

Energy price variation in the domestic energy market

Introduction

Households pay a variety of prices for their energy for a number of different reasons. Firstly, the domestic energy market consists of multiple energy suppliers who offer different types of tariffs to compete for market share.

Companies offer various tariffs which differ in price due to the different attributes of the tariff. Customers can pay by standard credit, direct debit or through a pre-payment meter. On average, direct debit is the cheapest form of payment¹, with most consumers in 2013 choosing to pay by direct debit². Another factor is regional variation, and prices will vary across individual tariffs according to the Public Electricity Supply (PES) region it is offered in.

Another factor which influences the price paid by customers is the type of tariff. Fixed tariffs have their prices fixed at a certain level for a pre-determined period of time. These tend to be higher initially but the prices are immune to any announced price changes up until the tariff expiry date, in contrast to standard tariffs. Some other tariff types include green tariffs, which support energy produced using renewable sources and can tend to have higher prices, and social tariffs, which are offered to support vulnerable consumers and often have lower comparable prices.

Discounts are also available for dual fuel consumers, who use the same supplier for both gas and electricity, and consumers opting for paperless billing by managing their bills online, whilst households who have not switched energy supplier are likely to pay more.

As such, customers will pay a variety of prices, and therefore a range of bills. Consumer bills will also be influenced by consumption, which is affected by a wider range of factors, including weather patterns, regional differences, different property attributes, energy efficiency measures and individual consumer behaviour.

This article will look at the distribution of bills that customers paid for fixed levels of consumption of electricity and gas in 2013, to provide a fuller picture of price variation compared to averages published in Quarterly Energy Prices (QEP).

Methodology

The basis of this analysis is the data collected in DECC's quarterly Domestic Fuel Inquiry survey, which contains tariff by tariff pricing details alongside the number of consumers on each tariff. The survey covers the six main suppliers and some of the smaller suppliers, across all PES regions in the UK, accounting for around 95 per cent of the market. From this data bill estimates on an annual basis can be calculated³.

In essence each bill is split into a variable component, expressed as a price per unit of fuel consumed, and a fixed component, expressed in terms of a set cost per day. Any discounts the tariff may contain are applied to the fixed component. To translate these prices into a bill, DECC use fixed annual consumption levels per household, of 3,800kWh for electricity and 15,000kWh for gas.⁴ These broadly represent mean consumption levels typical for 2013. Data is not available to combine actual household consumption levels with the detailed tariff information.

¹ Average unit prices are published in Quarterly Energy Prices (QEP) tables 2.2.3 (Electricity) and 2.3.3 (Gas) available at www.gov.uk/government/statistical-data-sets/annual-domestic-energy-price-statistics

² Variation of payment method is published in QEP tables 2.4.2 (Electricity) and 2.5.2 (Gas) available at www.gov.uk/government/statistical-data-sets/quarterly-domestic-energy-price-statistics

³ See 'Domestic energy prices: data sources and methodology' for full details of how these estimates are made www.gov.uk/government/publications/domestic-energy-prices-data-sources-and-methodology

⁴ For details on DECC's fuel consumption assumptions see special feature article in the March 2014 edition of Energy Trends available at www.gov.uk/government/collections/energy-trends-articles

Special feature – Energy price variation in the domestic energy market

Using these bill estimates by tariff, distributions can be produced showing variation in bills paid, where the variance is driven by pricing differences between each tariff. For each distribution chart data has been plotted based on a three point moving average, giving the best representation of the number of customers paying various bills while remaining non-disclosive to particular tariffs.

Variation in annual bills

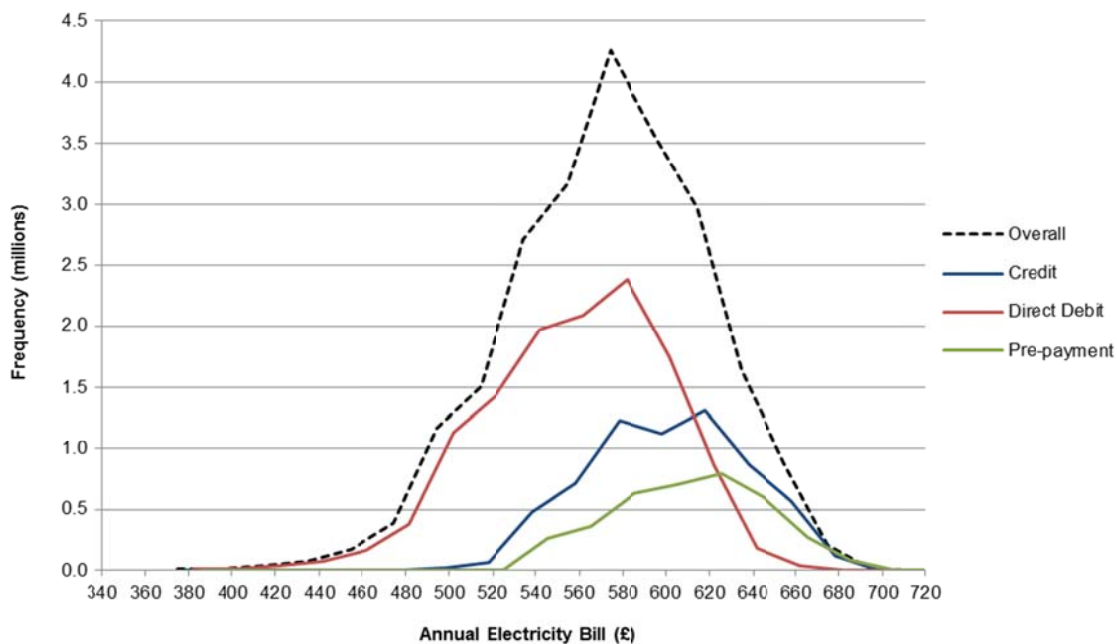
Charts 1 and 2 show the spread in fixed consumption 2013 electricity and gas bills by customer and payment type. Both charts display a relatively symmetrical distribution.

Chart 1 shows that in 2013, the modal customer paid a standard electricity bill between £570 and £590 per year, whilst chart 2 shows that the modal customer paid a gas bill of about £730-£790. Looking at combined bills, this gives a 2013 annual bill of £1,300-£1,380 paid by the modal consumer.

It is also clear that customers paying by direct debit paid less for both electricity and gas. This difference in bills is more exaggerated for gas than electricity. The modal customer paying for electricity by direct debit paid an annual standard electricity bill between £550 and £570, compared to £570-£590 for customers paying by standard credit and £590-£610 for pre-payment customers.

However for gas, the modal customer paying by direct debit paid an annual bill between £690 and £710. This is about £80 cheaper than the modal annual gas bill paid by standard credit customers of £770-£790. Customers paying by pre-payment paid a modal gas bill of £730-£750.

Chart 1 – Distribution of bills for standard electricity customers in the UK, 2013 (based on fixed annual consumption of 3,800kWh)⁵



⁵ Each value displayed represents the mid-point of an interval used to construct this distribution. For example, the £580 mark includes all bill estimates from £570 up to £590. This format applies to charts 2 and 3 also.

Chart 2 – Distribution of bills for gas customers in Great Britain, 2013 (based on fixed annual consumption of 15,000kWh)⁶

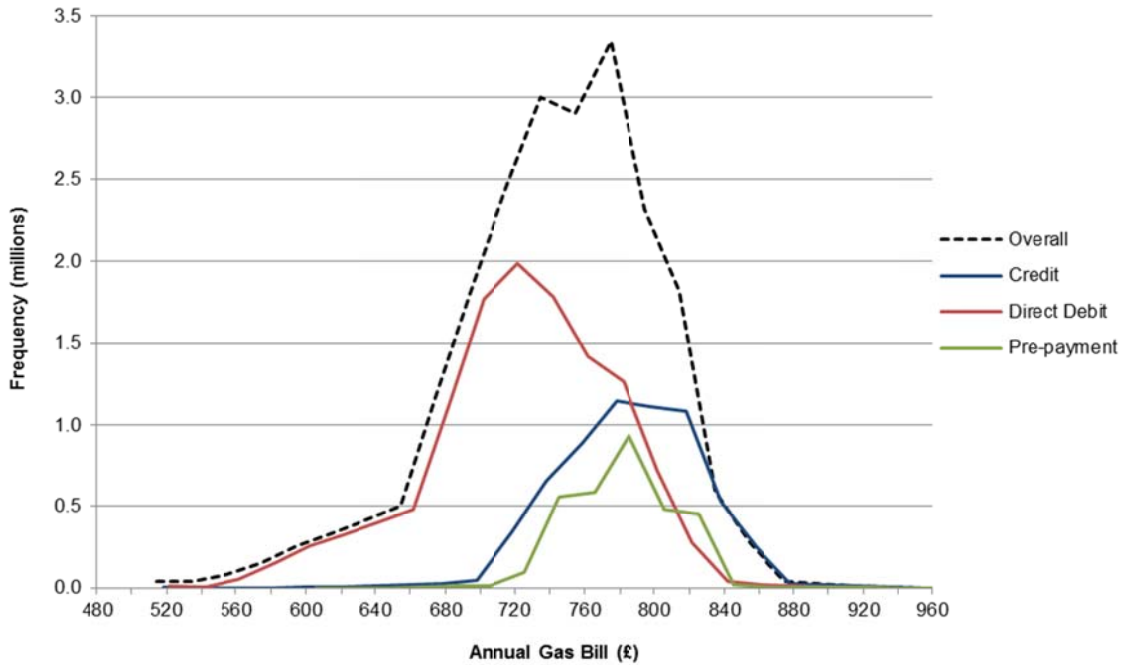
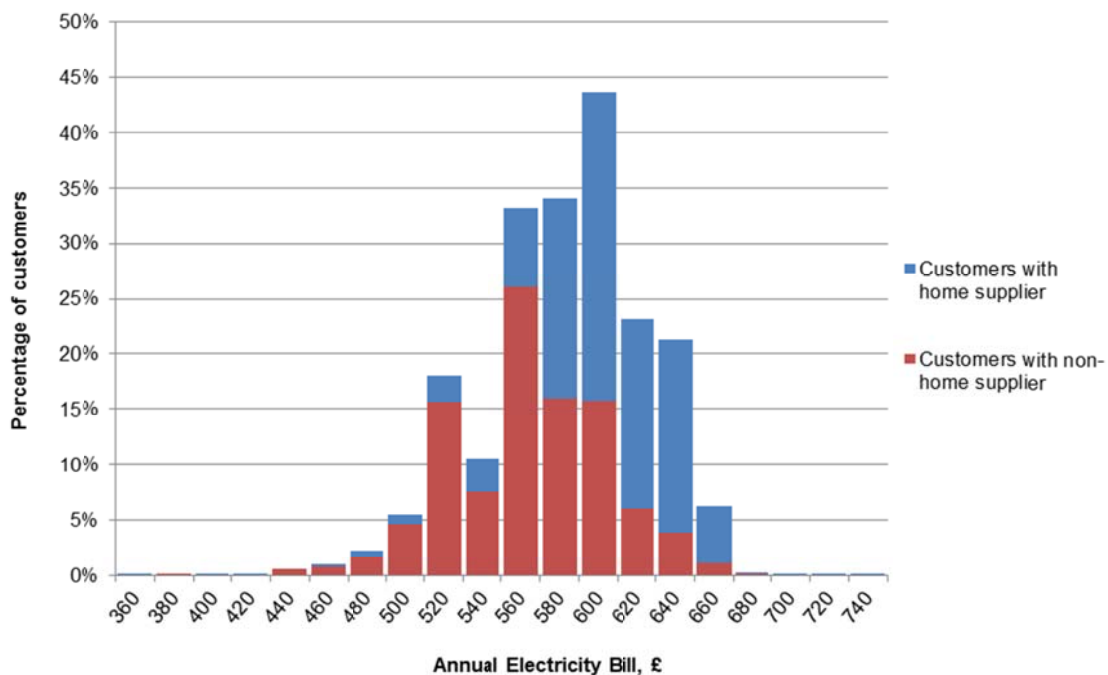


Chart 3 shows the distribution of electricity bills, split between whether the consumer is with the home or a non-home supplier. The home supplier is the default supplier for each PES region, whereby all consumers used the home supplier for their region before the market opened up to competition.

Chart 3 – Distribution of bills for standard electricity customers in the UK, 2013, split by home/non-home supplier



⁶ Gas data is not available for Northern Ireland, as the market has only recently opened up to competition there.

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Bills paid by customers with their home suppliers are distributed around the modal bill amount of £590-£610, with 28 per cent of customers paying this. Whereas, customers with a non-home supplier pay cheaper bills with the distribution focused around the modal bill category of £550-£570, which 26 per cent of customers pay.

Similar analysis cannot be done for the distribution of gas bills with a home and non-home supplier split since British Gas was the home supplier for the whole of Great Britain, and this data would be disclosive.

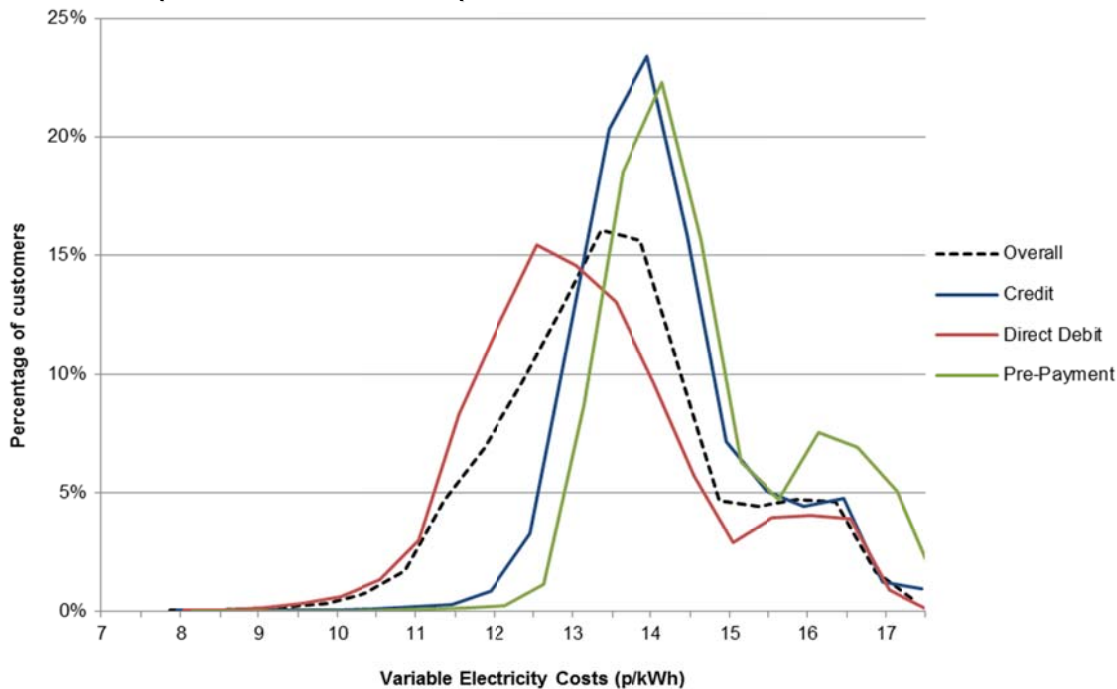
Price Variation

Underpinning the distribution of electricity and gas bills are the variable and fixed costs that customers pay. There is variation in the variable and fixed costs paid by customers, in particular variation by payment type, and this is shown in charts 4 and 5 below for variable costs.

There is no evidence to suggest a positive correlation between variable and fixed costs, indicating that it is not necessarily true that if a customer has a high variable cost, they will also have a high fixed cost – although this may be the case for some tariffs.

Chart 4 shows that 57 per cent of direct debit customers pay variable electricity prices that are less than 13 p/kWh – a price band that is not widely available to credit and pre-payment customers.

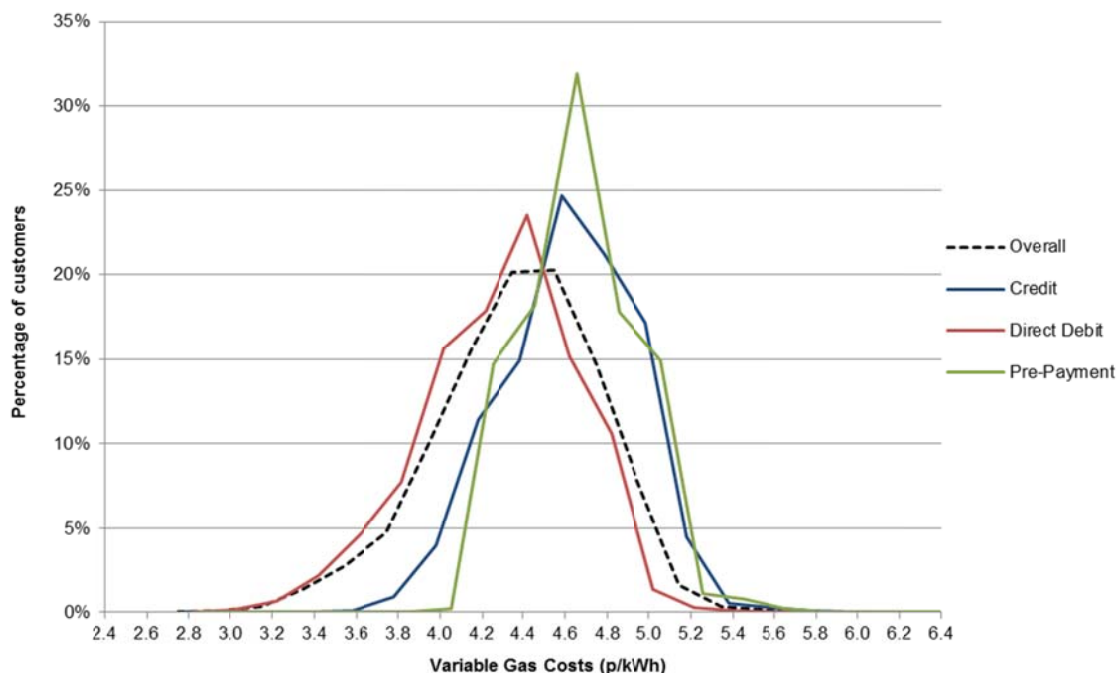
Chart 4 – Distribution of variable prices paid by standard electricity customers in the UK, 2013 (excludes fixed costs)⁷



⁷ Each value displayed represents the lower limit of an interval used to construct this distribution. For example, the 12p/kWh mark includes all prices from 12.0-12.5 p/kWh.

Chart 5 shows that for gas, while variable prices paid by direct debit customers appear to be lower than that of credit and pre-payment customers, this difference is smaller than for electricity.

Chart 5 – Distribution of variable prices paid by gas customers in Great Britain, 2013 (excludes fixed costs)⁸



Conclusion

From the distributions presented in this article it is clear that there is considerable variation in the bills and prices paid by electricity and gas consumers. Some of this variation can be attributed to the different methods of payment available, but there are a range of other factors influencing the differences, such as the different types of tariffs available.

User views

The prices team are interested in views on this article, and whether such analysis is preferred to showing data currently in table 2.2.3 and 2.3.3 for electricity and gas respectively of maximum and minimum prices and bills⁹. DECC is considering stopping the publication of the maximum and minimum values in these tables. Please contact either of the article authors using the contact details below.

Ashley O'Neill

Energy Price Statistics

Tel: 0300 068 5057

E-mail: Ashley.Oneill@decc.gsi.gov.uk

Sam Trewin

Energy Price Statistics

Tel: 0300 068 5162

E-mail: Sam.Trewin@decc.gsi.gov.uk

⁸ Each value displayed represents the mid-point of an interval used to construct this distribution. For example, the 4.6p/kWh mark includes all prices from 4.5-4.7 p/kWh.

⁹ www.gov.uk/government/statistical-data-sets/annual-domestic-energy-price-statistics