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Quarterly Reports on Retail Electricity and Gas Markets in Britain: A Retrospective

For Energy UK

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Executive Summary

In February 2009, Ofgem produced the first of a series of reports examining wholesale and retail prices in electricity and gas markets.[1] Ofgem has updated this report at roughly three-monthly intervals since then. In the first set of reports, Ofgem reported the difference between average retail tariffs for electricity and gas and the associated cost of acquiring electricity and gas in wholesale markets. Ofgem stated clearly that the gross margin was simply the difference between wholesale and retail energy prices[2] and that it had to cover suppliers' operating costs as well as profit. Unfortunately, some newspapers reported the results as if the gross margin represented a measure of profitability, fuelling demands for intervention to prevent excessive prices. By late 2009, the energy supply companies, working through the auspices of Energy UK, had decided that a detailed response was required to correct misconceptions about the operation of the retail market and commissioned NERA to calculate a net margin.

Following publication of our report, we met with Ofgem to explore differences in methodology, but Ofgem accepted the benefits of reporting net margins, rather than gross margins. Ofgem's quarterly report of February 2010[3] and all subsequent reports on the retail energy market have given both gross and net margins, with the emphasis on the net margins. Since then, NERA has updated its estimate on the same three-monthly schedule as Ofgem.

In successive reports, Ofgem and NERA have adjusted their methods in the light of new information, leading to some convergence of results, especially in the calculation of the costs of the energy supply companies. Differences of approach remain, due to the different purposes of each exercise, but are focused primarily on the calculation of the customer bill.

Ofgem estimates the customer bill using a set of standard tariffs. This approach fits with Ofgem's original purpose of creating a benchmark or indicator of the relationship between wholesale and retail prices. Unfortunately, Ofgem's results have been misinterpreted as indicating the level of profitability for the retail energy sector as a whole, whereas in practice several other factors determine profitability. The tariffs included in the NERA analysis differ from Ofgem's in two important respects, in order to provide a more realistic view of profitability:

- We include information on a wider range of tariffs, specifically those with two energy rates applying in peak and off-peak conditions, known by "Economy 7" and other names.
- We adjust tariffs for "on-line discounts" to standard rates, based on information provided by the energy suppliers.

Both our figures and Ofgem's show that average margins across the major energy suppliers were a relatively small proportion of the customer bill over the last 18 months, and comparable to margins in other retail sectors. As of March 2011, we estimated the net margins to be 3.7 percent in electricity-only tariffs, 2.4 percent in gas-only tariffs and *minus*

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1 Ofgem (2009b), *Quarterly Wholesale/Retail Price Report*, ref 15/09, February 2009.

2 Ofgem (2009b), section 5, page 11 of 12.

3 Ofgem (2010a), *Electricity and Gas Supply Market Report*, Ref 23/10, 22 February 2010.

6.0 percent in dual fuel tariffs. Ofgem's figures are consistently higher, mainly because they cover a less representative set of tariffs.

Ofgem's original purpose was to monitor the relationship between wholesale and retail prices. However, the overstatement of margins can lead to the media taking an incorrect view of the profitability of energy supply companies and of energy retailing in general. Our analysis suggests that taking account of on-line discounts is important for understanding retail energy markets. Leaving them out of the analysis not only overstates net margins, but also overlooks a source of variation in net margins, which might reflect a reaction to competition that standard tariffs do not show.

This problem is fundamental to Ofgem's exercise: if competition takes place primarily through variation in on-line discounts, the study of standard tariffs will provide a misleading view of the state of the market. Ultimately, NERA's estimates of net margins are dependent on the information provided by the energy supply companies on costs and on-line discounts, but they do shed some light on the role and effect of on-line discounts.

So far, Ofgem has not tried to base any formal analysis of competition in the retail market on the size of, or direction of movement in, the net margin as calculated for standard tariffs in its quarterly reports. Our observations suggest that standard tariffs do not tell the full story about pricing in the retail energy market, and that Ofgem's analysis does not therefore provide a useful picture of the state of competition.

1. A (Short) History of Retail Energy Market Reports

1.1. Energy Supply Probe and Initial Reports on Gross Margins

For the last couple of years, Ofgem has been publishing regular reports on the "supply" (i.e. retail) markets for electricity and gas in Great Britain. Ofgem initiated the process with a general report on retail energy markets with an "Energy Supply Probe", on which it reported in October 2008[4] and April 2009.[5] In February 2009, Ofgem produced the first of a series of reports examining wholesale and retail prices in electricity and gas markets.[6] Ofgem has updated this report at roughly three-monthly intervals since then.

An important feature of Ofgem's reports has been the estimation of margins made by energy retailers. In February 2009, Ofgem reported the difference between average retail tariffs for electricity and gas and the associated cost of acquiring electricity and gas in wholesale markets. According to Ofgem, this "gross" margin between wholesale and retail energy prices has recently been about £200 per customer per year, for both fuels together.

Ofgem's first report explained quite clearly that the gross margin was simply the difference between wholesale and retail energy prices[7] and stated explicitly that the gross margin included suppliers' operating costs as well as profit. The report contained no commentary on the profitability of energy retailers. Ofgem took some care to distinguish its figures from the "net" margins, after deduction of suppliers' costs, which were discussed in the Energy Probe:

> "The analysis presented in the probe document is at a net margin level, i.e. supplier's [sic] own internal operating costs were deducted and the net margin therefore equated to supplier profit. However, in producing this report we have not deducted supplier's operating costs in the margin calculation. The reason for this is that it would currently be difficult to obtain this data on a consistent basis across all suppliers. However, given fuel costs account for the majority of suppliers' total costs we do not believe this change will materially alter conclusions that can be drawn from the analysis." [8]

Unfortunately, the media did not recognise the implications of the distinction between gross and net margins. Some newspapers reported the results as if the gross margin represented a measure of profitability, fuelling demands for intervention to prevent excessive prices. In contrast, energy supply businesses felt that their retail operations were not making sufficient profits to merit any such concerns. By late 2009, the energy supply companies, working through the auspices of Energy UK,[9] had decided that a detailed response was required to correct misconceptions about the operation of the retail market.

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4 Ofgem (2008), *Energy Supply Probe - Initial Findings Report*, ref 140/08, 6 October 2008.

5 Ofgem (2009a), *Energy Supply Probe – Proposed Retail Market Remedies*, ref 41/09, 15 April 2009.

6 Ofgem (2009b), *Quarterly Wholesale/Retail Price Report*, ref 15/09, February 2009.

7 Ofgem (2009b), section 5, page 11 of 12.

8 Ofgem (2009b), section 5, pages 11-12 of 12.

9 Energy UK is a communications unit for the leading gas and electricity companies. It was set up in 2009 as a single point of contact to provide the media with comment and analysis on issues affecting the UK gas and electricity industry.

1.2. The Calculation of Net Margins

In November 2009, Energy UK commissioned NERA to provide an alternative estimate of margins in retail energy supply, taking into account all the costs of supplying customers. The purpose of the resulting report was both to show a more representative picture of profitability and to demonstrate that it would be possible to calculate suppliers' operating costs on a consistent and objective basis. NERA issued its first report on this analysis in December 2009[10] and has continued to issue updates according to the same, approximately three-monthly, calendar as Ofgem.

For that report, we adopted the same basis as Ofgem for estimating the cost of wholesale energy, as the cost of assembling a portfolio of energy contracts over an 18-month period. Most of the information on suppliers' operating costs came from Ofgem's own Energy Supply Probe, which provided a stable basis for updating estimates, and which we interpreted as best we could. Some information was provided on request by the suppliers, such as customer numbers, estimated annual consumption by type of customer, rates of bad debt, and the costs of imbalance charges. We also received information from suppliers on a wider range of tariffs (e.g. "Economy 7") and on on-line tariff discounts. Our calculation took all these additional costs and tariff adjustments into account to estimate a net margin for the average customer taking electricity-only, gas-only and dual fuel service. Our results showed that suppliers were earning little or no *net* margin at that time.

Following publication of our report, Energy UK arranged a meeting with Ofgem staff, at which we explained how we had calculated suppliers' operating costs in order to identify the net margin. Ofgem's staff explained that the purpose of the calculation was to provide a benchmark or index of market conditions, similar in some ways to the concept of a "spark spread" for comparing electricity and gas markets. Ofgem accepted the benefits of reporting net margins, rather than gross margins. Ofgem's quarterly report of February 2010[11] and all subsequent reports on the retail energy market have given both gross and net margins, with the emphasis on the net margins, even in retrospective analysis dating back to 2004.

These discussions indicated a number of differences between NERA's approach and Ofgem's due to the use of different sources, or to ambiguities in the Energy Supply Probe. Over subsequent months, therefore, both we and Ofgem have made changes to our respective methodologies, in order to make the results more representative of the situation facing the industry. Since the purpose of these exercises is to track movements in wholesale and retail markets over time, changing the methodology is undesirable, since it prevents a like-for-like comparison of the results in different reports. This problem is overcome by restating results on a common basis, but it means that one must still be careful not to place too much weight on the results in individual reports. The following section explains the significant methodological changes that have taken place since the first round.

(Source: www.energy-uk.org.uk) It operates through the administrative structures of the UK Business Council for Sustainable Energy or the Energy Retail Association.

[10] NERA (2009a), *Energy Supply Margins At Current Prices*, 7 December 2009, whose main results were summarised in NERA (2009b), *NERA Analysis of Energy Supplier Margins*, 7 December 2009.

[11] Ofgem (2010a), *Electricity and Gas Supply Market Report*, Ref 23/10, 22 February 2010.

2. Methodological Issues and Developments

During the period over which Ofgem and NERA have both been producing estimates of the net margins in retail energy supply, differences of approach have emerged, due to the different purposes of each exercise. In some cases, the provision of new information, or the clarification of previous statements, has suggested that the methodology should be changed, even though the data series is then not comparable over time without a restatement. In this chapter, I explain the treatment of different items, some small, some large, which have led to changes in methodology between different runs. Continuing discussion and comparison may well indicate that further changes are required.

2.1. Number of Companies

For our original investigation of the retail energy market in November 2009, we received information from all six major energy suppliers. In subsequent rounds, one or two of the companies provided only a partial data set (e.g. their latest tariffs). As a result, we had to impute the other data, by assigning them either their own data from a previous round or the average data for those companies that had provided a full data set. We have deliberately not reported any details for individual companies, or stated which companies provided which data, but have only ever reported industry averages.

2.2. Costs of Meter Reading

For our original investigation in November 2009, we estimated a number of cost items using data published in reports issued under Ofgem's Energy Supply Probe. However, Ofgem's description of individual cost items varied from place to place in those reports and proved to be slightly ambiguous. In particular, in February 2009, Ofgem defined "other costs" (a component of "VAT and other costs") as excluding the cost of meter reading:

> "Network charges (transmission and distribution), environmental costs, (e.g. EEC, CERT, ROCs) and meter costs **(including the cost of the asset and maintenance but excluding meter reading**) have been netted off the average customer bills to obtain a data series that excludes these supply costs." [emphasis added][12]

In its September 2009 Quarterly Wholesale and Retail Pricing Report, the last issued before our original investigation, Ofgem states "other supply costs" include "some meter costs,[13] which we interpreted to mean the same as in February 2009. In face-to-face meetings with Ofgem staff, we were able to establish that in fact "VAT and other costs" included *all* the costs of metering. From our June 2010 investigation onwards, therefore, we shifted meter reading costs into this item and adjusted the residual "other costs" accordingly. As a result, annual margins rose by about £9 per customer, for each fuel.

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[12] Ofgem (2009b), Section 5 – Methodology, page 10 of 12 (no page numbers provided)

[13] Ofgem (2009c), *Quarterly Wholesale/Retail Price Report August 2009*, para 6.14

2.3. Dual Fuel Economies of Scope

Dual fuel tariffs are in general lower than the sum of single fuel tariffs for electricity and gas. We originally attributed this in part to the ability of suppliers to serve a customer more cheaply if the customer took both fuels from the same supplier.[14] Part of our methodology requires the allocation of a fixed cost, shown in the Energy Supply Probe as a total for the whole industry. In assigning this cost to different consumers, we allowed for dual fuel customers to incur slightly less than the sum of the costs assigned to electricity-only and gas-only customers.

During 2010, it was put to us by the energy companies that there was no evidence of such economies of scope. We therefore switched to a method which assigned the same share of these fixed costs to each "customer account", so that dual fuel customers incurred the same cost in total as an electricity-only customer and a gas-only customer taken together.

The result of this change, as of the summer of 2010, was to reduce costs for single fuel customers by £8/customer, and to raise costs for dual fuel customers by £7/customer. Because of the relative numbers of each customer type, the total cost ascribed to the industry remained unchanged by this adjustment.

2.4. Segmental Accounts 2009

During 2010, each energy supplier produced segmental accounts for 2009, including figures for the revenues and costs of the supply business broken down by fuel (i.e. electricity and gas, but not dual fuel) and market segment (domestic vs non-domestic). We arranged to speak to most of the energy suppliers to understand what light their accounts shed on our figures.

We found that energy suppliers had decided their own accounting methods and that there were some differences between how they showed their costs in the accounts and how we and Ofgem showed costs. For instance, energy suppliers included the cost of Renewables Obligation Certificates within the cost of energy purchases, whereas we and Ofgem show them separately. Furthermore, some energy suppliers were incurring one-off costs, such as higher pension contributions, which distorted the figures for 2009.

After adjusting for this kind of difference, we were able to estimate a cost per customer account (i.e. cost per customer per fuel), which we then multiplied by the number of customer accounts (including dual fuel customers as both electricity and gas customers). We made a similar estimate of total costs based on our own estimates. The resulting figures showed differences between the company costs and NERA estimates for individual cost items, but no substantial differences overall. Our total cost estimates were four percent too low for electricity-only sales; our estimates were slightly too high for gas-only sales (eight percent) and dual fuel sales (three percent). We concluded that these small overall differences did not merit a change in the methodology for individual items, given the remaining uncertainties over costs and the fact that not all companies had participated in the process.

[14] The resulting cost saving would be known in economic terms as an "economy of scope", i.e. a saving due to performing several complementary activities, rather than an "economy of scale", which derives from performing a large volume of one activity.

Ofgem has been through a similar exercise, as reported in its Supply Market Report of March 2011. As a result of various pieces of new information, Ofgem increased its estimate of suppliers' operating costs for electricity and dual fuel customers by £5 per customer. Ofgem has adjusted its December 2010 figure by the same amount for the purpose of identifying the net change, but it ought presumably to apply to all previous estimates.[15]

2.5. Conclusion

As a result of interaction between Ofgem, NERA and the energy suppliers, new information has come to light on various costs, and have suggested a change in methodology. Such changes hinder the ability of readers to compare figures over time. It is therefore not necessary to change the methodology ever time a new piece of information appears, just for the sake of accuracy. The figures shown in these comparisons may reflect partial data but, even if they were to show average conditions for all the companies, the average company might not be the one that determines prices in the market. We will therefore need to keep different sources of information under review, but will not necessarily change the methodology every time something changes, unless it is possible to estimate how it affects previous results.

As of our report for March 2011, NERA's estimate of non-energy (i.e. direct and indirect) costs lay about eight percent above Ofgem's. This difference amounted to about £25 per customer account (about £50 for dual fuel customers).

[15] Ofgem (2011), *Electricity and Gas Supply Market Report*, Ref 36/11, 21 March 2011, page 4 (dual fuel), page 6 (electricity).

3. Outstanding Differences of Approach

Some differences remain between NERA's methodology and Ofgem's, such that the figures shown in our respective reports are not directly comparable. Some of these differences reflect the different purposes for which the figures were prepared.

3.1. On-line Discounts and Other Tariffs

Ofgem carries out its assessment for a set of standard tariffs. This approach is consistent with Ofgem's original purpose of creating a benchmark or indicator of the relationship between wholesale and retail prices. Unfortunately, Ofgem's results have been misinterpreted as indicating the level of profitability for the retail energy sector as a whole, whereas in practice several other factors determine profitability.

Although our method is not intended to provide a definitive view of profitability, our method differs from Ofgem's in two important respects, in order to provide a more realistic view of average tariffs paid by customers. The tariffs included in the NERA analysis differ from Ofgem's in two important respects:

- We include information on a wider range of tariffs, specifically those with two energy rates applying in peak and off-peak conditions, known by "Economy 7" and other names.
- We adjust tariffs for "on-line discounts" to standard rates, based on information provided by the energy suppliers.

The size and direction of the effect of including a wider range of tariffs is difficult to identify, since it varies from company to company. However, on-line discounts can only reduce actual customer bills, relative to the estimates produced by Ofgem on the basis of standard tariffs. The effect of these discounts is estimated by the companies is substantial. In the latest round, the energy supply companies reported substantial on-line discounts (which varied between the companies). As more customers choose on-line tariffs, the effect of these discounts takes on ever greater significance. Ofgem's analysis does not allow for such price reductions in its calculation of either tariffs or margins.

3.2. Energy Consumption per Customer

The appropriate level of energy consumption per customer has provoked a lot of discussion. In November 2009, Ofgem estimated tariffs and (gross) margins using annual figures for 4,000 kWh for electricity and 18,200 kWh for gas. Ofgem has since amended the latter figure to 16,900 kWh, but there remains some reason to doubt the accuracy or relevance of this figure.

NERA's calculations rely on estimates of annual consumption provided by the companies, which suggest slightly higher figures for electricity and slightly lower figures for gas. However, there are some problems maintain a consistent estimate, given the data available from companies, as discussed below.

3.2.1. Average consumption of electricity

Ofgem's figure (of 4,000 kWh per year) for average electricity consumption per customer has remained unchanged since the start of the series. The figures provided to us by the supply companies imply slightly higher figures, in the last round 4,378 kWh for electricity-only customers, and 4,651 kWh for dual fuel customers, averaging 4,532 kWh overall. The estimate for dual fuel customers is higher than the estimate for electricity-only customers, because a higher proportion of dual fuel customers pay by direct debit, and average consumption for direct debit customers is higher than for customers paying by cash/cheque or through pre-payment meters. The higher estimated consumption for dual fuel customers therefore reflects a difference in payment methods, rather than other customer characteristics. (We have no data specifically for dual fuel or electricity-only customers.)

This variation in consumption does not create major differences in estimates of the margin, which implies that electricity tariffs reflect the underlying cost structure reasonably accurately. Additional consumption incurs a charge that is similar to the additional cost of the electricity, and the variation in quantity is in any case sufficiently small that it does not cause major variation in margins. The figure for electricity consumption has not therefore attracted much attention.

3.2.2. Ofgem's figure for average gas consumption

Ofgem's figure for average gas consumption has been revised and remains open to question. Ofgem used a figure of 18,200 kWh in its original report of December 2009. However, in the next and subsequent reports, Ofgem has used a figure of 16,900 kWh. This figure is taken from a table contained in the December 2009 edition of DECC's Energy Trends and reproduced below. It corresponds to mean consumption in 2008 (and the figure of 18,200 kWh corresponds to mean consumption in 2006).

Table 3.1:
Mean and Median Gas Consumption
For Meters Classified as Domestic Consumers (2005 to 2008)

		2005	2006	2007	2008
Mean	(kWh)	19,020	18,240	17,815	16,906
Median	(kWh)	17,604	16,787	16,210	15,550

Source: *DECC, Energy Trends, December 2009,* page 30, Table 3

However, there are two reasons why the figure adopted by Ofgem overstates the true average consumption of domestic consumers. First, meters "classified as domestic consumers" include in practice a large, but unknown, number of meters for small businesses, since the cut-off for inclusion in this data is annual consumption below 73,200 kWh – well above the level that any domestic household would consume. DECC reports this problem in the same edition of Energy Trends:

> "The data received from xoserve and the independent transporters does not currently contain a reliable profile marker to indicate if the [meter] relates to either a domestic or non-domestic consumer. Therefore, DECC uses the gas industry standard cut-off point of 73,200kWh (2,500 therms) and classifies consumers using under that annual consumption

> as domestic consumers. Unfortunately, this incorrectly allocates many small businesses to the domestic sector and, conversely, a small number of larger domestic consumers to the non-domestic sector."[16]

Ofgem itself has noted the same bias when considering the level of consumption that energy suppliers should use when reporting typical tariffs:

> "One of the drawbacks of the data is the lack of a reliable domestic industrial/commercial sector split for consumers with low gas consumption. This is because the historic threshold of 73,200 kWh is used by many organisations in the industry to identify whether a consumer is a domestic or business user. This can result in potential misclassification of premises, and in particular may impact the classification of small and medium sized businesses, who consume less than 73,200 kWh of gas per year."[17]

As a result of this bias in the statistics, the mean consumption shown in the table above overstates average consumption in domestic households. One way to exclude the small businesses would be to take the median figure as a "more typical" level of consumption by domestic customers, since it is not so affected by the "tail" of large consumers. Indeed, Ofgem reached precisely that conclusion in relation to the "typical domestic consumption values" that energy suppliers must use when publishing typical tariffs:

> "After full consideration of the responses to the consultation we believe that Model 2 provides a robust basis for our figures and that **the median is more representative of typical energy consumption levels**…. To ensure that suppliers and other stakeholders have adequate time to update their systems, and incorporate new figures into relevant literature and procedures, we will adopt new figures from the 17th January 2011."[18]

That decision implies that the median figure of 15,550 kWh, from Table 3.1 above, was "more representative" of typical energy consumption levels in 2008. Ofgem is therefore using different figures to measure domestic gas consumption for different purposes.

Second, even a figure for 2008 may not be "representative" for later years, because of the declining trend that is evident from the table in the period 2005-2008, and which seems to have continued ever since. In 2010, DECC statistics show the mean average consumption of "domestic" consumers as 15,384 kWh. Allowing for the average difference of eight percent between the mean and the median in Table 3.1 above implies a median figure of 14,136 kWh.

Thus, Ofgem has lowered its estimate of average gas consumption once before, from 18,200 to 16,900, but the current figure still seems to be an over-estimate. It is also inconsistent with the figure that Ofgem stipulates for other calculations of typical tariffs.

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16 DECC (2009), Energy Trends, December 2009, page 26.

17 Ofgem (2010a), *Revision of Typical Domestic Consumption Values*, Ref 106/10, 10 August 2010, page 21.

18 Ofgem (2010b): *Decision Letter: Revision Of Typical Domestic Consumption Values*, 5 November 2010 (emphasis added).

3.2.3. NERA figures for average gas consumption

From the start of our work, we have tried to capture information on actual gas consumption, in order to reflect the declining trend observed above, although that proved difficult to achieve with the data available from energy suppliers. Due to the need to capture data on a common format, we did not ask for average consumption by tariff, as we did not believe that all suppliers would be able to provide such disaggregated data. Instead, we asked for average consumption figures for each fuel to be broken down by (1) region and (2) payment method (i.e. direct debit, cash/cheque and pre-payment meter). We then calculated the customer bill for each tariff by region and payment method using the applicable level of consumption.

As of our May 2011 round, the estimated average gas consumption for all participating suppliers was 16,030 kWh per customer, somewhat lower than Ofgem's figure, but higher than the median figures given above. This figure divided into 14,779 kWh for gas-only customers and 16,154 kWh for dual fuel customers. The estimate for dual fuel customers is higher than the estimate for gas-only customers, because a higher proportion of dual fuel customers pay by direct debit, and average consumption for direct debit customers is higher than for customers paying by cash/cheque or through pre-payment meters. As with electricity tariffs, the higher estimated consumption for dual fuel customers therefore reflects a difference in payment methods, rather than other customer characteristics. (We have no data specifically for dual fuel or gas-only customers.)

Some companies do not provide a full data set and so we need to apply proxies derived from the information that we do have. For instance, we do not have an up-to-date breakdown of British Gas's customer numbers. To weight British Gas's gas tariffs, we apply the average proportions by region and payment type reported by the companies that provide that information. However, a recent report[19] by the CEBR for British Gas showed that British Gas's customers were disproportionately located in areas of high gas consumption, in the north of the country. (See Figure 3.1.) The CEBR also reports that in 2009 the average consumption of British Gas's customers was higher than the average for other companies,[20] which would imply higher national average than our figure. However, the CEBR table refers to DECC's figures, which include the consumption of small businesses, and the same distortion appears to apply to the figure for British Gas. Without further information from British Gas – and from other energy suppliers – it is impossible to know how much regional imbalances affect British Gas's average consumption (and tariff) and hence the average figures for sector as a whole.

Our consumption figures imply a lower customer bill than Ofgem's figures for gas-only and dual fuel customers, even before allowing for on-line discounts. However, the implications for margins are complicated by two other features of our methodology: the estimate of consumption for dual fuel customers; and the calculation of gas distribution charges. I discuss both below.

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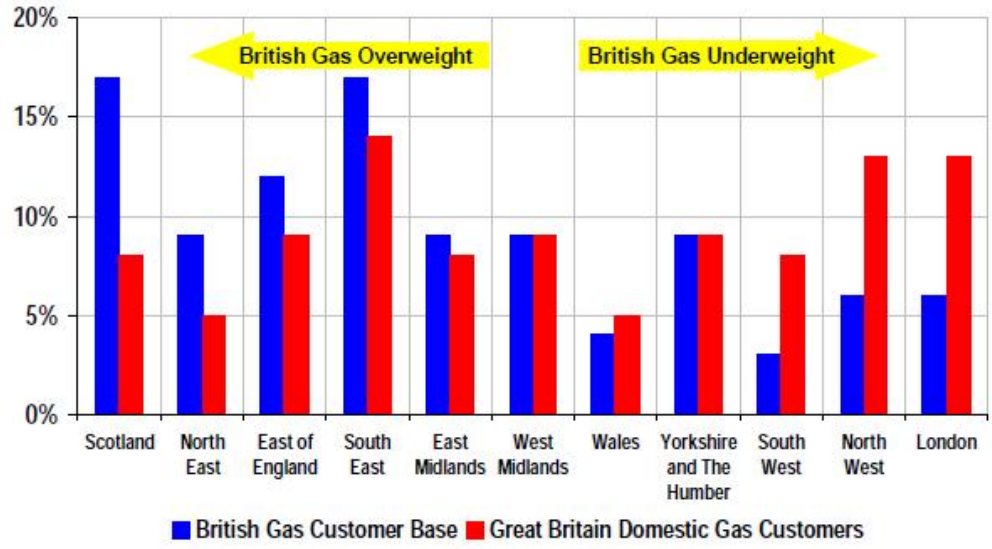
[19] CEBR (2011), *British Gas Home Energy Report 2011: An assessment of the drivers of domestic natural gas consumption*, Centre for Economics and Business Research Limited, February 2011.

[20] CEBR (2011), table 4.10, page 64.

Figure 3.1:
British Gas Customer Base and Domestic Gas Customers in Great Britain by Region (Regional Share In Percent)



Source: CEBR (2011), page 59

3.3. Dual Fuel Customers

To provide a simple and transparent estimate of the costs of dual fuel customers, we estimated the costs of electricity-only customers and gas-only customers, and added them together (subject to the small discount for economies of scope mentioned above, which we have now discontinued). This rule applied to wholesale energy costs, since we had no specific information suggesting that dual fuel customers consumed a different amount from electricity-only or gas-only customers. We therefore state wholesale energy costs for dual fuel customers on the assumption that their annual consumption is (in the latest round) 4,378 kWh of electricity and 14,770 kWh of gas. However, we calculated tariffs using, in practice, higher figures for consumption of each fuel, because of the different weighting of payment methods. This difference between tariff and cost calculations leads to the gross and net margins on dual fuel customers being *over*stated.

3.4. Gas Distribution Charges

Our estimate of gas distribution charges derives from Ofgem's Energy Supply Probe and is only part of a higher level estimate for indirect costs ("VAT and other costs"). We only show the breakdown of these costs for completeness.

Ofgem's estimate of indirect costs, and hence gas distribution charges, was based on annual consumption of 18,200 kWh. To calculate a gas distribution charge, we converted this figure into a measure of peak usage (peak day kWh) using a simple load factor. With this measure, we calculated the relevant fixed charge. Since then, we have updated the tariffs, but have left the basis for calculating it unchanged, on the grounds that the fixed charge is not affected by variations in annual consumption (kWh per year).

In practice, as average consumption falls, one might expect peak usage to fall proportionately, resulting in a proportionate fall in the gas distribution charge (before

allowing for any change in tariffs). We are not aware of any research showing how the energy efficiency measures studied by CEBR affect peak usage. However, given the observed *size* of the reduction in average consumption in recent years, it now seems advisable to revise our estimate. The result is a reduction in gas distribution charges of £15-20 per year for gas-only customers; the reduction for dual fuel customers is smaller (currently £5-10 per year), because their average consumption of gas is closer to the original basis for our calculation. Accepting this change would imply that our previous reports had slightly *under*stated the net margin for gas-only and dual fuel consumers.

3.5. Conclusion

Despite continuing dialogue between Ofgem and NERA, there remain some differences of approach, due in part to the different purposes of each exercise. Ofgem wishes to provide a stable indicator of wholesale/retail margins and so uses a number of standard tariffs and volumes. Our commission from Energy UK requested the inclusion of on-line discounts and actual volumes, among other factors, in order to provide a more realistic view of current profitability, although we do not claim that our figures are an accurate measure of profits (which are in any case available from the segmental accounts).

For this report, we re-ran our March 2011 exercise, using Ofgem's standard consumption figures instead of our estimated averages. The effects are shown in Table 3.2 below. The results shown in our report form March 2011 are in the left hand box, whilst the results that would have emerged for volumes of 4,000 kWh of electricity and 16,900 kWh of gas are shown in the right hand box.

Table 3.2:
NERA Model of Net Margins, with NERA and Ofgem Consumption Levels
(£ per Customer per Year)

	NERA 03/11 Report			NERA 03/11, Ofgem Consumption		
Item	**Electricity**	**Gas**	**Dual Fuel**	**Electricity**	**Gas**	**Dual Fuel**
Customer bill	550	596	1096	524	659	1090
of which:						
Ofgem	535	665	1170	535	665	1170
Adjustments	15	-69	-74	-11	-6	-80
Wholesale Energy Costs	-232	-285	-517	-213	-326	-539
Direct Costs ("VAT and Other Costs")	-225	-241	-464	-216	-245	-456
Gross Margin	**93**	**70**	**116**	**95**	**89**	**95**
Indirect Costs ("Operating Costs")	-72	-79	-146	-71	-80	-146
Overall Margin	**21**	**-9**	**-30**	**24**	**8**	**-51**

The main effects of this adjustment in volumes are:

- Customer bills fall for electricity-only customers and rise for gas-only customers; the net change in customer bills for dual fuel customers is very small;
- At Ofgem's level of consumption, our estimate of electricity-only and gas-only customer bills is close to Ofgem's for the same period; however, our estimate of dual fuel bills is still much lower than Ofgem's, mainly due to the influence of on-line discounts (in addition to standard dual fuel discounts);

- As a result of using Ofgem's consumption figures, wholesale energy costs fall by eight percent for electricity-only customers, and rise by 14 percent for gas-only customers;
- For dual fuel customers, the change in total wholesale energy costs is relatively small – a rise of four percent – because of offsetting effects for electricity and gas; and
- Net margins change little for electricity-only customers, but rise for gas-only customers and fall for dual fuel customers. For dual fuel customers, the fall in net margins is almost exactly equal to the rise in wholesale energy costs.

4. Comparison of Ofgem and NERA Figures

Summarising the results for two different organisations, three different fuels, before and after adjustments, requires some care. The following chapter considers each fuel separately and highlights the effect of changes in each organisation's methodology, before comparing the *revised* results to show any *outstanding* differences.

For each fuel, I show below the NERA results as set out in our reports and then the changes required to put the margins for each period on a like-for-like basis. I show Ofgem's results as reported, subject to the revisions published in later editions. I then provide a comparison between NERA's "like-for-like" figures and Ofgem's revised figures.

In these tables, each round is dated by the start of the quarter to which the estimate applies. Dates of publication sometimes differ by plus/minus a month.

4.1. Electricity-only Customers

Table 4.1 shows NERA's estimates of customer bills, costs and net margins for electricity-only customers for each reporting cycle. Net margins are shown as reported originally and after the adjustments for metering costs and economies of scope in dual fuels ("like-for-like"), discussed above in chapter 2.

**Table 4.1:
NERA Results: Electricity-only Customers
(£ per customer per year)**

Quarter	Dec-09	Mar-10	Jun-10	Sep-10	Dec-10	Mar-11
Item	Electricity	Electricity	Electricity	Electricity	Electricity	Electricity
Customer Bill	521	530	522	520	533	550
Wholesale Energy Costs	-236	-215	-215	-208	-225	-232
Direct Costs ("VAT and Other Costs")	-199	-199	-209	-209	-210	-225
Gross Margin	87	116	98	103	99	93
Indirect Costs ("Operating Costs")	-78	-87	-78	-72	-73	-72
Rounding error	0	0	0	0	0	0
Overall Margin	9	30	20	31	26	21
Reallocation (Metering Costs)	9	9	0	0	0	0
Economies of Scope	8	8	8	0	0	0
Like-for-Like Margin	*26*	*46*	*28*	*31*	*26*	*21*

Table 4.2 shows the equivalent information for Ofgem, including restated or amended figures. Entries in italics have remained unchanged since their original publication, but the values for December 2009 and March 2010 were restated in the reports of November 2010 and March 2011. I also backdated the £5/customer increase in suppliers' operating costs, mentioned in the March 2011 report, to all previous reports.

Table 4.2:
Ofgem Results: Electricity-only Customers
(£ per customer per year)

Quarter	Dec-09	Mar-10	*Jun-10*	*Sep-10*	*Dec-10*	*Mar-11*
Item	Electricity	Electricity	*Electricity*	*Electricity*	*Electricity*	*Electricity*
Customer Bill	505	510	*500*	*505*	*520*	*535*
Wholesale Energy Costs	-225	-205	*-205*	*-205*	*-205*	*-210*
Direct Costs ("VAT and Other Costs")	-195	-200	*-205*	*-205*	*-210*	*-210*
Rounding error	0	-5	*5*	*0*	*0*	*0*
Gross Margin	85	100	*95*	*95*	*105*	*115*
Indirect Costs ("Operating Costs")	-60	-65	*-60*	*-65*	*-65*	*-65*
Additional operating costs	-5	-5	-5	-5	-5	-5
Rounding error	0	0	*5*	*-5*	*-5*	*0*
Overall Margin	20	*30*	*35*	*20*	*30*	*45*

Table 4.3 shows the remaining differences between NERA's figures and Ofgem's for the whole period, based on the latest updated or restated figures. This table records the effect of each difference on the net margin – higher revenues and lower costs appear as positive numbers, whereas lower revenues and higher costs appear as negative numbers.

The table shows that NERA's estimate of both customer bill and wholesale energy costs exceeds Ofgem's by £10-20 per customer. Those differences reflect the generally higher consumption we assign to these consumers, but they net out and so have relatively little impact on the net margin. The remaining differences between costs are also small. Although direct and indirect costs differ by up to £5 per customer, the differences are in opposite directions (possibly because of a different allocation of costs between each category) and tend to cancel each other out. The only exception is March 2011, where the total difference in suppliers' costs is £18 per customer after rounding (see Table 4.4.).

Table 4.3:
NERA-Ofgem Comparison: Electricity-Only Customers
(£ per customer per year)

Quarter	Dec-09	Mar-10	Jun-10	Sep-10	Dec-10	Mar-11
Item	Electricity	Electricity	Electricity	Electricity	Electricity	Electricity
Customer Bill	16	20	22	15	13	15
Wholesale Energy Costs	-11	-10	-10	-3	-20	-22
Direct Costs ("VAT and Other Costs")	-4	1	-4	-4	0	-15
Rounding error	0	-5	5	0	0	0
Gross Margin	2	16	3	8	-6	-22
Indirect Costs ("Operating Costs")	4	0	-5	-2	-3	-2
Rounding error	0	0	-5	5	5	0
Overall Margin	6	16	-7	11	-4	-24

Table 4.4:
NERA-Ofgem Comparison: Electricity-Only Customers -
Supplier Operating Costs (Direct Costs + Indirect Costs)
(£ per customer per year)

Quarter	Dec-09	Mar-10	Jun-10	Sep-10	Dec-10	Mar-11
Difference in total (direct+indirect) costs	1	1	-9	-6	-3	-18

The combined effect of all these differences leads to only a small difference in net margin between NERA and Ofgem, except in the latest round, where a difference in direct costs has emerged.

4.2. Gas-only Customers

Table 4.5 shows NERA's results for gas-only customers, with the net margin before and after adjustment for metering costs and economies of scope, as discussed above. Table 4.6 gives the same information for Ofgem's results, including restated figures. Table 4.7 provides the NERA-Ofgem comparison.

Table 4.5:
NERA Results: Gas-only Customers
(£ per customer per year)

Quarter	Dec-09	Mar-10	Jun-10	Sep-10	Dec-10	Mar-11
Item	Gas	Gas	Gas	Gas	Gas	Gas
Customer Bill	636	596	557	545	598	596
Wholesale Energy Costs	-306	-268	-270	-269	-264	-285
Direct Costs ("VAT and Other Costs")	-233	-229	-230	-230	-232	-241
Gross Margin	97	98	57	47	102	70
Indirect Costs ("Operating Costs")	-87	-95	-85	-79	-80	-79
Rounding error	0	0	-1	0	0	0
Overall Margin	10	4	-29	-32	22	-9
Reallocation (Metering Costs)	9	9	0	0	0	0
Economies of Scope	8	8	8	0	0	0
Like-for-Like Margin	*42*	*39*	*-5*	*-15*	*43*	*14*

Table 4.6:
Ofgem Results: Gas-only Customers
(£ per customer per year)

Quarter	Dec-09	Mar-10	*Jun-10*	*Sep-10*	*Dec-10*	*Mar-11*
Item	Gas	Gas	*Gas*	*Gas*	*Gas*	*Gas*
Customer Bill	665	645	*620*	*625*	*655*	*665*
Wholesale Energy Costs	-310	-280	*-280*	*-280*	*-290*	*-320*
Direct Costs ("VAT and Other Costs")	-225	-220	*-220*	*-225*	*-230*	*-230*
Rounding error	0	-5	*-5*	*-5*	*-5*	*0*
Gross Margin	130	140	*115*	*115*	*130*	*115*
Indirect Costs ("Operating Costs")	-60	-65	*-60*	*-65*	*-65*	*-65*
Additional operating costs						
Rounding error	*-5*	0	*0*	*0*	*5*	*5*
Overall Margin	65	75	*55*	*50*	*70*	*55*

Table 4.7:
NERA-Ofgem Comparison: Gas-only Customers
(£ per customer per year)

Quarter	Dec-09	Mar-10	Jun-10	Sep-10	Dec-10	Mar-11
Item	Gas	Gas	Gas	Gas	Gas	Gas
Customer Bill	-29	-49	-63	-80	-57	-69
Wholesale Energy Costs	4	12	10	11	26	35
Direct Costs ("VAT and Other Costs")	7	10	6	12	19	13
Rounding error	0	-5	-5	-5	-5	0
Gross Margin	-18	-23	-42	-51	-7	-22
Indirect Costs ("Operating Costs")	-10	-13	-17	-14	-15	-14
Rounding error	5	0	-1	0	-5	-5
Overall Margin	-23	-36	-60	-65	-27	-41

The comparison shows that NERA calculates a lower customer bill than Ofgem, which is only partially offset by a lower estimate of wholesale energy costs. This difference feeds through into a substantially lower net margin. The difference in supplier's total direct and

indirect costs in pounds per customer is relatively minor (see Table 4.8) and the comparison of costs is distorted only a little by the difference in assumed consumption. Using Ofgem's average gas consumption figure of 16,900 kWh, our estimate of these costs would be £325 per customer per year for a gas-only customer, about £30 more than Ofgem's estimate, with the difference split equally between direct and indirect costs (see Table 3.2). Ofgem has not provided a sufficiently detailed breakdown of costs to examine the source of this difference in greater detail further.

Table 4.8:
NERA-Ofgem Comparison: Gas-Only Customers -
Supplier Operating Costs (Direct Costs + Indirect Costs)
(£ per customer per year)

Quarter	Dec-09	Mar-10	Jun-10	Sep-10	Dec-10	Mar-11
Difference in total (direct+indirect) costs	-3	-3	-11	-1	4	-1

4.3. Dual Fuel Customers

The final set of tables show the updated results for NERA (Table 4.9) and Ofgem (Table 4.10), and the comparison between the two (Table 4.11). The difference in suppliers' total direct and indirect costs is about £20/customer, but this explains only a small part of the difference in margins. NERA's revised estimate of wholesale energy costs (for consumption of 16,100 kWh) has, for recent cycles, only been £20-£30 per customer less than Ofgem's (for consumption of 16,900 kWh). The main effect on margins derives from the difference in customer bills, which reflect the impact of on-line discounts. After allowing for companies' estimate of this effect, our estimate of the average customer bill has been £55-£75 lower than Ofgem's estimate in the last four quarters, and that difference accounts for most of the remaining difference in the net margins.

Note that adjusting the wholesale energy cost to match the average energy consumption of dual fuel customers (weighted by region and payment type) pushes the net margin substantially into deficit. On an updated and like-for-like basis, our estimate of the net margin per dual fuel customer has varied widely, from -£69 to +£7 per customer, and stood at -£66 per customer in March 2011.

Table 4.9:
NERA Results: Dual Fuel Customers
(£ per customer per year)

Quarter	Dec-09	Mar-10	Jun-10	Sep-10	Dec-10	Mar-11
Item	Dual Fuel	Dual Fuel	Dual Fuel	Dual Fuel	Dual Fuel	Dual Fuel
Customer Bill	1117	1087	1044	1030	1095	1096
Wholesale Energy Costs	-543	-483	-486	-477	-488	-517
Direct Costs ("VAT and Other Costs")	-431	-425	-437	-437	-440	-464
Gross Margin	143	179	120	116	166	116
Indirect Costs ("Operating Costs")	-145	-148	-136	-147	-149	-146
Rounding error	1	0	0	0	0	0
Overall Margin	-1	31	-16	-31	17	-30
Reallocation (Metering Costs)	18	18	0	0	0	0
Economies of Scope	-7	-7	-7	0	0	0
Like-for-Like Margin	*-34*	*7*	*-62*	*-69*	*-16*	*-66*

Table 4.10:
Ofgem Results: Dual Fuel Customers
(£ per customer per year)

Quarter	Dec-09	Mar-10	*Jun-10*	*Sep-10*	Dec-10	*Mar-11*
Item	Dual Fuel	Dual Fuel	*Dual Fuel*	*Dual Fuel*	Dual Fuel	*Dual Fuel*
Customer Bill	1140	1130	*1105*	*1105*	*1150*	*1170*
Wholesale Energy Costs	-535	-485	*-485*	*-485*	*-495*	*-530*
Direct Costs ("VAT and Other Costs")	-420	-420	*-425*	*-430*	*-440*	*-435*
Rounding error	0	-5	*0*	*0*	*0*	*0*
Gross Margin	185	220	*195*	*190*	*215*	*205*
Indirect Costs ("Operating Costs")	-125	-130	*-125*	*-125*	*-125*	*-130*
Additional operating costs	-5	-5	-5	-5	-5	-5
Rounding error	-25	-15	*0*	*0*	*0*	*0*
Overall Margin	30	70	65	60	85	*70*

Table 4.11:
NERA-Ofgem Comparison: Dual Fuel Customers
(£ per customer per year)

Quarter	Dec-09	Mar-10	Jun-10	Sep-10	Dec-10	Mar-11
Item	Dual Fuel	Dual Fuel	Dual Fuel	Dual Fuel	Dual Fuel	Dual Fuel
Customer Bill	-23	-43	-61	-75	-55	-74
Wholesale Energy Costs	-52	-38	-41	-32	-33	-29
Direct Costs ("VAT and Other Costs")	-12	0	-11	-5	7	-21
Rounding error	0	-5	0	0	0	0
Gross Margin	-86	-76	-114	-111	-82	-124
Indirect Costs ("Operating Costs")	-4	-2	-13	-17	-19	-11
Rounding error	26	15	0	0	0	0
Overall Margin	-64	-63	-127	-129	-101	-136

Table 4.12:
NERA-Ofgem Comparison: Dual Fuel Customers -
Supplier Operating Costs (Direct Costs + Indirect Costs)
(£ per customer per year)

Quarter	Dec-09	Mar-10	Jun-10	Sep-10	Dec-10	Mar-11
Difference in total (direct+indirect) costs	-16	-2	-25	-22	-13	-32

Ofgem's positive net margins on dual fuel customers are attributable mostly to the assumption of a much higher customer bill and lower wholesale energy costs (with the latter accounting for less than half as much as the former in the latest round). Ofgem's estimate of suppliers' own costs is also somewhat lower than NERA's. This outcome is curious, given the closeness of estimates for electricity-only and gas-only customers, but we cannot explore it further with the information published by Ofgem.

4.4. Conclusion

Net margins are relatively small, and are calculated as the difference between two relatively large amounts, namely the costs of serving a customer and the customer bill. Small differences in either of these amounts can cause the net margin to change by a large percentage.

As of March 2011, we estimated the net margins to be 3.7 percent in electricity-only tariffs, 2.4 percent in gas-only tariffs and *minus* 6.0 percent in dual fuel tariffs. After putting all our

estimates on a common basis, the net margin for electricity-only customers has stayed relatively stable over the last six rounds (eighteen months), at between four and nine percent of the customer bill. For gas only customers, the net margin has risen to about seven percent, but has also fallen into negative territory, to minus three percent on occasion. These figures are plausible, being consistent with margins in other retailing sectors.

Ofgem's estimated net margins for electricity-only and gas-only customers are more stable than NERA's, not least because they assume a fixed energy consumption and cover a narrower range of tariffs. For electricity-only customers, the margin hovers between four and eight percent (similar to our figures), whilst for gas-only customers the range is eight to 12 percent (a little higher than our figures).

The big difference between our estimates arises over in dual fuel customers. NERA's figures for dual fuel customers are mostly negative (between plus one and minus seven percent), rising above zero in only one out of six rounds of estimates. Persistent negative margins require some explanation; they may indicate that our estimate of costs applies to a selection of suppliers with above average costs, or that prices are set in the market by the supplier(s) with the lowest costs, not by reference to average costs. For dual fuel customers, Ofgem calculates more stable positive margins of three to six percent. These figures again seem plausible by reference to other retail sectors, but we know that Ofgem's estimates are not representative of overall performance in dual fuel supply.

The main source of the difference in dual fuel margins is not our estimates of suppliers' operating costs, where the differences are small (zero to three percent of our estimated customer bill). The differences in dual fuel net margins derive mainly from differences in the estimated dual fuel customer bills, averaging about five percent, and to a lesser extent from differences in wholesale energy costs, which have averaged about 3.5 percent of the customer bill.

The estimated cost of energy can vary for a number of reasons, such as the date for which the estimate is made, although that ought not to account for a major difference. (In the latest round, we used price data as of 5 March 2011. Ofgem used data as of 7 March 2011.[21])

The difference in net margins on dual fuel customers therefore derives mainly from the effect of on-line discounts and other differences in the definition of tariffs, with other factors playing a subordinate role.

[21] Ofgem (2011), page 15, para 1.7.

5. Commentary on the Interpretation of Margins

5.1. The Purpose of the Exercise

The purpose of publishing a series of gross or net margins within any sector is to monitor developments over time. If one can establish a credible and standard basis for calculating these margins, one can monitor the extent to which retail prices follow wholesale prices.

The media seems to have chosen to interpret Ofgem's analysis of margins as a measure of profitability.[22] It was clearly incorrect to regard the gross margin as a measure of profit. Following our demonstration that it was feasible to estimate suppliers' operating costs, Ofgem reacted by calculating a net margin. Even so, the remaining difference between Ofgem's and NERA's estimate of the net margin suggests that it would be wrong to interpret the net margins in *standard* tariffs as an index of profitability. On-line discounts reduce profitability, but Ofgem's method does not take them into account. Ofgem's staff might well acknowledge this point, even whilst defending its method as an indicator of the state of retail competition. However, the variation in on-line discounts between each round suggests that Ofgem's method also overlooks an important dimension of competition in retail energy markets. To understand competition, it would be important to study the extent to which suppliers vary *de facto* prices by changing on-line discounts, rather than by changing standard tariffs. Ofgem's reports shed no light on this phenomenon.

5.2. Margins and Tariffs

We found that the on-line discounts have a substantial impact on the profitability of serving domestic customers. Recently, the difference between our estimate of the dual fuel customer bill and Ofgem's has been £50 to £75 per customer, or about six percent of the dual fuel customer's average bill. This difference can be largely explained by on-line discounts. Unfortunately, we can only note the effect of these discounts and cannot validate them, since we are reliant on summary information from the energy supply companies for information on their individual rates of on-line discounts.

5.3. Wholesale Energy Costs

The estimate of wholesale energy costs also differs slightly between NERA and Ofgem but, after putting all estimates on a common basis, the difference between them is not a major source of differences in net margins.

Our method understated wholesale energy costs for dual fuel customers, because we assumed (like Ofgem) that the costs of serving them equalled the sum of the cost of serving electricity-only and gas-only customers. That assumption is not important for Ofgem's calculations, which apply a standard level of consumption in all cases. However, we calculate an average tariff using company information on actual consumption volumes. The energy supply

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[22] See, for example, Daily Telegraph, 26 November 2010: *Energy suppliers under spotlight as profit margins rise*, "Energy suppliers are to be investigated after the industry watchdog discovered profit margins jumped almost 40 per cent on the back of rising prices. Ofgem said it wanted to make sure providers are not boosting profits at the expense of consumers after the average margin on a standard dual-fuel tariff increased from £65 to £90 since September, the equivalent of a 38 per cent rise.…."

companies provided information on consumption volumes *by billing type*, and billing types *by fuel*, from which we can now see (1) that dual fuel customers are systematically more heavily represented by direct debit arrangements, and (2) that customers paying by direct debit have higher consumption on average than those paying by other means. As a result, dual fuel customers have higher energy consumption (for both electricity and gas) than consumers taking only one fuel from the supplier. It would be useful to check whether this result of applying aggregated data for broadly defined types of customer is borne out by reality.

If we correct for this feature of the data, we find that our estimates of wholesale energy costs are *relatively* close to Ofgem's. Ofgem's estimate is £30-£50 per customer (out of £1,000 per customer or so) lower than NERA's. Given the difficulty of estimating the actual cost of energy to any particular supplier, and the variation in Ofgem's own estimates for different portfolios, this difference is probably about as small as can be expected.

5.4. Suppliers' Operating Costs

The publication of the 2009 segmental accounts shed some light on the operating costs of the energy supply companies, but the interpretation of accounting information is fraught with difficulty. Our own discussions of the 2009 segmental accounts highlighted differences due to the parent companies' adoption of UK GAAP or international accounting standards (IAS), as well as several differences in the allocation of costs between different line items, and a number of exceptional items that complicated any comparisons. For those firms who discussed their accounts with us, we found our estimates of total costs to be close to those of the companies, although the allocation between "direct" and "indirect" costs was more varied and less easy to predict. We decided that there was little to gain from changing our method of estimating costs to try to accommodate information from one year's accounts.

Ofgem has recently been through a similar exercise and decided to increase its estimate of costs by £5 per electricity-only and dual fuel customer. The difference between the cost estimates of Ofgem and NERA are now relatively small for electricity only and dual fuel customers (after allowing for the effect of lower customer bills on VAT).

The almost negligible difference in suppliers' operating costs for gas-only customers is, however, hard to explain. Ofgem's estimate of these costs should be higher than NERA's, due to the impact of VAT, since Ofgem estimates a higher customer bill for a higher level of gas consumption. However, we cannot investigate this difference any further with the information that Ofgem has provided.

5.5. Conclusion

Both our figures and Ofgem's show that average margins across the major energy suppliers have remained a relatively small proportion of the customer bill over the last 18 months, and comparable to margins in other retail sectors. As at March 2011, we estimated the net margins to be 3.7 percent in electricity-only tariffs, 2.4 percent in gas-only tariffs and *minus* 6.0 percent in dual fuel tariffs. Ofgem's figures are consistently higher, mainly because they cover a less representative set of tariffs.

Ofgem's original purpose was to monitor the relationship between wholesale and retail prices. That purpose is served by comparing customer bills at fixed levels of consumption, provided that the customer bills are representative of actual tariffs. However, our analysis suggests that comparisons using standard tariffs, without taking account of on-line discounts, not only overstates net margins, but also overlooks a source of variation in net margins.

The overstatement of margins can lead to the media taking an incorrect view of the profitability of energy supply companies and of energy retailing in general. Counteracting such views is a task that Energy UK has tried to address, using NERA's reports to focus first on the net margin and second on a more representative set of tariffs.

The second problem is more fundamental to Ofgem's exercise: if competition takes place primarily through variation in on-line discounts, the study of standard tariffs will provide a misleading view of the state of the market. In principle, our inclusion of on-line discounts provides a more informative view – but in practice the wide fluctuations in net margins suggest that they are not a good indicator of the state of competition.

Ultimately, NERA's estimates of net margins rely on the information provided by the energy supply companies on costs and discounts. The large negative net margins for dual fuel customers may call into question the reliability of the results, unless the energy supply companies can provide some validation of this position. The 2010 segmental accounts might, for instance, show that many energy suppliers procured energy on average more cheaply than Ofgem's 18-month portfolio would suggest – although even that finding would not necessarily invalidate the 18-month portfolio as the best marker for forward-looking tariff-setting in a competitive market.

The most important role of our estimates may be to shed some light on the effect of on-line discounts, as stated by the companies. They indicate that Ofgem's estimates of the net margin appear to be unreliable, both as a measure of profitability (a deficiency which Ofgem acknowledges) and as an indicator of the state of competition (a deficiency which Ofgem has yet to consider).

So far, Ofgem has not tried to base any formal analysis of competition in the retail market on the size of, or direction of movement in, the net margin. Our observations suggest that standard tariffs do not tell the full story about pricing in the retail energy market, and that Ofgem's analysis does not therefore provide a useful picture of the state of competition.

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