Appendix 3.6: Analysis of costs by payment method

Overview of appendix

1. This appendix presents an analysis of the costs to suppliers associated with supplying customers on different payment methods (direct debit (DD), standard credit (SC) and prepayment meter (PPM)). The results of this analysis inform our assessment of:

   (a) the detriment to customers arising from certain of the AECs we have provisionally identified in the domestic retail markets; and

   (b) the prepayment uplift ('cost to serve allowance') that we have provisionally concluded should be included in a price cap applying to PPM customers.

2. This appendix is ordered in three sections:

   (a) Section 1 provides a review of Ofgem's analysis of the cost to serve.

   (b) Section 2 sets out our analysis of PPM cost-to-serve information obtained from suppliers.

   (c) Section 3 sets out our analysis of SC cost-to-serve information obtained from suppliers.

Summary of findings

3. In Section 1 we identified that the work Ofgem carried out in its review did not seek to understand the level of costs reported and the differentials these implied. We also noted the wide range of results at an individual supplier level for both the differential costs of SC and PPM. The average cost differentials of

the Six Large Energy Firms were said to be £80 for SC customers and £80 for PPM customers.[1]

4. In Section 2 we consider evidence from a variety of sources to reach a provisional conclusion on what a reasonable differential cost between PPM and DD customers might be. Having identified that some of the data submitted by suppliers was not particularly robust we made our own estimate of what a reasonable differential between DD and PPM customers might be. We then compared the range suggested by our estimate (of £50 to £66) with the average value suggested by the Six Large Energy Firms' data at £62 (which we had restated to remove known anomalies); with the cost differential of Utility Warehouse at [✂] (the most comparable of the mid-tier suppliers) and the most efficient of the Six Large Energy Firms' differential ([✂] at [✂]). We have provisionally concluded that the proposed cost differential we are minded to use is £54 per customer (£22 electricity; £32 gas).

5. In Section 3 we apply a similar approach to that taken in Section 2 to reach a provisional conclusion on what a reasonable differential cost between SC and DD customers might be. In the case of the SC segments we have identified bad debt costs and working capital requirements as the major differential costs to the DD segment but again found that the data supplied to us was inconsistent between suppliers, producing a wide range of results. We made our own estimate of the differential costs, comparing with other industry data where possible. We have provisionally concluded that a figure of £82 (£35 electricity; £47 gas) is a reasonable estimate of cost differential.

Section 1: Review of Ofgem's analysis of the cost to serve

6. Ofgem has carried out several exercises over the past few years to understand the cost differentials that exist between payment types. We describe below the major analysis on understanding price differentials over the past few years.

7. In 2008 Ofgem launched the Energy Supply Probe. This was an investigation into the electricity and gas supply markets for households and small businesses. It found that although the markets were working well in important respects there were a range of features in the markets that weakened competition. The result was that the markets were not working in the best interests of consumers.

8. Ofgem identified that the average tariff differential between PPM and DD customers of Six Large Energy Firms had increased from around £80 at the

[1] Ofgem open letter (20 May 2014), Price differences between payment methods.

beginning of 2005 to around £125 at the beginning of 2008. Over the same period, the average differential between SC and DD increased from around £40 to £80. By September 2008, the average differential between PPM and DD of the Six Large Energy Firms had fallen to £118. The average differential between SC and DD remained at just under £80.[2]

9. The Energy Supply Probe also recognised that the PPM-DD differential varied considerably, depending on the assumed level of consumption. This was said to be because suppliers appeared to recover some of the additional costs of PPM services through the unit charge, rather than the standing charge. The average differential between PPM and DD for a 'low consumption'[3] customer was estimated to be just £80 a customer, while for 'high consumption' users it was £170.[4]

10. Ofgem also found that evidence from company submissions suggested that average PPM consumption was 8% below average in electricity and 20% below average in gas. Ofgem estimated that for a typical PPM customer, therefore, the price differential actually paid was around £86.

11. In recognition of this differential, one of the outcomes of the probe was the introduction of Standard Licence Condition (SLC) 27.2A into both the electricity and gas supply licences. Under this condition (introduced in 2009), any difference in prices between payment methods should be cost reflective.

12. Under SLC 27.2A suppliers must ensure that any differences in charges between payment methods are cost-reflective. We understand that suppliers have a degree of latitude over how they allocate costs between payment methods[5]. The majority of suppliers, including all of the Six Large Energy Firms, charge higher prices to customers that do not pay by DD.

13. Following further concerns that the retail energy markets were not working effectively for consumers (both domestic and commercial) Ofgem launched the Retail Market Review in late 2010.

14. The review recognised that while there had been some improvements since the 2008 Energy Supply Probe, many of the barriers to effective consumer engagement remained. These barriers included the complexity of tariff options, the poor quality of information provided to consumers and low levels

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[2] Ofgem (6 October 2008), Energy Supply Probe - Initial Findings Report, paragraph 7.47.
[3] Low consumption was estimated at gas 10,000 Kwh, electricity 1,650 Kwh. High consumption at gas 28,000 Kwh, electricity 4,600 Kwh.
[4] Energy Supply Probe 2008, paragraph 7.51.
[5] https://www.ofgem.gov.uk/sites/default/files/docs/2014/05/open_letter_final_republished_0.pdf.

of trust in energy suppliers. One of Ofgem's proposed changes was to reduce the number of tariffs available. [✂].[6]

15. Ofgem also identified that suppliers had dramatically decreased the premium charged to PPM customers with respect to their SC customers. Some suppliers were said to now charge less, per year, to their PPM customers. This reduced the differential between PPM and SC, so that PPM customers were paying, on average, £20 less than SC customers for their gas and electricity.[7]

16. In early 2014 Ofgem issued an information request to gather information from suppliers on the prices they charged domestic consumers for different payment methods. This request asked suppliers to describe their approach to setting price differences between payment methods and to explain why they considered this ensured any differences were cost-reflective. Ofgem also asked for suppliers' total annual costs for 2012 for the cost categories that differed by payment method. This was to enable Ofgem to check suppliers' compliance with SLC 27.2A.

17. The information request was voluntary. Ofgem received responses from 13 suppliers, including all of the Six Large Energy Firms, of which nine provided data on how their total annual costs for 2012 differed by payment method.

18. In May 2014 Ofgem issued a letter providing its conclusions from the review of the data supplied.[8] Ofgem found no evidence to suggest that costs were being unjustifiably added to the bills of typical PPM and SC customers. It said that the differential paid by gas PPM customers was typically below what would be justified in cost terms.

19. Overall, since Ofgem introduced SLC 27.2A to address unjustified price discrimination in 2009, the difference in price for a PPM customer compared with one paying by DD is said to have fallen significantly from £140 to around £80 per year[9]. Average price differences for SC customers are also said to be around £80 per year at that time compared with those paying by DD.[10] Looking ahead Ofgem said it would expect to see price differences fall with the roll-out of smart meters, for example because the meter can operate in

[6] [✂].
[7] Ofgem (21 March 2011), The Retail Market Review – Findings and initial proposals, paragraph 2.28.
[8] https://www.ofgem.gov.uk/sites/default/files/docs/2014/05/open_letter_final_republished_0.pdf
[9] ibid, p1.
[10] ibid, p1.

both smart and prepayment mode, removing the need to install and maintain a PPM.[11]

20. Ofgem concluded from its review of costs that:[12]

(a) Suppliers' costs for providing different payment methods vary.

(b) The costs of supplying PPM customers are generally higher than for DD customers. This is in part due to:

(i) the need to install a PPM at the customer's premises, which is more expensive to buy and maintain than a credit meter;

(ii) PPM relying on a bespoke payment infrastructure; and

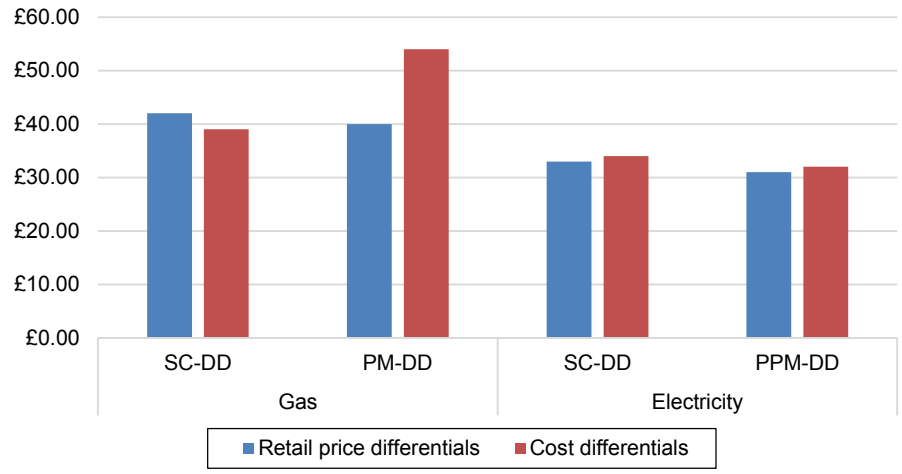
(iii) issues specific to PPM customers, such as problems in topping up the meter, which mean they are more likely to call their supplier resulting in higher costs to serve.

(c) The costs of supplying SC customers are also higher than for DD customers. The data submitted by suppliers indicates that this is primarily driven by bad debt costs, including debt management costs and recovery of debts, provision for bad debts and bad debt write-offs where appropriate.

21. We understand from Ofgem that the comparison it carried out compared the tariff differentials to the reported cost differentials rather than assessing the validity of data on cost differentials received. Figure 1 summarises its findings.

[11] ibid, p1.
[12] ibid, p4.

Figure 1: Weighted average cost and price differences between payment methods in 2012



Source: Ofgem letter (20 May 2014).

22. We have reviewed the data supplied to Ofgem on a company-by-company basis. We converted the total costs reported into a cost per customer to aid comparison between suppliers.

23. We summarise our findings in Table 1 below.

Table 1: Calculated cost per customer from data supplied to Ofgem

£ per customer

	Electricity			*Gas*		
Supplier	*DD*	*SC*	*PPM*	*DD*	*SC*	*PPM*
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CMA.
*2013 data.
† [✂].

24. Table 2 shows the differential in costs of PPM to the cost of the DD payment method.

Table 2: Differential in PPM and SC costs relative to DD costs

£ per customer

	Electricity		*Gas*		*Total*	
Supplier	*SC*	*PPM*	*SC*	*PPM*	*SC*	*PPM*
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CMA analysis.
* [✂].

25. From these results we observe that:

(a) There is a wide range in the level of total PPM additional costs over DD which vary from £46 to £132. Removing the effect of all PPM bad debt (on the basis this is not appropriately attributable to PPM customers) reduces the figures to between £34 and £127.

(b) Average differential to DD for the Six Large Energy Firms are £84 for PPM and £88 for SC.

(c) For the Six Large Energy Firms the total differential range for SC compared to DD is £57 to £149 per customer.

(d) SSE and E.ON have a much greater difference ([✂] and [✂] – almost [✂]) in costs between gas and electricity PPM. It is not clear why this should be the case.

(e) The SSE data suggests that SC customers cost [✂] as DD customers with PPM customers costing more than [✂]. It is not clear why this should be the case.

(f) Centrica and EDF Energy figures show that on a total level PPM customers cost [✂] than SC customers (although Centrica gas customers cost [✂] using PPM than SC).

(g) The costs reported by Co-operative Energy are [✂] compared with the Six Large Energy Firms' reported costs. Without other mid-tier suppliers' costs it is difficult to draw any firm conclusions from this.

26. Ofgem has commented that suppliers have some latitude in how they allocate costs[13] and we accept that this will give rise to some differences in cost levels. We have explored, however, some of the issues identified.

27. We note that the cost information gathered does not take into account any working capital implications. We would expect PPM customers to have no working capital requirement since they pay for the energy they consume in advance.

28. We note that Ofgem has issued an updated view of PPM tariff differentials[14] and this shows the tariff differential between DD and PPM customers (for the cheapest tariff offered by any of the Six Large Energy Firms) to be at about £255[15] (December 2014 data). Ofgem states that the average differential between the Six Large Energy Firms' SVTs for customers paying via SC and PPM, and those paying via DD, has remained broadly stable over the past year, at around £75.

Section 2: Analysis of PPM cost to serve information obtained from suppliers

Introduction

29. The indirect costs of a supplier serving those customers who pay for their energy by using a PPM are different compared with the cost of serving those customers who pay by DD. This is mostly reflective of the cost of the different meter requirements and different payment system.

30. We have determined (see Section [XXX]) that the price cap cost differential that we will include is to reflect only the indirect cost differentials since we have not seen evidence to suggest that there is a systematic difference in direct costs[16] between customer payment types.

31. From our correspondence with suppliers and from their data submissions it is clear that the major indirect costs of PPM customers are in the cost of metering and in the cost of collecting payment. While suppliers reported large amounts of bad debt costs relating to PPM customers, we note that these customers pay for their energy in advance.

32. The cost of the PPM meter itself is greater than for an SC meter since it requires additional functionality. Gas PPMs are more expensive than

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[13] Ofgem (May 2014), Price differences between payment methods, p6. https://www.ofgem.gov.uk/sites/default/files/docs/2014/05/open_letter_final_republished_0.pdf
[14] Ofgem Retail Energy Markets report 2015.
[15] Figure 6.2.
[16] Direct costs are costs such as the wholesale cost of energy, the cost of distribution and the cost of environmental and social obligations that suppliers must meet.

electricity PPMs since they also require an additional shut down mechanism for safety reasons.

33. The cost of collecting payment consists of the costs of the PPM infrastructure provider (PPMIP) and the costs of the actual collection of cash via the National Service infrastructure Providers (NSPs). The PPMIP is a management information provider and generally acts as a conduit for data, processing it for suppliers and also providing services such as card key[17] replacement. The NSPs (Paypoint, Post Office and Payzone) provide the infrastructure that deals with the payment.

34. In order to understand the cost differences arising from different payment methods we asked suppliers to provide us with their understanding of the cost of dealing with DD customers, PPM customers and of those who pay by SC. Suppliers were asked to allocate the cost of bad debt to the payment category under which it arose (debt is frequently transferred to PPM to be recovered but we do not consider this a cost of PPM customers). We note that while most PPMs are installed due to debt, only 7% of electricity PPM customers and 10% of gas PPM customers are currently in debt to their energy supplier.[18]

35. Suppliers commented that their systems were not set up to collect cost data according to these subsets of costs and that any submission would be subject to some estimation on the allocations made. While we accept that some of the data might not be immediately available we would expect suppliers to understand the difference in the cost to serve each group. If suppliers did not have such information they would have no rational basis for setting the tariffs for each group.

36. We also note that the suppliers are subject to Standard Licence Condition (SLC) 27.2A which is incorporated in both the electricity and gas supply licences. Under this condition of the supply licence, any difference in prices between payment methods should be cost reflective.

37. In response to our consultation on our second supplemental notice of possible remedies one respondent said it was interested in understanding the basis for attributing a higher cost-to-serve to PPM customers. The respondent said that such customers should, in principle, be lower maintenance (no meter readings

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[17] The card key is used by PPM customers to add credit to their meters. The customer takes the key into a shop and pays for credit to be added. The terminal reads the card and obtains the host details, supplier and tariff information. If the tariff rate has changed the key will be updated. The customer takes their key (with updated credit) and inserts it into the PPM. This adds the credit to the PPM and updates any tariff data.
[18] Ofgem (23 June 2015), Prepayment review: understanding supplier charging practices and barriers to switching, p5.

required, no quarterly bills, no cash-flow delay, negligible bad debt risk etc). It also observed that, the savings associated with PPM customers should, to some extent at least, offset (unspecified) infrastructure costs attributable to PPMs, which should nevertheless diminish over time.[19]

38. We used the suppliers' data to calculate a differential for both electricity and gas PPM customers compared with DD customers.

39. In light of the limited quality of the cost data we received from suppliers and the limited confidence we are able to place on the differential implied we also estimated, from a bottom-up approach, the value of costs that we believed might vary between the two payment types. This approach is described below.

Suppliers' data submissions

40. We received data from ten suppliers together with responses to specific questions that we raised. We asked suppliers to allocate the costs relating to debt to the payment segment in which the debt originated. Where this had not happened we asked suppliers to resubmit their data.

41. Table 3 summarises the cost to serve as resubmitted to us.

Table 3: Suppliers submitted 2014 cost-to-serve data

£ per customer

	Electricity			*Gas*		
Supplier	*DD*	*SC*	*PPM*	*DD*	*SC*	*PPM*
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CMA analysis.

42. As Table 3 shows, costs to serve gas customers are generally higher than those for electricity customers. This is due primarily to the greater need for safety precautions with gas,[20] which impact the cost of metering, but also

[19] BGL response to second supplemental notice of possible remedies, paragraph 3.4.
[20] E.ON told us for example that an engineer was required to check a customer's other gas supplied household products, to ensure that they all started safely following a meter exchange event.

reflects a slightly higher cost of bad debt for gas customers (which reflects the different profile for customer gas consumption and price).

43. From this data the differential cost between those customers using PPMs compared with those paying by DD was as shown in Table 4.

Table 4: Summary differential costs (PPM to DD)

£ per customer

Supplier	*Electricity differential*	*Gas differential*	*Total differential*
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]

Source: CMA analysis.

44. Taken at face value, these figures imply an average approximately £90 cost differential between DD and PPM customers for the Six Large Energy Firms. We note that when Ofgem reviewed compliance with SLC27.2A in May 2014[21] it found that there was no evidence to suggest that costs were being unjustifiably added to the bills of PPM meter customers and that price differences between gas PPM and DD for these suppliers were on average actually lower than their cost differences. It said that since May 2010, differences in bills between SC and PPM customers compared with those paying by DD have broadly remained the same at around £80 per year.

45. The differential shown for Centrica is [✂] than the [✂] which it has recently advised us is the price differential between DD and PPM.[22]

46. We note that the cost-to-serve differential for PPM customers reported by the mid-tier suppliers was lower[23] than that suggested by the Six Large Energy Firms. This is somewhat surprising since the larger suppliers might be expected to have considerable economies of scale commensurate with their larger customer bases.

47. We note, however, that PPM customers reflect a disproportionately small part of the mid-tier suppliers' customer bases (on average less than 3% of total customers ranging from 0.1 to 6.6%). We have therefore considered whether

[21] Ofgem open letter (20 May 2014), Price differences between payment methods.
[22] Centrica response to supplemental PPM remedies, p4.
[23] After adjusting Ovo Energy customer numbers to year-end position to reflect the abnormal growth in the year.

the mid-tier suppliers' data might not be reliably comparable to the Six Large Energy Firms:

(a) We note that Ovo Energy only entered the PPM segments in 2014 and thus the costs seen for that year might be expected to be unusually high. The Ovo year-end customer numbers were sufficiently different from the average used in the calculations to reduce the differential from £81.48 shown in Table 4 to £5.04.

(b) We calculated from the Co-operative Energy submission that its PPM customer base had increased by almost [✂] in two years which again would impact cost items. This growth together with the small number of PPM customers makes the results at a cost per customer level volatile and hence less reliable.

(c) First Utility reported fewer than [✂] PPM customers[24], which again would impact any comparisons (any small variation in allocation of costs over a small customer base would have a disproportionate impact on cost per customer). They represent about [✂]% of First Utility's total customer base.

(d) The data set supplied by Utility Warehouse appears more comparable, and we note that [✂] of Utility Warehouse customers have PPMs. We note that Utility Warehouse has recently been [✂], however, we consider that the differential costs of metering and payment should be of direct comparison to the Six Large Energy Firms.

48. We therefore decided to place only limited weight on the data from the mid-tier suppliers, relying only on Utility Warehouse data where appropriate in our consideration of the cost differential between DD and PPM customers.

Commentary on quality of data submission

49. We recognise that the provision of this data was not a simple exercise for any supplier, however we have concerns with the quality of some of the returns. We raised queries with suppliers where the data appeared to be inconsistent or where we did not understand the allocation basis.

50. Some of the replies we received from suppliers appeared to show a lack of understanding of what had been submitted and, by inference, of the cost to serve the different payment types.

[24] As at 2014, the date of our comparison.

51. SSE commented that some of the analysis of overheads between payment methods was based on [✂]. As a result some of the CMA's detailed questioning was difficult to answer definitively.

52. RWE said that it amended its 'cost to' allocation rules to determine cost allocations across payment types, in recognition of the fact that the CMA required a more accurate view of specific cost lines than was provided by RWE's internal cost allocation methodology. This meant that for some cost items there were inconsistencies between the actual cost charged and the 'cost to' allocation methodology. RWE said that although the latter was not always perfect it provided a broadly robust breakdown of the total cost base.

53. [✂].

54. RWE told us that PPM customers accounted for [✂] of call centre costs although they formed only about [✂] of the customer base. It said that customer numbers did not give a fair representation of total customer contacts by payment type and therefore time spent on dealing with different payment types. RWE commented that PPM calls were more complicated and took longer than calls from other customer types and provided a table showing a weighting of costs to PPM of [✂] times those of DD customers. We asked RWE to clarify the period of the data, and RWE confirmed that the cost allocation methodology was based on 2009 data and was used specifically for the purpose of the CMA's information request. RWE said that this was because [✂]. RWE told us that at the time of putting the methodology together it was reflective of the customer base. We note that the results of the RWE methodology were very different to the submissions of the other the Six Large Energy Firms where call centre costs relating to PPM customers were mostly lower than those for DD customers. EDF Energy commented that relative [✂].

55. [✂] also told us that the PPM customers took a higher proportion of billing costs because the 'billing journey' needs more technical support. [✂] allocated [✂] of billing costs to PPM customers despite these forming [✂] of the customer base. We note that none of the other Six Large Energy Firms apportioned large amounts of billing costs to PPM customers and on average (excluding [✂]) the cost per customer was £1.35 for electricity and £1.47 for gas. The comparable [✂] values were £10.72 for electricity and £11.18 for gas.

56. We asked [✂] about its reported cost of collection for PPM customers compared with other payment types [✂]. We would expect costs for PPM customers to be lower in this category (the main PPM collection costs were specifically detailed in another category) and the [✂] explanation does not

explain why the reported differential as between DD and SC and PPM respectively should exist. As a result of our restatements, where we moved the internal cost of bad debt out of reported collection costs (see next section) the differential reduced but was still higher than we would have expected.

57. Scottish Power told us that although the cost allocation between payment methods was correct at a total 'cost to serve' level, the 'costs to meter' were not reported separately in its IT system and that the individual analysis supplied was less robust at an individual line basis than at a total 'costs to meter' level. The costs at a total level were split on a composite allocation rate formally agreed by responsible business managers. The overall result was a higher PPM differential than reported by other suppliers but it is difficult to understand why this should be. When asked about the differential, Scottish Power said that in its opinion the approach used to produce the information was reasonable and that the costs were as efficient as possible. When asked about the higher differential Scottish Power observed that applying a simple allocation by customer numbers would lead to a different proportional allocation that might not be reflective of the differing cost of PPM customers. We do not dispute this but consider this does not explain why the Scottish Power meter differential costs, which are said to be robust at a total level, are relatively high.

58. EDF Energy drew our attention to the charges published by National Grid Metering Limited (NGM) for installing, maintaining and renting gas meters.[25] The quoted charge for these activities is a rental for credit meters of £15.12 per customer and a rate of £37.84 for PPMs, giving a differential of £22.72. Where suppliers had reported costs in excess of these figures we asked suppliers to comment. Centrica suggested that this was not a fair comparison since the NGM quoted rates only allowed for a certain level of maintenance above which further charges were incurred.[26] We note that the transactional charges referred to appear to apply equally to SC meters and PPMs and so would not cause a differential between DD and PPM customers. SSE told us that Ofgem had imposed a cross subsidy from credit meters to PPMs for NGM charges and suggested this was the cause of any cost difference. We note that there is a small subsidy of £1.25[27] per meter but this does not explain the much larger differences reported by suppliers.

59. We accept that definitive answers are not always possible, however, we expect that, to be able to compete in these markets, suppliers would have a

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[25] National Grid Metering Charges from 1 April 2014
[26] Centrica also highlighted that National Grid only made up around one-third of British Gas's total rental costs and that the remainder were subject to different contractual terms, commercial rates, and rental periods.
[27] National Grid Metering Charges from 1 April 2014, p18, paragraph 3.5.

good understanding of their cost to serve each customer type as between PPM, SC and DD. Where significant anomalies exist between the results of the data and what might reasonably be expected of each segment it is reasonable to expect suppliers to be able to explain these.

60. We have taken into consideration the difficulties that suppliers have told us about and also that relatively small reallocations of costs from DD or SC will have a disproportionate impact on PPM costs per customer since PPM customers form only a small part of the overall customer base. Notwithstanding this we consider that the consistency and reasoning behind the submissions made to us by some of the Six Large Energy Firms were unsatisfactory.

Restatements made

61. Recognising the limitations in the data and following clarifications from suppliers, we adjusted various submissions as follows:

(a) SSE advised us that it had included the internal cost of bad debt within the cost to serve rather than bad debt category. We adjusted the values identified by SSE to aid our comparison across suppliers.

(b) SSE also indicated that [✂] relating to the costs of gas PPMIP in 2014 had been included in its metering accounts entry. We moved this to cost to serve to enable our assessments for this, and for metering, to be consistent.

(c) RWE told us that in its revised data submission it had included [✂] of transformation costs that it had previously considered to be out of the scope of the data requested. RWE said that the transformation scheme was an extensive outsourcing programme. Although we consider that the one-off nature of the costs of this scheme are not fully representative of 'business as usual' and should therefore be excluded, we note that the inclusion or exclusion of these costs substantially changes the overall RWE differential (but neither are considered consistent with the 2013 data). RWE told us that both 2012 and 2014 were not considered 'business as usual' and therefore, as we had only collected three years' data, we were unable to compare the 2014 results to cost trends over time. We did not restate for this difference but consider the implications further below.

(d) Centrica clarified to us that the cost for PPM payment services[28] and the cost of PPM data management had been incorrectly allocated between electricity and gas. We adjusted the data as advised by Centrica (this affected the electricity/gas split but not the total costs reported).

(e) Centrica advised us that its 2014 numbers for electricity PPMs contained an adjustment [✂] following resolution of a dispute from previous years. We amended this to reflect a more consistent cost per customer.

(f) Scottish Power told us that although the cost allocation between payment methods was correct at a total 'cost to serve' level, the detailed allocation of the costs of PPM payment services, PPM data management and other that it provided initially were more approximate. We restated the numbers based on the revised numbers advised by Scottish Power.

(g) E.ON told us that it had included the gross cost of PPMIP activity (it provide a PPMIP service to some other suppliers for which it received income). Although E.ON then suggested that the income was included we were unable to identify this. We therefore deducted the income[29] from the PPMIP reported costs to get a net position reflecting the actual cost of E.ON PPM customers.

(h) E.ON also told us that it had included [✂] of gas PPMIP costs under direct costs. We adjusted the figures to include this amount within indirect costs.

62. We removed any remaining cost of bad debt from the PPM customers of the Six Large Energy Firms and reallocated this on a pro rata basis to the existing DD and SC debt. While small debts can arise, for example on change of occupiers, our supposition is that most of the bad debt costs shown as being attributed to PPM customers arose in other payment segments, and is rightly a cost of that segment. We take this view based on the fact that PPM customers pay in advance and cannot incur energy-related debt (except in certain limited circumstances and then for small amounts).

63. EDF Energy identified electricity PPM fraud as a factor of debt that we should consider. We note that this refers to an issue that was prevalent some years ago.[30] The most recent estimate of the scale of this problem we have found was Ofgem quoting £2.2 million[31] in 2012, and acknowledging that the energy industry had a commitment to address the problem. Since that time there has

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[28] The cost of third parties (eg the Post Office) collecting payments from PPM customers.
[29] As a proxy for the actual costs of supplying this service.
[30] Top-up Safe website.
[31] Ofgem open letter (11 April 2012), Electricity top-up PPM fraud.

been little further publicity on this issue, suggesting that it is no longer a major issue. The £2.2 million quoted equates to less than 55 pence per PPM electricity customer per year. We note that there is also fraud that relates to SC meters but we do not have an estimate of this or the consequent differential in cost to PPM customers. We understand that suppliers have treated fraud as part of the direct cost of supply and therefore the impacts are not included in our assessment of indirect costs. Since there are not reliable figures to estimate the current impact (which may be much less than 55 pence per electricity PPM customer if the problem is no longer an issue), or the differential in costs, we consider this approach to be appropriate.

Result of our revisions

64. The revised results following our revisions are summarised in Table 5.

Table 5: Summary differential costs (PPM to DD)

£ per customer

Supplier	*Electricity differential*	*Gas differential*	*Total differential*
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]

Source: CMA analysis.

65. Table 5 shows a wide range of cost differentials being reported by the Six Large Energy Firms with the biggest differential, despite our revision, twice the size of the smallest ([✂]). We also observe that the difference between [✂] electricity and gas differentials is [✂] compared with the average of about [✂].

Areas of difference between suppliers

66. As outlined earlier the main differences between PPM customers and DD customers are the cost of metering and the cost of collecting payment. Additionally DD customers will incur some costs relating to bad debt (which PPM customers should not incur as they pay for the energy that they consume in advance[32]).

67. The cost of collecting payment is incorporated within the ‘cost to serve’. We have considered isolating the two items within ‘cost to serve’ that specifically

[32] As well as, where relevant, repaying part of any debt element that may be owed by the customer (having previously accrued under DD or SC payment type before moving to PPM).

related to PPM customers only (PPM payment costs and PPMIP costs) but considered that this might not recognise any differential cost of additional administrative activity (eg cost of customer communications). We considered that these administration costs would be reflected in the overall 'cost to serve' category. We therefore compared the data supplied for the 'cost to serve' and 'metering' categories. The results are shown in Figures 2 and 3 below.

Figure 2: Cost-to-serve differential, PPM to DD

[✂]

Source: CMA analysis.

Figure 3: Metering cost differential, PPM to DD

[✂]

Source: CMA analysis.

68. Figure 2 shows that RWE is a clear outlier in cost to serve. This calls into question the suitability of the cost allocation rules that RWE used, and whether we should consider the data reliable in our analysis. The average cost-to-serve differential across the Six Large Energy Firms totals £34.66 (electricity £15.18; gas £19.48) including the unadjusted RWE data and £25.17 (electricity £10.29; gas £14.88) without RWE. [✂], but we note that the 2013 data submitted for cost to serve also gives a large PPM differential comprising elements which are out of line with the other Six Large Energy Firms (eg in 2013 billing/ statement costs were at six times the rate for DD customers).

69. The metering cost differential chart (Figure 3) shows a more consistent result. We notice, however, that with the exception of [✂], gas metering costs are reported to be much higher than the £23.97 differential implied by the NGM quoted prices (including reversal of subsidy). The average metering differential totals £47.85 (electricity £18.36; gas £29.49) or £42.33 (electricity £18.36; gas £23.97) if gas is capped at £23.97.

70. We should also include the cost of bad debt for DD customers. Our assumption is that PPM customers will not be the cause of bad debt (in reality there is a small potential for bad debt to the limit of any margin allowed – normally about £5 per fuel[33]). DD customers can give rise to bad debt and the average values per customer from the submitted data from the Six Large Energy Firms total £5.20 (electricity £2.64; gas £2.56).

[33] From Six Large Energy Firms website information.

71. We have provisionally decided that a reasonable restated average costs differential is therefore £62.30[34] (electricity £26.01; gas £36.29). This result could be considered cautiously on the high side since we have not made changes to other areas of cost to serve that may be considered outliers (for example, the Scottish Power allocation of call centre costs) and have not made any change to electricity metering differentials (if gas is overstated the implication might be that electricity is too). We also note that taking such a cautious approach leads us to a lower estimate of the detriment, and reduces the scope for any price cap to undercompensate any given supplier (noting that the mid-tier suppliers have typically lower cost differentials).

Bottom-up approach

72. Given the varying quality of suppliers' returns, and the importance of these calculations in our assessment of detriment and in the design of a PPM price cap, we felt it prudent to conduct a supplementary, 'bottom-up' exercise to assess the differential costs between customers who paid by DD and those customers who had a PPM. To do this we considered each element of the cost to serve that had been identified by suppliers and decided if a differential cost could be expected and, if so, what a reasonable value might be.

73. We contacted some of the PPMIPs[35] and the NSPs[36] and asked them for information relating to the charges for their services. From this information we calculated a cost per customer for these services. In arriving at these figures we considered the lower transaction threshold cost that some smaller suppliers would face and set out our estimation accordingly (as outlined below).

74. Recognising the limitations of some of the information provided, we have estimated a range for each cost element. The items we have included in our calculation, and the range on a cost per customer basis, are summarised in Table 6.

[34] Cost to serve £25.17 + Metering £42.33 less bad debt associated with DD £5.20 = £62.30.
[35] Itron and Siemens.
[36] Post Office, Paypoint and Payzone.

Table 6: Summary estimate of range of PPM differentials to DD

£

Item	*Electricity*	*Gas*	*Total*
Cost to serve	[✂]	[✂]	[✂]
Bad debt	[✂]	[✂]	[✂]
NTS payment	[✂]	[✂]	[✂]
PPMIP	[✂]	[✂]	[✂]
Meter rental	[✂]	[✂]	[✂]
Meter maintenance	[✂]	[✂]	[✂]
Meter installation	[✂]	[✂]	[✂]
Meter reading	[✂]	[✂]	[✂]
Total	[✂]	[✂]	[✂]

Source: CMA analysis.

75. We have estimated the impact of items in the 'cost to serve' category (excluding NTS and PPMIP costs which we show separately as these are solely attributable to PPM customers within the PPM segments). We have arrived at the adjustment range by considering the cost of items such as bank charges for DD processing, call centre activity and billing/statement issues. Two suppliers suggested that PPM customers were more costly to serve as they called more frequently and the calls were longer and more complex. Upon further investigation by us, however, we were provided with little evidence to support this. We noted, however, the results of call sampling made by EDF Energy, which suggested that [✂] of all calls by volume related to specific PPM issues. EDF Energy also told us that PPM [✂] than calls for other domestic customers. We asked EDF Energy if it was confident about this data and it reviewed this further. It provided a simpler allocation by allocating costs based on assumptions of call volumes and average handling time which resulted in [✂] of costs being allocated to PPM customers. We also noted that a 10 pence differential on each fuel might be sufficient to fund 20[37] additional call centre agents and therefore the impact of any adjustment would be expected to be small. For billing and statements, from the responses to our data request, suppliers to PPM customers have generally indicated that such costs are likely to be slightly lower for PPM customers than for DD customers. The difference will be relatively small (the average of the Six Large Energy Firms' submissions[38] indicates 35 pence lower for electricity and 32 pence lower for gas).

76. We requested tariff information from the NSP companies for 2014 together with volumes of transactions. From these we were able to ascertain the range of costs for PPM payment services. The tariffs charged are generally volume related and we have therefore used an average calculated from using the total charged for 2014 spread over the average number of PPM customers for the

[37] Based on 7 million customers paying 10 pence extra = £700,000. Assuming all-in staff cost at £35,000 = 20 staff.
[38] Excluding RWE where the results do not appear credible (see paragraph 54).

year. This forms one end of the range with the average that the Six Large Energy Firms charge as the other end.

77. We also received information from Itron and Siemens who provide PPMIP services to suppliers. From this we were able to consider the range of costs that we could allow per PPM customer. Again these were reflective of volume discounts and so we used an average calculated from using the total charged for 2014 spread over the average number of PPM customers for the year.[39]

78. The estimate of meter rental costs can be inferred from the capital cost of the meter, an assumed economic life and a reasonable rate of return. Suppliers advised us of the expected cost of new credit meters and PPMs and this is summarised in Table 7.

Table 7: Summary cost of new dumb meters

	£ per unit	
Meter	*Electricity*	*Gas*
Credit	[✂]	[✂]
Prepayment	[✂]	[✂]

Source: CMA analysis.

79. The difference in capital cost is therefore approximately £39 for electricity and £80 for gas. Centrica told us that new dumb meters had an expected life of seven years[40] which, using a cost of capital of 10%,[41] implies a difference in rental cost of £8.01 a year for electricity and £16.43 a year for gas. Using a more conservative five-year life implies a rental of £10.29 for electricity and £21.10 for gas. We also considered the lowest rental reported to us and the average for the Six Large Energy Firms[42] in determining an appropriate range.

80. As a further check we examined the charges published by NGM for installing, maintaining and renting gas meters. These charges are regulated by Ofgem and as such might be considered to be a reasonable independent assessment of costs (noting that they will include an element of profit for NGM). There is a quoted rental for credit meters of £15.12 per customer and a rate of £37.84 for PPMs giving a differential of £22.72. If we add back the £1.25 cross subsidy that exists (see paragraph 58) this gave a reasonable estimate for these three differential elements for gas PPMs. Taking maintenance and

[39] We did not include E.ON in this analysis since it does not use Itron for this service.
[40] This is based on the timescale for introduction of smart meters. Centrica told us that prior to this electricity PPMs had an expected life of 15 years and gas PPMs ten years.
[41] Consistent with that used in our ROCE calculations.
[42] Excluding Scottish Power's data, since it advised that although the metering data at a total level was robust, the individual metering constituents as implied by the data submission may be less robust that the total 'cost to meter'.

installation into consideration this also appears comparable to our implied rental in paragraph 79.

81. There is also an increased cost to maintain PPMs and we considered the data supplied in response to our information request to calculate what this might reasonably be. We note that the data submissions in this area varied in that some suppliers quoted maintenance and installation charges within the rental charge while others split the costs out. The difference in maintenance cost was in the range £3–£5 for electricity and £3–£8 for gas PPMs (gas PPM maintenance charges are more often included within the rental charge). We consider that the bottom end of each range reflects an efficient level.

82. Initially, for the cost of meter reading, from the data submitted to us by suppliers there was no common view on whether a difference in cost exists. In response to our queries it became clear that suppliers generally believed that PPMs cost less to read than credit meters.[43] We can see no clear reason why these meters would cost more to read and in these circumstances reflect the majority of submissions which suggest there is a negative difference in the cost to read PPMs.

83. Meter installation and removal costs – we understand from SSE that there [✂] installation cost between a credit meter and a PPM although Co-operative Energy suggested that there was [✂] installation cost for gas PPMs. Centrica commented that gas PPM installation costs were higher since the installation was longer than for a credit meter and that there is a higher rate of aborted jobs on PPM installations. We note that where additional costs are incurred for warranted entry suppliers generally attempt to recover these from the specific customer and therefore we do not include this in our differential estimate (it could also be said that these costs relate to debt that has arisen under credit meters and are not a cost of PPMs).

84. Suppliers have indicated that the need for working capital differs depending on payment type. Customers who pay on SC terms require the most working capital while PPM customers should require no working capital since they pay for their energy before consumption. The position for those customers who pay by DD appears to vary between suppliers. Some suppliers show a large prepayment from customers (SSE [✂] per DD customer on a dual fuel basis; Ovo Energy about [✂] on the same basis) while the remainder range from [✂] per customer.[44] In response to our request for clarification, SSE told us that all payment plans were designed with the intention of keeping the

[43] The only data response that showed a positive value was Scottish Power's but it explained that meter costs by line item may be less robust than the overall allocation of total metering costs..
[44] Using unadjusted data as submitted by suppliers.

account balance at zero on the anniversary of the plan being set up, however this was rarely possible in practice. We consider that customers who pay by DD expect to pay one-twelfth of their annual fuel bill each month. If the DD is set correctly the actual average amount owed will, depending on actual consumption, the time of year, and price movements, be slightly in credit or debit. Over all customers the balance might be expected to net to nil. Given these observations we consider an adjustment for working capital to not be required.

85. We do not consider that large amounts of debt should attach to PPM customers. By definition these customers will, by and large, pay for their energy usage in advance. We, therefore consider that PPM customers will have a lower cost of bad debt collection than DD customers and so any price differential to DD customers will be negative. Several suppliers suggested that bad debt costs related to PPM meters as the customers with these meters had previously had a poor payment record when they had a credit meter. We did not accept this argument on the grounds that while the debt may be repaid while the customer has a PPM meter, the debt was incurred – and thus the cost arose – while the customer had a credit meter.

86. Other cost differentials we considered:

(a) Meter removal costs – we understand that removal costs are likely to be similar between meter types. If there are some costs that are not recovered (whether the PPM is debt related or not) it would seem reasonable to spread over the whole customer base (this implies there is no differential).

(b) Sales and marketing – we consider that general sales and marketing activity is most reasonably applied evenly across the customer base. Where specific campaigns target specific types of customer there is an argument for allocating such costs differently but we see no reason to assume a PPM differential to DD customer costs.

(c) Central overheads – two suppliers allocated more central overheads proportionately to PPM customers suggesting this was reflective of the actual activity. We set out above that the major cost differentials are in the cost of payment collection activity and cost of metering. These costs are therefore all external activities and we do not therefore agree that there should be a differential for such central overhead costs. This is reflective of the approach taken by the majority of the Six Large Energy Firms.

87. We also considered what impact the move to smart meters will have on the differential costs compared with existing customers who pay by DD. Since

almost all customers will move (eventually) to smart meters there will be no, or negligible, differential costs of metering. The existing costs of PPMIP will disappear and the need to use the services of a payment provider will not be essential (PPM customers could phone up to top up). We therefore consider that a move to smart meters will substantially reduce the cost differential to DD.

Conclusion

88. Our analysis has provided a number of potential estimates of an efficient differential in the costs of serving PPM as opposed to DD customers:

    (a) The restatement of the Six Large Energy Firms' average cost differentials that we used (£62.30) is one potential approach although we note this is not necessarily the efficient cost of performing these activities (it is an average of the Six Large Energy Firms' restated costs and, as noted below, one of the mid-tier suppliers that is comparable (Utility Warehouse) reports a much lower cost differential).

    (b) We could have chosen one of the Six Large Energy Firms with the smallest cost differential between DD and PPM customers ([✂] at £54.01) and regard this as an efficient benchmark.

    (c) We could have used the differential of £41.61 reported by Utility Warehouse, which has the highest number of PPM customers of the mid-tier suppliers and could be considered an efficient comparator to the Six Large Energy Firms.

    (d) Our bottom-up calculation suggests that a range of costs of £50–£66 per dual fuel customer (£19–£29 electricity; £31–£38 gas) could also be considered appropriate. This range can be considered conservative as it does not seek to reflect the cheapest cost for suppliers (as you might expect from a regulated price approach) but an assessment of reasonable costs.

89. We have considered all of the various sources of evidence and consider that the results, in particular when cross-referenced against suppliers' own data, of our bottom-up approach are reasonably transparent and consistent.

90. From the evidence we have considered it is difficult to determine an exact figure for the indirect cost differential, however we consider, in the round, that a range of £50–£66 per customer is reasonable. As discussed in Section 7 of the main PDR document, in designing the price cap we have considered the need for a safety margin in the overall tariff and therefore consider it reasonable to choose the lower end of the cost range. The proposed cost

differential we are minded to use is therefore £54 per customer (£22 electricity; £32 gas). We note that this is below the midpoint of the range identified but believe this to be appropriate since the range could be extended to include Utility Warehouse at £42. We note that it is also reflective of the [✂] differential that we have calculated.

Section 3: Analysis of standard credit cost-to-serve information obtained from suppliers

Introduction

91. As part of our work on overall detriment we have analysed various aspects of the tariffs on offer. To complement our understanding of differences between tariffs we need to understand what the additional cost to serve (if any) there is between those customers who pay by SC and DD.

92. The indirect costs of a supplier serving those customers who pay for their energy on SC are different compared to the cost of serving those customers who pay by DD. This is mostly reflective of the cost of funding longer periods of credit than for DD customers and higher costs associated with bad debt. Typically an SC customer will pay on receipt of a quarterly bill (which, including production of bill and delivery time, would on average be about 75 days after consumption[45]).

93. In the review carried out by Ofgem in May 2014 the differential between SC and DD customers was suggested to be around £74 (electricity £35; gas £39)[46] although this excluded the impact of working capital differences.[47]

94. In order to understand the cost differences arising from different payment methods we asked suppliers to provide us with their understanding of their indirect costs allocated between DD customers, SC customers and PPM customers. Suppliers were asked to allocate the cost of bad debt to the payment category under which it arose (debt is frequently transferred to PPM to be recovered but does not arise under this payment type and so we do not consider this a cost of PPM customers).

[45] Assuming 90 days in a quarter, the average will be 45 days after consumption of energy, plus up to 30 days to settle.
[46] Based on data from five of the Six Large Energy Firms.
[47] Ofgem open letter (20 May 2014), Price differences between payment methods, Figure 1.

Commentary on quality of data submission

95. As we commented in Section 2 of this appendix, we have concerns with the quality of some of the returns received in response to our data request. We do not repeat those concerns here although they remain valid for this analysis.

96. Similarly we have not used data supplied by the mid-tier suppliers since they either have no SC customers (Ovo Energy), their business model may not be comparable (Utility Warehouse) or they have not fully supplied data to us (Co-operative Energy and FU). We did review further whether Utility Warehouse would make a reasonable comparator but considered that as almost [✂]% of the Utility Warehouse differential was comprised of bad debt (as compared to 80% for the Six Large Energy Firms) this would not be a fair comparison since we considered that Utility Warehouse would suffer particular diseconomies of scale in this area (the smallest SC customer base among the Six Large Energy Firms – Scottish Power –has more than [✂] times the number of SC customers than Utility Warehouse has).

97. We note that the cost of bad debt for SC customers appears extremely high. While we have used adjusted data to represent where reported PPM debt arises, the Six Large Energy Firms' bad debt costs represent on average 36% of the total cost to serve each SC customer. For Scottish Power, bad debt costs represent [✂]% of the total cost to serve each SC customer (£[✂] out of £[✂]).

98. We also note a lack of consistency for some suppliers concerning the data submitted to Ofgem in 2014. While different economic conditions and regional factors may have had an impact, the increases in the bad debt differential reported, between SC and DD, ranged from 9–14% to 125% ([✂]) and 172% (✂).

99. The information from the Six Large Energy Firms on the level of average prepayment/ debt from customers and debtor days outstanding gave rise to concerns around consistency. For example, the range of debtor days for gas SC customers was between 106 and 230 days (see Table 11).

100. EDF Energy reported credit balances on electricity PPMs that suggested more than [✂]:

(a) [✂];

(b) [✂]; and

(c) advances[48] reporting was not fully available for the periods required.

In addition EDF Energy noted that unallocated prepayment balances (due to missing or conflicting data that prevents automatic allocation to customers) were not split by fuel within the general ledger.

101. [✂].

102. We do not consider that these difficulties will be unique to EDF Energy and note that small errors in allocation may have disproportionate effects. We do expect that, to be able to compete in these markets, suppliers would need to have a good understanding of all of their costs and that the systems used should be fit for purpose.

Differentials implied by the data submitted

103. Notwithstanding the limitations observed we considered the results from the submissions and this is represented, excluding working capital impacts in Table 8. This is produced from the data supplied by the Six Large Energy Firms adjusted as described in Section 2 of this appendix (ie where adjustments have been made principally to the PPM data they will have implications for both DD and SC segments also).

Table 8: Cost differential between SC and DD payment types (excluding working capital)*

		£ per customer	
Supplier	*Electricity*	*Gas*	*Total*
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]

Source: CMA analysis.
*Excludes Ovo Energy, which has no SC customers.

104. We note that the average differential for the Six Large Energy Firms is £96.72 (excluding working capital) represents an increase on the cost differential of £80 on average (excluding working capital) calculated by Ofgem in 2014.[49]

105. Table 9 shows the total differential having incorporated the working capital implications of the submitted data. The value of the working capital has been calculated at a cost of capital of 10% to be consistent with our work on profitability. Although the actual cost to borrow is currently significantly less than this figure, we have reflected the return that an investor might expect as

[48] ie customers who had paid in advance.
[49] Ofgem open letter (20 May 2014), Price differences between payment methods.

this could be considered a decision to invest in working capital rather than other opportunities elsewhere. We offset this partially by assuming corporation tax relief on the implied interest cost.

Table 9: Cost differential between SC and DD payment types (Including working capital)

£ per customer

Supplier	*Electricity*	*Gas*	*Total*
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]

Source: CMA analysis.

106. The range of total differential is very large reflecting the varying quality of the data on which it is based. If such a cost range exists (which seems unlikely) it would imply that the most efficient operator is making a margin on costs of almost £70 per SC customer on average. It would also suggest (all other things being equal) that there are large inefficiencies in the SC segments that competition is not driving out.

107. The main cost factor in the differentials (approximately 80% of the Six Large Energy Firms' differential costs excluding working capital) was the cost of bad debt and so we considered this element of the data supplied to us. This is shown in Table 10.

Table 10: Cost of bad debt per customer

£ per customer

	Electricity		*Gas*		*Differential*		
Supplier	*DD*	*SC*	*DD*	*SC*	*Electricity*	*Gas*	*Total differential*
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CMA analysis.

108. Table 10 shows a surprisingly large range in the differential cost of bad debt by supplier. We note that the cost of bad debt per gas DD customer is less on average than that of an electricity DD customer. This is despite gas bills being higher, on average, than electricity bills. As we commented earlier, for Scottish Power, bad debt costs of SC customers represent 54% of the total cost to serve each customer (£130 out of £240). This suggests that every Scottish Power SC customer costs more to service bad debt than all other costs of service.

109. The Six Large Energy Firms also supplied us with information on the segment length of time on average that customers took to pay for each payment. This enabled us to review this since the cost of supplying this working capital element should be taken into account when considering the differential cost of SC compared with DD. The Six Large Energy Firms also supplied the number of days that the debt was outstanding for before it was collected. Table 11 shows the data as provided.

Table 11: Debtor days outstanding by payment type

	Electricity			*Gas*		
Supplier	*DD*	*SC*	*PPM*	*DD*	*SC*	*PPM*
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CMA analysis.

110. Table 11 shows the data as submitted to us. Some suppliers followed our guidance and moved all debt from the PPM segments to the credit payment segments where it was estimated to have originated in. Negative values in the table represent customers who have paid in advance. We note the wide range of time taken on average by the Six Large Energy Firms to collect SC debt and we consider this further below.

Bottom-up approach to the differential

111. Given the apparent unreliability of the data set we have also considered a bottom-up approach similar to the one that we used to compare the PPM results.

112. Recognising the limitations of some of the information provided, we estimated a range for each cost element. The items we have included in our calculation, and the range on a cost per customer basis, are summarised in Table 12.

Table 12: Summary estimate of range of SC differentials to DD

£

Item	*Electricity*	*Gas*	*Total*
Cost to serve	[✂]	[✂]	[✂]
Bad debt	[✂]	[✂]	[✂]
Working capital	[✂]	[✂]	[✂]
Total	[✂]	[✂]	[✂]

Source: CMA analysis.
Note: Does not sum perfectly due to rounding.

113. We have estimated the impact of items in the 'cost to serve' category based on the Six Large Energy Firms' data (excluding RWE whose cost to serve data we found to be unreliable).[50] On average this showed a £15 difference broadly reflecting additional call centre, billing and collection activity. We used this as the top end of our range with the lower end being reflective of the most efficient of the Six Large Energy Firms (Centrica).

114. We considered the level of bad debt charge shown in other organisations. From the global accounts of housing providers[51] we calculated that bad debt was written off at 0.9% of net rental income or approximately £45 per household. The accounts of Severn Trent Water showed a rate of 1.8% of turnover or approximately £9 per customer. We note that the water industry may have restrictions on how it can manage defaulting customers and so might regard this as an upper level. We also noted from the report:

- collection rates and receipts of council tax and non-domestic rates in England 2014/15;[52]
- that collection rates of council tax were 97% within year; and
- that the actual write off for 2014/15 equated to 0.8% of that year's revenue.

115. We considered whether the levels of bad debt charge reported were comparable to the reported levels of the Six Large Energy Firms. Since we had reservations about the split of debt data by fuel and payment type we considered the total domestic bad debt charge for each of the Six Large Energy Firms, as reported, compared with total domestic turnover. Table 13 summarises the 2014 position.

Table 13: Domestic bad debt charge compared with turnover

	£ million		*%*
Company	*Bad debt charge (domestic)*	*Domestic turnover*	*% of turnover*
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]

Source: CMA analysis.

[50] See paragraph 68.
[51] Homes and Communities Agency, 2014 Global accounts of housing providers.
[52] Department for Communities and Local Government (1 July 2015), Collection rates and receipts of council tax and non-domestic rates in England 2014-15.

116. From Table 13 we can see that the actual write-off of debt might be considered to be on the high side compared with council tax or housing association rates. We acknowledge that it compares well to water but, in view of the different remedies available to energy suppliers concerning indebted domestic customers (for example the ability to move customers to a PPM), would expect energy suppliers' write off of debt to be more aligned to the council tax and housing association figures. We therefore consider that a rate of 1% of turnover would be a reasonable level for suppliers to target.

117. We noted in Table 10 the wide level of cost differential of bad debt between SC and DD payment types. We recognise the difficulties that the Six Large Energy Firms may have had in producing the data but consider that, although the total cost will reconcile back to company accounting systems, the allocation may not be perfect. We also understand that, when a DD customer is unable to make payment, the account may be transferred to an SC basis. For these reasons we calculated the effect of a minor error in allocation of 5% and found that this would decrease the average differential by £2.50 for electricity and £3.00 for gas.

118. Having applied a 1% turnover cap to bad debt write-off and amended allocations by 5%, the average bad debt values reduce to approximately £26 for electricity and £35 for gas. We consider this the top end of any range with the bottom point set by the lowest bad debt charge per customer among the Six Large Energy Firms (Centrica).

119. We considered the impact of working capital on the SC differential particularly in view of the data shown in Table 11 which showed a wide range of SC debtor days. If each quarter is 90 days then on average the debt owed will be 45 days old if paid on day 90. Allowing some time for bills to be despatched and customers to actually settle could add another 30 days, so on average if all customers paid on receipt of their bill debtor days would be expected to be 75 days.

120. We acknowledge that some debt will take time to collect but, even allowing for only 90% of the debt being collected on average within 75 days, the implied average remaining life of the other 10% will be 225 days (to average out at 90 days). In reality we believe that prudent suppliers will have already made provision for much of this debt but that it may remain on the balance sheet (implying the need for working capital) until actually considered irrecoverable. In considering what a reasonable rate might be, therefore, we consider that the price of this credit should be factored into the cost of doing business. It seems reasonable, however, to assume that while the bulk of customers pay their bills within our 75-day norm it would be realistic to use an average of 90 days for our calculation of working capital impacts for energy.

121. We therefore consider, based on average debtor days of 90 for both electricity and gas, that a reasonable estimate for working capital (after allowing for relief from corporation tax[53]) should be £9 for electricity and £12 for gas. We note that this allows what we consider to be a generous cost of capital at 10%. This provides the lower end of our range with the most efficient of the Six Large Energy Firms (Centrica) forming the upper end.

122. The robustness of the results we have been able to produce reflects the consistency of the data submitted to us. In particular, while our work on PPM cost differential has enabled us to disregard bad debt and working capital costs, this forms the biggest element of SC cost differentials and it is these costs for which the underlying data is considered least consistent. Accordingly the range we have calculated is wider reflecting the greater uncertainty.

Conclusion

123. Our analysis of the various sources of data has provided different estimates of what the existing level of differential costs between DD customers and SC customers could be:

(a) The latest notification by Ofgem in its updated view of tariff differentials[54] has stated that the average differential between the Six Large Energy Firms' SVTs for customers paying via SC, and those paying via DD, has remained broadly stable over the past year, at around £75.

(b) The differential costs suggested by the Six Large Energy Firms' data is on average £136.84 (including working capital or £96.72 without). We have reservations about the quality of some of the data underpinning these numbers and also note that this is not necessarily the efficient cost differential.

(c) The lowest reported SC cost differential to DD among the Six Large Energy Firms (Centrica: £69 including working capital).

(d) Our assessment of realistic differential costs, which has by necessity been based on the data provided, gives a range of £64 to £105.

124. From the limited and inconsistent evidence before us, we have found it difficult to determine an exact cost differential. We consider that the range we have estimated is realistic and that provisionally within this a figure of £82 (£35 electricity; £47 gas) would represent a reasonable estimate of cost

[53] We assume that this will be borrowed in some form and that full relief is available.
[54] Ofgem updated markets report 2015.

differential. While this is slightly below the middle of our range we consider it appropriate and note that it is somewhat greater than that reported by Centrica as the lowest reported SC cost differential of the Six Large Energy Firms.