ofcom.org.uk/consultations/fixed-access-market-llu-wlr-charge-controls/>

<sup>2</sup> Ofcom. 2011. “Charge control review for LLU and WLR services.” <http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf>

<sup>3</sup> Ofcom. October 2009. “Charge controls for Wholesale Line Rental and related services.” <http://stakeholders.ofcom.org.uk/binaries/consultations/wlr/summary/wlrcondoc.pdf>

<sup>4</sup> Ofcom. May 2009. “A new pricing framework for Openreach - statement.” <http://stakeholders.ofcom.org.uk/binaries/consultations/openreachframework/statement/statement.pdf>

## 2 The historical roots of existing policy

The strategic view of the market that Ofcom have embraced has shifted over time in response to changing technology, market circumstances and expectations regarding the prospects for different forms of competition. Whilst the underlying strategic view is not always explicit it can be inferred, and understating how strategy has shifted is helpful in understanding how existing policy has arisen and whether it should change.

In the period to 2004, Oftel pursued a strategy of promoting platform competition, rather than for example local loop unbundling. In 2005 Ofcom acknowledged this, noting that:<sup>5</sup>

*“It is clear that encouraging investment in competing access networks was a key Oftel objective in determining the level of the LLU and WLR charges.” Paragraph 4.18*

In 2004, Ofcom wrote that it:<sup>6</sup>

*“...considers that LLU has a significant part to play in establishing competitive broadband markets and is therefore committed to ensuring that appropriate regulation is put in place to provide the most positive environment for the success of LLU.” Paragraph 7.12*

The Ofcom Strategic Review of Telecommunications concluded with a shift in strategy with greater focus on promoting competition at the deepest level of infrastructure possible (and unbundling i.e. MPF in particular) and recognising that there are trade-offs in promoting all kinds of competition in equal measure.<sup>7</sup>

*“we concluded that the competing end-to-end infrastructures that would be likely to be sustainable in the UK in the medium term would be insufficient to deliver effective competition. We therefore adopt the principle that regulation should promote competition at the deepest level of infrastructure where it is likely to be effective and sustainable.” Paragraph 3.14*

*“Regulation can promote each of these kinds of competition, but we pointed out in Phase 2 that there are trade-offs involved: if regulation tries to promote all these kinds of competition in equal measure, it is likely to be unsuccessful.” Paragraph 4.4*

In other words there may be benefits from taking a strategic view of market development rather than adopting a strictly neutral approach since (if the view is correct) the costs associated with trade-offs can then be minimised. There was deemed to be a need to steer the market in particular direction, this being towards MPF-based competition in voice and what we now term Current Generation Access.

Regarding the rental charge for MPF, Ofcom concluded a review into the costs of local access services in 2005 which introduced a number of changes to the estimate of costs. This led to a reduction in the estimated cost for MPF, and prices fell 24% in August 2005. The creation of significant price differential between MPF and WLR provided a clear impetus to competition based on

<sup>5</sup> Ofcom. August 2005. “Valuing copper access – final statement.”  
<http://stakeholders.ofcom.org.uk/binaries/consultations/copper/statement/statement.pdf>

<sup>6</sup> Ofcom, 2004, “Review of the wholesale local access market”,  
<http://stakeholders.ofcom.org.uk/binaries/consultations/rwlam/summary/rwlam.pdf>

<sup>7</sup> Ofcom. September 2005. “Final statements on the Strategic Review of Telecommunications.”  
<http://stakeholders.ofcom.org.uk/binaries/consultations/752417/statement/statement.pdf>



this input, and MPF volumes have since increased from 226,000 in 2006/7 to 7.6 million lines by December 2013.<sup>8</sup>

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<sup>8</sup> BT. Q3 2013/14 Key Performance Indicators.

<http://www.btplc.com/Sharesandperformance/Quarterlyresults/PDFdownloads/q314-KPIs.pdf>

### 3 Changes in the market and in policy since 2005

Since 2005 LLU operators using MPF have established themselves and now operate at scale. In a market transition to next generation access has started and Ofcom have supported the development of active (VULA) access products for fibre. These developments and their implications for the differential between MPF and WLR plus SMPF are now considered.

#### 3.1 Market competition is established

Ofcom accept that users of MPF are now established scale operators and that the magnitude of the WLR+SMPF versus MPF differential has contributed to this:<sup>9</sup>

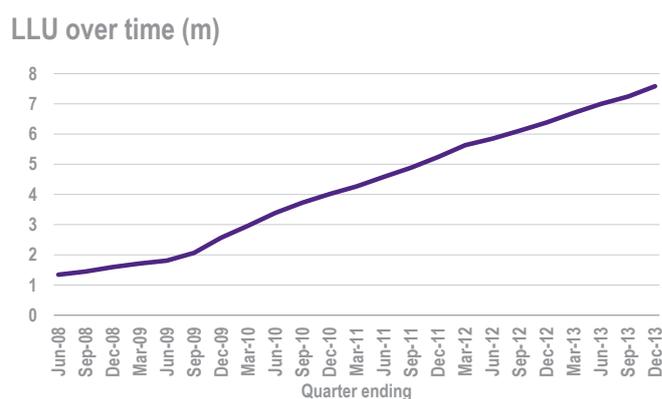
*“We consider that the main users of MPF are now established, scale operators, following a number of years during which the differential between WLR/WLR+SMPF and MPF charges has been greater than the LRIC differential”. Paragraph 8.48*

The relevant objective of the Strategic Review of Telecommunications has therefore arguably been achieved. Ofcom recognised in 2009 that “at this stage in the market’s development” a distortion of wholesale pricing, whilst it may have helped kick-start competitive entry based on MPF, should be removed:<sup>10</sup>

*“In terms of dynamic efficiency, we considered whether it was justifiable to actively promote competition by setting prices specifically to assist entry with the use of MPF rather than WLR+SMPF. We concluded that at this stage in the market’s development differences between charges should move towards reflecting the underlying differences in costs.” A4.10*

Competition has developed further since 2009, in particular competition based on local loop unbundling as Figure 3-1 shows.

Figure 3-1:



Source: BT

<sup>9</sup> Ofcom. “December 2013. “Fixed access market reviews: Openreach quality of service and approach to setting LLU and WLR Charge Controls.” <http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-market-llu-wlr-charge-controls/summary/famr-2013.pdf>

<sup>10</sup> Ofcom. May 2009. “A new pricing framework for Openreach Annexes.” <http://stakeholders.ofcom.org.uk/binaries/consultations/openreachframework/statement/annexes.pdf>

We also note that the three leading broadband competitors to BT - TalkTalk, Sky and Virgin - had broadband market shares of 17%, 19% and 21% respectively.<sup>11</sup> Competition and unbundling are therefore now well established and the conclusion Ofcom reached in 2009 applies with even greater force today. Further, new forms of competition including competition in the next generation access market and competition between fixed and mobile 4G are developing.<sup>12</sup> All these developments indicate that the historical distortion in favour of MPF should be removed.

## 3.2 A shift in emphasis towards fibre

Both in terms of commercial focus and policy focus there is an ongoing shift in emphasis towards fibre. As Ofcom noted in December 2008 (following BT's announcement on 15 July 2008 of plans to invest £1.5bn to upgrade the network to fibre to the cabinet and home for seven to ten million homes by 2012):<sup>13</sup>

*"These developments [fibre investment] are likely to reduce the value of LLU investments and ultimately make it redundant. This could reduce the value of promoting broadband and voice competition based on MPF. If the establishment of MPF based competition in broadband and voice were to make no difference to the extent of competition after FTTH and FTTC become prevalent, this would mean that the benefits from MPF based competition would be transitory. This would not mean that any benefits should be discounted completely, as they may nevertheless last for some years, but that they would be smaller than they would otherwise be."* A5.95

The UK Government also has an objective of 95% of the UK receiving higher speeds (at least 24Mbps) by 2017.<sup>14</sup> Ofcom also have a strategic view regarding the transition to super-fast broadband:<sup>15</sup>

*"The rollout of super-fast broadband marks one of the most fundamental changes to the UK's telecoms networks. It will bring real benefit to its consumers, business and the economy. Ofcom's overarching aim in super-fast broadband is for consumers and citizens to benefit from timely investment, competition and widespread availability."*

Figure 3-2 illustrates the extent of ongoing transition to date. Deployment has gone beyond that announced by BT in 2008 and further deployment is expected.

<sup>11</sup> Ofcom. 2013. "The Communications Market 2013." [http://stakeholders.ofcom.org.uk/binaries/research/cmr/cmr13/UK\\_5.pdf](http://stakeholders.ofcom.org.uk/binaries/research/cmr/cmr13/UK_5.pdf)

<sup>12</sup> Whilst a number of consumers utilise mobile broadband only Ofcom do not currently report statistics including use of a smartphone and/or tablet and mobile data plan as a substitute for fixed broadband.

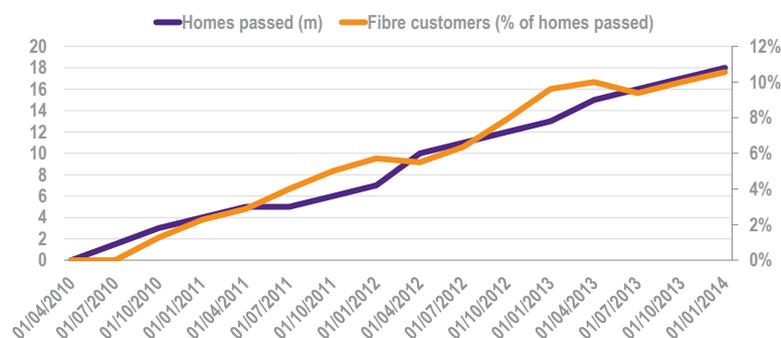
<sup>13</sup> Ofcom. December 2008. "A New Pricing Framework for Openreach." <http://stakeholders.ofcom.org.uk/binaries/consultations/openreachframework/summary/off.pdf>

<sup>14</sup> <https://www.gov.uk/government/policies/transforming-uk-broadband>

<sup>15</sup> Ofcom. March 2009. "Delivering super-fast broadband in the UK Promoting investment and competition." [http://stakeholders.ofcom.org.uk/binaries/consultations/nga\\_future\\_broadband/statement/statement.pdf](http://stakeholders.ofcom.org.uk/binaries/consultations/nga_future_broadband/statement/statement.pdf)

Figure 3-2

### BT's Fibre rollout



Source: Plum Consulting, BT

Fibre deployment overlaps with local loop unbundling, and is also likely to overlap with exchanges that may in future be unbundled (since both unbundling and fibre deployment are to some extent driven by customer density considerations).

The transition to fibre arguably raises the costs of a distortion in favour of MPF since MPF involves greater investment than WLR+SMPF, and a proportion of that investment will in effect be stranded as customer migration to fibre grows. However, if MPF continues to be subsidised, it may nevertheless be privately profitable to continue to invest in unbundling even where it is socially inefficient and represents a misallocation of resources.

Continuation of a distortion between MPF and WLR prices also distorts wholesale input choices in the fibre market since providers of fibre utilising the active VULA product pay for Generic Ethernet Access (GEA) on top of their copper line product, where prices are distorted.

### 3.3 A shift in regulatory emphasis to active access

Not only has the market changed as competition has matured and technology has evolved, but regulation has changed too. In particular the role of active products in promoting competition in a fibre environment has been recognised:<sup>16</sup>

*“Active products will be fundamental to delivering widespread competition in superfast broadband regardless of what happens with passives. They will form a vital part of the overall competitive environment and delivery of new retail services.” Paragraph 1.22*

The shift to active products has been driven in the first instance by the different network technology and topology for fibre which makes unbundling relatively less attractive. Active products may also, in contrast to the situation with unbundling and ADSL, offer the best prospects for innovation and competition for the following reasons:

- Active products can be made available everywhere immediately, offer low entry costs and switching costs. They support competition.

<sup>16</sup> Ofcom. 2009. “Delivering super-fast broadband in the UK - Promoting investment and competition.” [http://stakeholders.ofcom.org.uk/binaries/consultations/nga\\_future\\_broadband/statement/statement.pdf](http://stakeholders.ofcom.org.uk/binaries/consultations/nga_future_broadband/statement/statement.pdf)

- The more important investment and innovation is arguably no longer in relation to ADSL but in bringing fibre closer to the premise and deploying more advanced copper-based broadband technologies including VDSL, vectoring and prospectively G-Fast.
- Active wholesale access supports service-price differentiation (say by speed tier) at the wholesale level. Differentiation supports investment and digital inclusion by increasing overall demand for the same average price point.<sup>17</sup>

In short, whereas previously innovation in terms of ADSL provision was valued, the more important innovation now is extension of fibre and developments in terms of higher speed standards over copper including VDSL, vectoring and G.fast.

This requires a different set of regulatory priorities, with more emphasis on active access products and service-pricing freedom. It is also incompatible with a continued cross subsidy to MPF which encourages further (and potentially short lived) investment in a transitional technology.

### **3.4 A reduction in the estimated incremental cost differential**

The estimated cost differential between MPF and WLR+SMPF was revised downward in December 2013 from £10-£14 to £0-£4. This new information indicates that the distortion of input choice, investment and competition as a result of the differential in favour of MPF is greater than previously indicated.

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<sup>17</sup> Differentiation based on underlying attributes such as speed would not be sustainable if passive unbundling were implemented for next generation access since opportunities would be arbitrated away. Differentiation at the wholesale level based on active products is necessary to support differentiation at the retail level.

## 4 The magnitude of the distortion due to cross subsidy

### 4.1 Approach to estimating the magnitude of distortion

Ofcom comment on the magnitude of the distortion associated with a departure from a price differential that reflects the cost differential:<sup>18</sup>

*“For any individual line, the upper bound of the static welfare loss from distortions to competition might be regarded as the entirety of the gap between (a) the differences in the long run incremental costs of MPF compared to WLR+SMPF and (b) the differences in charges. For total static welfare loss, the extreme upper bound from distortions to competition might be regarded as the entirety of this gap multiplied by the volume of MPF lines used by CPs other than BT.” A5.64*

One can think of this as a measure of the cost advantage afforded to MPF via cross subsidy. We use this simple methodology to estimate the potential magnitude of the distortion. Our numbers for the WLR+SMPF/MPF charge differential come from Ofcom.<sup>19</sup> For the cost differential, we use the midpoint of Ofcom’s most recent estimate of the range in the LRIC differential between MPF and WLR+SMPF of £2-£4 i.e. we use £2 and assume that this has been the underlying cost differential between the two products over time. We utilise the MPF rental number by year used by Ofcom’s cost model<sup>20</sup> in the July 2013 consultation, and extrapolate these on a linear basis until 2019/2020 (by which time on this assumption there would be around 12 million lines). Although Ofcom does not comment on when it sees the differential being removed, we assume that the price control after next, and hence in 2019/20.

### 4.2 Estimates of cost of continued distortion

We quantify two cases in relation to elimination of the distortion.

- Adjust prices to mirror the cost differential immediately. This approach eliminates any further static welfare loss, so the overall static welfare loss involved in promoting MPF-based competition remains at the present level.
- Adjust prices to mirror the cost differential over 6 years. This is broadly consistent with Ofcom’s option of reducing the charge differential between WLR+SMPF and MPF to £10 by 2016/17 and progressively over the subsequent price control period.

Our estimate of the cost advantage calculated on this basis is shown in Figure 6-2 and in Table 6-1 (the estimates are undiscounted).

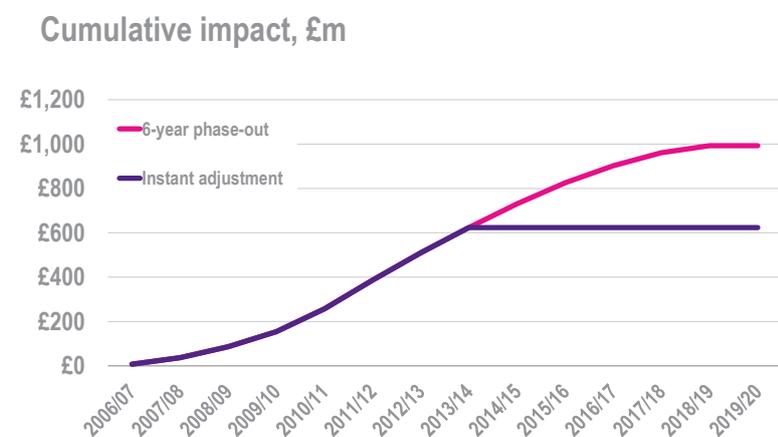
<sup>18</sup> Ofcom. December 2008. “A New Pricing Framework for Openreach.”

<http://stakeholders.ofcom.org.uk/binaries/consultations/openreachframework/summary/off.pdf>

<sup>19</sup> <sup>19</sup> Ofcom. December 2013. “Fixed access market reviews: Openreach quality of service and approach to setting LLU and WLR Charge Controls.” Figure 8.1 <http://stakeholders.ofcom.org.uk/consultations/fixed-access-market-llu-wlr-charge-controls/>

<sup>20</sup> <http://stakeholders.ofcom.org.uk/consultations/llu-wlr-cc-13/>

Figure 4-1



Source: Plum Consulting, Ofcom

Table 4-1: Cost advantage to MPF since 2005

Approach	Cumulative	Incremental vs. immediate adjustment	
Adjusting prices immediately	£623m		
Adjust prices over 6 years	£992m	+£369m	+59%

Note: The above estimates are undiscounted (application of a social rate of time preference of 3.5% would make little difference to the magnitudes over the relevant time horizon).

Prolonging the differential over a 6-year phase-out would lead to a substantial additional distortion of competition, inefficient wholesale input choice and inefficient investment. We assess the costs and benefits of continued price distortion in the next section.

## 5 Cost-benefit of continued cross subsidy

Continuing with a material cross subsidy would involve real economic costs. We consider the following possible inefficiencies from the continuation of cross subsidy:

- Distortion of input choice.
- Distorting and potentially reducing competition.
- Inefficient expansion of unbundling to new exchanges.
- Dynamics including commitment and predictability.
- Elevation of regulatory risk.

Ofcom concur that a margin between MPF and WLR+SMPF that exceeds the incremental cost differential involves costs related to the first three categories above.

However, Ofcom argue that consideration of investor expectations and regulatory commitment and predictability, and in turn, incentives for investment and innovation, suggest that gradual phase-out of the distortion may be appropriate. We also appraise this argument in the context of a relative input price distortion.

### 5.1 Distortion of input choice

Ofcom recognise that distorted wholesale input prices may result in an inefficient use of inputs, thereby reducing productive efficiency.<sup>21</sup>

*“We considered that if the MPF charge made a significantly lower contribution to recovery of common costs than WLR+SMPF, this would create distortions that would reduce efficiency. For example, for LLU operators to choose between MPF and WLR+SMPF on their merits, the difference in charges should be comparable to the differences in incremental costs for Openreach. We considered the potential distortions to competition in the longer term could be significant. Such distortions were, in our opinion, likely to be the most important static efficiency consideration. We considered that charging on the basis of CCA FAC was likely to be broadly consistent with removing these static distortions.” A4.9*

In 2008, Ofcom highlighted that the distortion of the input choice could result in inefficient investment in equipment:<sup>22</sup>

*“if a low MPF charge were to encourage CPs to unbundle more exchanges, this would involve the duplication of equipment in more exchanges, leading to greater static welfare losses” A5.50*

A relative input price distortion will promote the subsidised input (MPF) over the subsidising inputs (WLR+SMPF) even when the former is not the most socially efficient choice.

<sup>21</sup> Ofcom. May 2009. “A new pricing framework for Openreach Annexes.” <http://stakeholders.ofcom.org.uk/binaries/consultations/openreachframework/statement/annexes.pdf>

<sup>22</sup> Ofcom. December 2008. “A new pricing framework for Openreach – second consultation”.

## 5.2 Distorting and potentially reducing competition

Different operators utilise a different mix of wholesale inputs, for example, TalkTalk have relied predominantly on MPF whilst EE rely on WLR+SMPF. We also note that EE have, in terms of branding and marketing, focussed in particular on next generation 4G wireless and fibre based fixed access (as opposed on the fixed side to unbundling and ADSL).

The continuation of a non-cost reflective differential between the products therefore distorts competition.<sup>23</sup> Ofcom accept that an artificial differential may distort competition and reduce competitive pressures [emphasis added].<sup>24</sup>

*“We do not think it is clear that maintaining a differential between the charges for MPF and those for WLR+SMPF that is above that implied by the costs would increase competitive pressures. Both MPF and SMPF are used to provide broadband services, and setting charges in this way would tend to disadvantage operators using WLR+SMPF. As most operators currently use WLR+SMPF, **this could conceivably reduce competitive pressures for broadband services**. Setting charges so that the differential between WLR+SMPF and MPF was equal to the cost of providing the different services would represent a neutral approach. TalkTalk’s approach would be less likely to increase the total number of broadband suppliers than to distort the choice about the way suppliers in the market provide broadband service.”*  
A4.94

## 5.3 Inefficient expansion of unbundling to new exchanges

Unbundling of new exchanges is ongoing. For example TalkTalk propose unbundling a further 300 exchanges in FY 2014.<sup>25</sup> Not all of this expansion, and any expansion beyond what has been announced, would necessarily be commercially attractive if the wholesale price differential reflected the underlying cost differential. Ofcom have recognised the risk of inefficient and potentially unsustainable investment in expansion of the LLU footprint:<sup>26</sup>

*“We recognised that any increase in the MPF charge would have an impact on the LLU footprint. However, it would not be appropriate to encourage further roll-out if that roll-out is ultimately inefficient and unsustainable. We said that our intention was to set current charges and signal the likely direction of future price movements such that CPs can make decisions about whether to invest in further LLU. We believed that this was most appropriate in terms of furthering consumers’ interests.”* A5.11

The risk that expansion of LLU goes beyond the footprint that is economically efficient increases over time since unbundling will occur first at those exchanges where it is most profitable (and may have been profitable with undistorted wholesale input prices) with later expansions ever more marginal commercially – and therefore more likely to be inefficient were wholesale prices undistorted. This risk

<sup>23</sup> Alternatively, were the differential sustained and EE to switch to WLR+SMPF, that may involve wasteful investment induced by the artificially high differential.

<sup>24</sup> Ofcom. May 2009. “A new pricing framework for Openreach Annexes.”  
<http://stakeholders.ofcom.org.uk/binaries/consultations/openreachframework/statement/annexes.pdf>

<sup>25</sup> <http://www.talktalkgroup.com/~media/Files/T/TalkTalk-Group/pdfs/presentations/2013/preliminary-results-presentation-2013.pdf>

<sup>26</sup> Ofcom. May 2009. “A new pricing framework for Openreach Annexes.”  
<http://stakeholders.ofcom.org.uk/binaries/consultations/openreachframework/statement/annexes.pdf>

is exacerbated by the shift towards take-up of super-fast broadband products which may make some investment in unbundling short lived.<sup>27</sup> Whilst those operators unbundling local loops may anticipate that a proportion of copper loops will transition to fibre, they are nevertheless encouraged to over invest in unbundling due to a cross subsidy. Eliminating the subsidy would remove the risk of inefficient investment.

## 5.4 Elevation of regulatory risk

Distorted wholesale input prices introduce an additional element of regulatory risk since overall revenues become more sensitive to any unanticipated change in volumes (as different wholesale inputs make differential contributions to common cost recovery). This additional uncertainty increases the risk in terms of revenue for BT. Further, it creates uncertainty and risk going forwards for BT's wholesale customers as unanticipated volumes changes will necessitate corrections in wholesale prices at the next review.

These risks do not arise if MPF and WLR have a cost-based price differential. Considerations of regulatory risk therefore also points to a rapid removal of the price differential.<sup>28</sup>

## 5.5 Commitment and predictability and the link to investment and innovation

Now that competition is established, ensuring that wholesale price differences reflect incremental cost differences is the efficient approach and is in customers' interests. It is efficient because it ensures that the least cost wholesale input mix is chosen by operators to provide broadband service (productive efficiency).<sup>29</sup> As Ofcom put it in the December 2013 consultation:<sup>30</sup>

*"We have set out our view above that there would be efficiency advantages from setting charges such that they reflect the differences in LRIC and that we do not consider it is necessary or desirable to set charges to favour MPF-based competition over other forms of competition. Rather, we consider that in principle charge differentials equal to LRIC differentials are likely to lead to efficient investment incentives and competition on the merits."*  
Paragraph 8.62

<sup>27</sup> We note that whilst utilisation of MPF and WLR+SMPF involve costs incurred at the exchange, those costs are greater in the case of MPF.

<sup>28</sup> We also note that an extended phase-out of cross subsidy over more than one control period may increase uncertainty about the extent and rate of phase-out in the second period, since the approach might change at the subsequent review.

<sup>29</sup> Ofcom discuss in the December 2013 consultation document the possibility that a departure from a price differential which is cost reflective might be efficient on allocative efficiency grounds i.e. that aiming to recover a greater share of common costs from either MPF or WLR might minimise any reduction in demand and consumer benefit (to adopt Ramsey pricing). We agree with Ofcom's conclusion that it unclear *a priori* what adjustment, if any, would be appropriate and that there is insufficient evidence to support such an approach. We also note that customer choices and the implications for optimal pricing would need to be assessed in terms of wider market considerations and dynamics including the potential for mobile to meet customer demand for voice and broadband access.

<sup>30</sup> Ofcom. December 2013. "FAMR Consultation: Openreach quality of service and approach to setting LLU and WLR Charge Controls." <http://stakeholders.ofcom.org.uk/binaries/consultations/regulated-access-market-llu-wlr-charge-controls/summary/famr-2013.pdf>

However, Ofcom go on to argue that some aspects of dynamic efficiency point to a more gradual change in paragraphs 8.63:

*“The differential between WLR+SMPF and MPF charges is currently £19. We signalled in the March 2012 Statement that we would set charges to reflect the LRIC differential, and provided an estimate of £10 to £14. Our revised estimate of this differential is £0 to £4. This is a much lower range than previously anticipated.*

*We are concerned that to reduce the differential from £19 to £0 to £4 in three years may undermine the stability and predictability of the regulatory regime contrary to regulatory certainty. On this basis, we are concerned that MPF operators will have continued to make investments in their networks and in unbundling new exchanges on the basis of the March 2012 Statement. If our actions were to undermine the profitability of these investments, it could undermine regulatory certainty.*

*We consider that regulatory certainty is important to enable stakeholders to make informed investment decisions in the future, and to encourage them to make significant (and often sunk) investments. This is relevant to the markets we are considering for this review, and more generally to other markets affected by decisions made by Ofcom. We expect efficient investment and innovation to deliver benefits to consumers, including through increased competition.*

*In order to not undermine regulatory certainty we therefore consider that we should move more slowly in setting charges to reflect the LRIC differential.”*

We therefore consider the above issues in relation to investor expectations, regulatory commitment and predictability and the implications for investment and innovation.

In assessing these issues we first consider investor expectations. We then consider the question from a public interest perspective, firstly considering commitment and predictability in relation to the price level *per se*, and then from the perspective of adherence to a set of regulatory principles. We also consider whether different interpretations of commitment and predictability may be appropriate in different circumstances.

## 5.6 Reasonable investor expectations

The principle that price differences between MPF and WLR+SMPF should reflect estimated cost differences has been consistently set out by Ofcom. Investors should therefore have expected alignment between the two.

Further we note that Ofcom have clearly expressed the view that it is not their intention to guarantee the returns of LLU operators.<sup>31</sup>

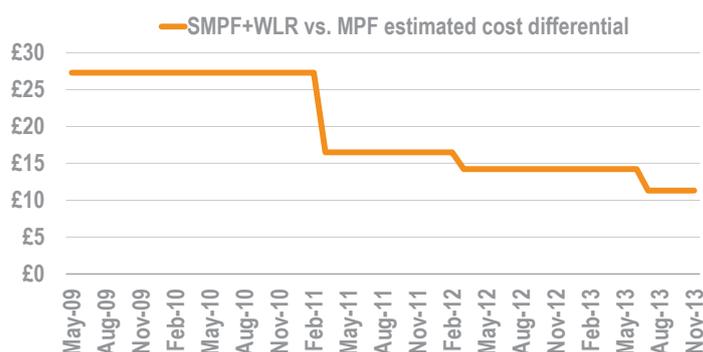
*“This impact on LLU operators is a concern, and has been an input to our consideration of the appropriate price path. But our intention is not to guarantee the returns of LLU operators. Rather, we aim to provide a stable and predictable regulatory framework that allows operators to make informed judgements about investments. We consider that in adopting an approach consistent with our usual approach to setting charges we will best provide such a framework.”*  
A5.67

<sup>31</sup> Ofcom. May 2009. “A new pricing framework for Openreach Annexes.” Para A5.6 (see also A5.3)  
<http://stakeholders.ofcom.org.uk/binaries/consultations/openreachframework/statement/annexes.pdf>

Ofcom also clearly stated their intention to phase out the relative price versus cost differential by 2012/13. We also note that estimates of the differential between MPF and WLR+SMPF have narrowed over time (see Figure 5-1), so it seems reasonable for investors to have considered the risk that the estimated cost margin would narrow further in future (as it now has).

Figure 5-1

### The estimated cost differential (prior to Dec 13)



Source: Ofcom

Investor expectations are an important consideration, but ultimately the regulatory decision regarding MPF and WLR+SMPF wholesale prices should be made taking into account consumers' short and long-term interests. We now consider two perspectives of commitment and predictability and assess what weight they should be given in reaching a decision in this instance.

## 5.7 Commitment and predictability in relation to price levels

There are instances where there may be a legitimate argument for commitment and stability in relation to price levels, as opposed to the approach to setting price levels. For example, the European Commission (EC) recommendation on costing and non-discrimination seeks stability in copper prices, and Ofcom's Chief Economist Peter Culham introduced the concept of "*Dynamically efficient value*" which "*depends on what is required to avoid expropriation of assets*" in relation to access pricing.<sup>32</sup>

Below we consider how commitment in relation to an overall price control (the price of copper) differs from commitment in relation to the relative price of two wholesale inputs which are both derived from an underlying copper line.

### 5.7.1 Opportunity to adjust to a change in an overall price control

In relation to the September 2013 recommendation on costing and non-discrimination,<sup>33</sup> the EC were seeking real price stability for copper-based services, given a history of price reduction and concern

<sup>32</sup> Peter Culham. 28 November 2012. "Pricing Access Networks in the Transition to NGA - Promoting Efficient Investment." ECTA Conference.

<sup>33</sup> EC. September 2013. "Commission recommendation on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment - C(2013) 5761."

on the part of potential investors in fibre that a downward price path for legacy access services implied greater risk in relation to fibre investment. If the price of copper is lowered there is very little a network operator can do to compensate.

Further, the EC also proposed that – subject to non-discrimination requirements and availability of a regulated copper product – operators should have freedom to set the wholesale price of fibre (as is the case in the UK). The copper and fibre prices, and the extent of investment in fibre, could therefore be determined by the market according to anticipated willingness to pay and demand for fibre. A shift in the price of copper does not distort this choice, but it does send a signal to investors regarding the risk that fibre investment – once sunk – may be subject to a price control that risks denying cost recovery. A combination of stability in relation to the price of copper and flexibility in relation to the price of fibre is therefore likely to encourage investment and hence further the interests of consumers.

## 5.7.2 Opportunity to adjust to relative wholesale input price change

For relative wholesale input prices, the circumstances differ from those discussed above in two respects:

- First, if the differential does not reflect the underlying cost differential then there is an incentive to choose an inefficient input mix and to make socially inefficient investments.
- Second, if the wholesale price relativity is changed then those purchasing wholesale inputs can change their relative dependence on the inputs. There is also scope for retail prices to adjust partially offset the change at the wholesale level and limiting the impact on operators' bottom line.

The value of price stability *per se* versus stability of regulatory approach (which may imply price changes if the evidence changes) therefore depends on the circumstances. In the case of the copper price and copper-fibre transition there is a sound rationale for copper price stability and fibre pricing freedom. In the case of the relative input price differential for two copper-based wholesale products we conclude the opposite, namely that prices should adjust to reflect the best current estimate of the cost differential.

We now consider commitment and predictability interpreted as adherence to a set of regulatory principles and evidence based regulation.

## 5.8 Commitment and predictability in relation to principles

In a dynamic and uncertain world predictability cannot reasonably mean that regulatory determinations are forever constant. An alternative interpretation of predictability is that a regulator behaves accordingly to a set of objectives and principles, and on the basis of available evidence, in reaching decisions. Commissioner Neelie Kroes has emphasised this interpretation:<sup>34</sup>

*"Regulation needs to be based on sound economic methods, up to date data and reflective of market developments to ensure that both regulated and alternative operators have the right incentives to invest in new technology and competition is not distorted".*

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<https://ec.europa.eu/digital-agenda/en/news/commission-recommendation-consistent-non-discrimination-obligations-and-costing-methodologies>

<sup>34</sup> [http://europa.eu/rapid/press-release\\_IP-13-1247\\_en.htm](http://europa.eu/rapid/press-release_IP-13-1247_en.htm)

Ofcom Chief Executive Ed Richards has also put weight on predictability:<sup>35</sup>

*“Deployment of next generation technologies is a long-term strategy. It needs a regulatory system which is transparent, predictable, sustainable and fair for all categories of investor, in both the short and the long term.”*

Ofcom’s regulatory principles – set out in Figure 5-2 – are consistent with a principled evidence-based approach to regulation, whereby regulated prices do adapt to new information but in a predictable way.

**Figure 5-2: Ofcom’s Regulatory Principles**

Ofcom will regulate with a clearly articulated and publicly reviewed annual plan, with stated policy objectives.

Ofcom will intervene where there is a specific statutory duty to work towards a public policy goal which markets alone cannot achieve.

Ofcom will operate with a bias against intervention, but with a willingness to intervene firmly, promptly and effectively where required.

Ofcom will strive to ensure its interventions will be evidence-based, proportionate, consistent, accountable and transparent in both deliberation and outcome.

Ofcom will always seek the least intrusive regulatory mechanisms to achieve its policy objectives.

Ofcom will research markets constantly and will aim to remain at the forefront of technological understanding.

Reasonable investor expectations could be expected to take the above principles into account, and to consider the prospect that new evidence regarding costs could lead to a revision of prices.

At a strategic policy level, new information regarding markets may also reasonably be expected to alter regulatory priorities. Were the Strategic Review of Telecommunications carried out today it is likely that the conclusions would be different to those in 2005 because the market and priorities consistent with consumers’ short and long-term interests have changed. Evidence of this is provided by the weight Ofcom put on fibre in 2009 (and subsequently):<sup>36</sup>

*“The rollout of super-fast broadband marks one of the most fundamental changes to the UK’s telecoms networks. It will bring real benefit to its consumers, business and the economy. Ofcom’s overarching aim in super-fast broadband is for consumers and citizens to benefit from timely investment, competition and widespread availability.”*

Promoting competition based on local loop unbundling could be expected to get far less emphasis today, since competitors with scale are now established and unbundling is no longer clearly the right way to maximise competition, innovation and investment given the priority for fibre investment.

Further, whilst aligning wholesale input price differentials with cost differentials remains an Ofcom objective, the cost of not doing so promptly has risen given that:

- More recent Ofcom cost estimates imply that the cross subsidy is larger than previously thought, and growing as volumes of MPF lines climb ever higher.

<sup>35</sup> <http://media.ofcom.org.uk/2009/06/25/ecta-conference-fibre-investment-for-europes-recovery/>

<sup>36</sup> Ofcom. March 2009. “Delivering super-fast broadband in the UK Promoting investment and competition.” [http://stakeholders.ofcom.org.uk/binaries/consultations/nga\\_future\\_broadband/statement/statement.pdf](http://stakeholders.ofcom.org.uk/binaries/consultations/nga_future_broadband/statement/statement.pdf)

- With the transition to fibre underway, continued investment in unbundling will see assets stranded as customers switch to fibre. Further unbundling may therefore be privately profitable (given the cross subsidy) but socially wasteful.

We also note that in 2009 Ofcom pledged to adjust prices to mirror the cost differential by 2012/13:<sup>37</sup>

*“We considered that a full rebalancing over four years [i.e. adjust prices for each service over time so that they equal the CCA FAC by 2012/13] would be most in consumers’ interests. Under this option, charges would increase such that they would reach the level of CCA FAC after four years.” A5.6*

We conclude that commitment and predictability in relation to the wholesale price differential should be interpreted in terms of commitment to the principle that the price differential should reflect the estimated cost differential, rather than to a commitment to existing price relativities *per se*.

## 5.9 Conclusion regarding balance of costs and benefits

Maintaining an input price differential in excess of the cost differential distorts the choice of wholesale inputs, causing static welfare loss and risking inefficient levels of unbundling. Maintaining an artificial differential is also arguably no longer justified in terms of the objectives of the 2005 Strategic Review of Telecommunications since unbundling and competition at scale is now established and a transition to fibre is now underway.

In relation to investor expectations, commitment and predictability, we conclude that an evidence-based approach alongside the principle that input price differentials should reflect cost differentials should reasonably be expected by investors. We do not consider it reasonable for investors to expect continuation of a wide price-cost differential between MPF and WLR + SMPF given the evidence Ofcom now have regarding the cost differential.

Immediate removal of the distortion is therefore appropriate consistent with consumers’ interests.

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<sup>37</sup> Ofcom. May 2009. “A new pricing framework for Openreach Annexes.” Para A5.6 (see also A5.3) <http://stakeholders.ofcom.org.uk/binaries/consultations/openreachframework/statement/annexes.pdf>

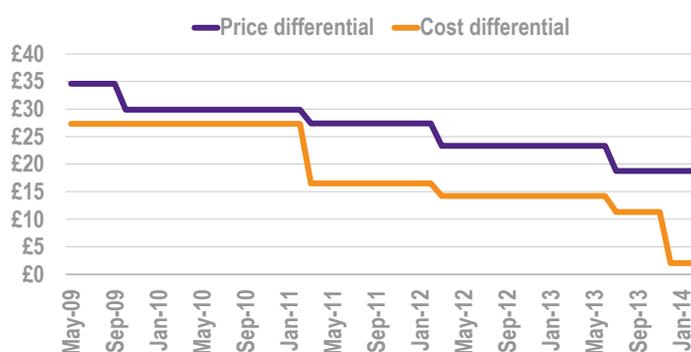
## 6 Alternative paths to align price and cost differentials

At a basic level there are two types of transition – immediate (or P<sub>0</sub>) and gradualist. Historically the margin between the price of MPF and WLR+SMPF has decreased progressively since 2009, as illustrated in Figure 6-1.

However, the cost differential was revised downwards in the December 2013 consultation<sup>38</sup>, significantly widening the gap between the price and the cost differential.

Figure 6-1: Historical reduction in differential between MPF and WLR+SMPF

### SMPF+WLR vs. MPF differentials



Source: Ofcom

As a consequence, the magnitude of the economic distortion – which is distorting input choice, investment in LLU and competition between providers utilising MPF versus WLR and SMPF – is now known to be greater than previously realised, indeed it is now greater than it was thought to be in May 2009.

Previously in 2009 Ofcom had stated that:<sup>39</sup>

*“Prices should move to the underlying FAC by 2012/13”, page 43*

We now know that a significant distortion to prices remains in 2014. The question is how best to eliminate this distortion.

### 6.1 The “glide path” argument is not relevant

It has been argued that a “glide path” should be applied in bringing the regulated price differential into line with the estimated cost differential, consistent with the approach applied to price caps. In considering the question of consistency it is important to distinguish input price realignment from the considerations relevant to an aggregate price cap.

<sup>38</sup> Ofcom. “December 2013. “Fixed access market reviews: Openreach quality of service and approach to setting LLU and WLR Charge Controls.” Para 7.48 <http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-market-llu-wlr-charge-controls/summary/famr-2013.pdf>

<sup>39</sup> Ofcom. May 2009. “A new pricing framework for Openreach - statement.” <http://stakeholders.ofcom.org.uk/binaries/consultations/openreachframework/statement/statement.pdf>

For an aggregate price cap the relationship between cost reduction and changes in the price control does matter in terms of incentives for efficiency. However, here we are considering relative input prices, not overall incentives for efficiency. Further, in a competitive market one would expect prices to adjust almost instantaneously if input prices change (unless long-term contracts are in place).<sup>40</sup>

The fact that a glide path is applied by Ofcom in overall price controls does not therefore imply that a glide path should apply to an adjustment of relative input prices to align them with relative costs.

## 6.2 Distinguishing cost categories in relation to immediate adjustment versus phasing

As discussed in the previous sections there are sound reasons for seeking to remove the remaining price distortion as soon as possible. Nevertheless, if there is concern regarding expectations in relation to prior investment, then existing and new MPF lines could be distinguished with a phase-out being adopted for the latter.

This approach would be imperfect, since some past investment relates to the provision of future MPF lines. However, the approach may allow a pragmatic balancing of concern regarding investor expectations in relation to past investment (despite the economic costs involved in terms of welfare loss) with a desire to eliminate a distortion in relation to future investment. The approach would also appear to rest on information that is observable and verifiable i.e. whether an unbundled line is 'new' or 'existing'.

## 6.3 Estimates of the distortion for different phase-out scenarios

We quantify three methods that could be used to eliminate the distortion:

- Adjust prices to mirror the cost differential immediately. This approach minimises the static welfare loss. No future welfare loss is generated, so the overall static welfare loss remains at the present level.
- Adjust prices to mirror the cost differential over 6 years. This is broadly consistent with Ofcom's option of reducing the charge differential between WLR+SMPF and MPF to £10 by 2016/17 and continuing this process for 3 more years. This means extending the period over which the price distortion is in effect. In turn, this will increase the magnitude of the welfare loss.
- Immediately rebalance prices for new MPF lines, and phase out the differential for existing MPF lines over 3 years (as discussed previously).

Our estimate of the upper bound cumulative static welfare loss calculated on this basis is shown in Figure 6-2 and in Table 6-1 (the estimates are undiscounted).

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<sup>40</sup> We note that in a competitive market near instantaneous adjustment of prices in response to cost changes is consistent with strong incentives for efficiency since with competition the market price is exogenous for any given firm.

Figure 6-2



Source: Plum Consulting, Ofcom

Table 6-1: Upper bound static welfare loss estimate since 2005

Approach	Cumulative	Incremental vs. immediate adjustment	
Adjusting prices immediately	£623m		
Adjust prices over 6 years	£992m	+£369m	+59%
Adjust prices for new MPF lines immediately, and for existing MPF lines over 3 years	£738m	+£115m	+18%

Note: The above estimates are undiscounted (application of a social rate of time preference of 3.5% would make little difference to the magnitudes over the relevant time horizon).

The above estimates indicate that a hybrid approach with immediate removal of the price distortion for new MPF lines alongside a 3 year phased removal for existing MPF lines would involve substantially lower additional costs than a 6 year phase-out.