The Impact of Regulatory Intervention in the UK Store Card Industry

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ABSTRACT The paper examines the impact of regulatory intervention on store card interest rates, for a panel of UK store cards. Panel data estimation methods are used in conjunction with intervention analysis so that the impact of the investigations on store card interest rates can be examined. Results suggest that there is a significant negative impact on store card interest rates. The impact of macroeconomic factors and credit card interest rates on store card interest rates are also taken into account, results indicating that store cards and credit cards should be considered as competing sources of credit.

Key Words: Store Card Industry; Competition Policy; Panel Data Estimation.

JEL classifications: E43, L44, L8.

1. Introduction

The store card industry has been a topical issue in the UK media and in policy circles in the last few years because of the persistently high interest rates charged on many store cards. The average store card rate in January 1994 was 27.72% APR, and although it fell somewhat, by January 2004 it still stood at 26.92% (Keynote, 2005). In October 2003, the Office of Fair Trading (OFT) began a market investigation into the store card industry, as set out in the UK Enterprise Act 2002. As the OFT concluded that competition may have been restricted in the provision of store card services, in March 2004 it referred the industry to the Competition Commission (CC) for further investigation in two vertically related areas; namely the provision of credit services to retailers, and the provision of credit via store cards to consumers in the UK. In March 2005 the investigation was...
also broadened to encompass the insurance provisions in the market. The CC then had a maximum of two years to investigate the UK store card industry, and to make recommendations as to any measures that were required to ensure adequate competition in the industry.

Nevertheless, few studies have been written on the store card industry. This short paper contributes to the literature by addressing the issue of the impact of the OFT and CC investigations on the store card market. Specifically, intervention analysis is used to examine the impact of this regulatory investigation on interest rates charged on store card accounts, as these represent the principal price of using a store card. In so doing, the analysis highlights the factors that determine store card interest rates using a newly collated dataset, and offers a contribution to the literature on the impact of regulation and the threat of regulation that encompasses both theoretical and empirical studies.

2. Background and Previous Studies

Store cards are an important method of purchase in the UK. Many stores offer the opportunity of purchasing goods with a store card that can be used to purchase goods in just one or a small number of stores, typically with branches across the UK. Otherwise, the cards work like credit cards, a monthly bill will be issued and consumers choose whether to settle each month’s bill in total such that no interest is incurred, or pay at least a minimum amount each month, in which case interest must also be paid. During their most popular time, i.e. 2002, the number of store cards held in the UK was in excess of 24 million (Euromonitor, 2008). This is in comparison to only 11 million in 1994 (Keynote, 1999). In terms of the value of store card sales, a similar trend applies and the figures increased from £3.69bn in 1994 to £5.13bn in 2002. However, the importance of this payment method has declined somewhat in recent years, although it remains significant. Media attention given to store card interest rates and the CC final recommendation that store card interest rates be displayed more prominently are believed to have contributed to the number of store cards held falling to under 16 million in 2006, and the value of transactions made using store cards falling to £3.03bn in 2007 (Euromonitor, 2008).

While there are a number of papers on the marketing of store cards, there is a notable lack of literature on the factors determining how store card interest rates are set by the store companies in association with the card issuing companies. Instead the economic literature has focused on consumers’ use of store cards, namely Wright and Sparks (1999) and Lee and Kwon (2005). Consequently, it is suggested that this paper offers a valuable contribution to the very limited store card literature. Note that Bolt and Chakravorti (2008) provide a valuable survey of the existing literature on payment cards, but they focus attention on debit, credit and prepaid cards.

It is the purpose of this paper to analyse the effects of the interventions by the OFT and CC on store card interest rates econometrically. This is done by using intervention analysis. There are numerous examples of intervention analysis being used in the Economics literature, for example Acutt et al. (2001), Elliott et al. (2010), Enders and Sandler (1996) and Lloyd et al. (1998). Further, as in Acutt et al. (2001) and Elliott et al. (2010), the current analysis contributes to the literature examining the impact on firms’ strategies of the threat of regulation. Our empirical analysis allows us to explore any impact on store card
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There is then a period of uncertainty when firms do not know what will be the recommendations of the regulator, and we are able to model changes in store card interest rates during this period, as well as following the publication of the CC recommendations.

There is a related literature that uses stock market event studies to estimate the impact of events such as regulatory investigations on firms’ stock market valuations, see Beverley (2008) for a survey. Beverley (2008) highlights a number of papers that have been written exploring the impact of mergers and competition policy on firms’ stock market prices. However, while there are similarities between this literature and the intervention analysis used in the analysis below, stock market event studies tend to focus on the impact on stock market prices of events in the days immediately prior and after an event. This partly reflects an assumption that capital markets process new information rapidly. Weinberg (2007) offers a critique of such stock market event studies, and is one of a number of recent papers, including Ashenfelter and Hosken (2008) to instead examine the impact of mergers on prices directly. Note that Ashenfelter and Hosken (2008) highlight the problem that stock market event studies and direct analysis of price effects of mergers suffer from the weakness that longer term impacts of mergers and regulatory intervention cannot be identified. While our analysis below permits longer term impacts of the OFT and CC investigations into the store card industry to be estimated, the trade off is the increased risk that price (store card interest rate) changes may reflect changes other than those associated with particular events such as regulatory investigations and the associated decision announcements. Nevertheless, Ashenfelter et al. (2009) highlight a need for retrospective analysis of the impact of regulatory interventions as in the current analysis. Further, this paper offers a retrospective analysis of an industry investigation by the OFT and CC, in contrast to much of the recent literature which instead focuses on merger investigations.

3. Data and Econometric Methodology

3.1 Data

We use an unbalanced panel of monthly data on UK store card interest rates from October 1993 to February 2008. The store cards included in the data set are: Creation; Debenhams; Fortnum and Mason; House of Fraser; Ikea; Jaeger; John Lewis; Laura Ashley; Marks and Spencers; Monsoon and Selfridges. These were chosen as the longest data series were available of all store card interest rates published in MoneyFacts magazine since 1990. There are two different types of store card interest rates (Storerate): the rates when consumers pay their store card bills using direct debit (Storerate_DD) and the rates when consumers pay using other payment methods (Storerate_OR).

As the focus of the study is to find out the impact of investigations by regulatory authorities, we subject the store card interest rates to intervention analysis. In order to do so, a number of intervention dummy variables are considered. Table 1 provides summary information on these variables. Five intervention dummy variables are included in the analysis.
Various other control variables are also expected to impact the interest rates charged on store cards. The explanatory variables under consideration include the Bank of England base rate (Baserate), the 3 month UK interbank lending rate (Libor), total UK real consumer credit in £thousand millions, 1987=100 (Conscred) and the total UK unemployment claimant count in millions (Unemp). Credit cards can be argued to be a substitute form of credit for consumers. Store card interest rates may then be set, acknowledging the interest rates charged on competing credit cards. The model of competition is assumed to be a price leadership model with store card issuing companies setting prices (the interest rates) in response to those set by the leading credit card issuers. The credit card issuers are assumed to be the market leaders, reflecting the greater use of credit cards in the UK and consumers’ ability to use them much more widely. As such the regressions were run including one of four credit card interest rates. Visa and Mastercard interest rates of both the Royal Bank of Scotland (RBS-v and RBS-m) and Barclays (Barc-v and Barc-m) were collected, i.e. the largest and second largest credit card issuers in the UK respectively, measured in terms of both the value of transactions and the number of cards issued (Euromonitor UK Credit Cards Industry Report, 2008). Only one of the credit card interest rates was included in the regressions at a time, reflecting the high correlations between the four credit card interest rates collected. The credit card interest rate adopted was lagged one period as it is argued that there will be a short delay between the setting of credit card interest rates and competing store cards being able to respond. Descriptive statistics are reported in Table 2.

While there have been a large number of store cards offered in the UK, most are operated by only a much smaller number of issuing companies. These include: Creation; GECF; HSBC; Ikano; Lloyds TSB and Style. To control for the issuer’s effects, we group the store cards in our data set into four; namely those provided by Creation; GECF; HSBC and then other issuing companies. Dummy variables G1–G3 are used in the analysis to control for the issuing company associated with each store card in the dataset.

| Dummy Variable | Dates with dummy = 1 | Related Events |
|----------------|----------------------|----------------|
| D1             | 10/2003 – 3/2004     | OFT begins investigation |
| D2             | 4/2004 – 9/2005      | OFT refers case to CC |
| D3             | 10/2005 – 12/2005    | CC Remedies Consultation Notice issued |
| D4             | 1/2006 – 3/2006      | CC Provisional Decisions |
| D5             | 4/2006 – 2/2008      | CC Report published |

In addition, monthly dummy variables were considered in the analysis.
Table 2. Descriptive statistics and correlation matrix

|                  | Storerate_DD | Storerate_OR | Baserate | Libor | Conscred | Unemp | RBS-v | RBS-m | Barc-v | Barc-m |
|------------------|--------------|--------------|----------|-------|----------|-------|-------|-------|--------|--------|
| **Mean**         | 24.8         | 25.8         | 5.7      | 5.8   | 7.5      | 1.5   | 20.0  | 17.6  | 20.3   | 20.2   |
| **Median**       | 26.8         | 28.9         | 5.5      | 5.8   | 8.0      | 1.2   | 17.9  | 16.9  | 19.9   | 19.9   |
| **Maximum**      | 30.6         | 34.4         | 10.4     | 10.8  | 10.6     | 3.1   | 26.8  | 26.8  | 28.5   | 28.5   |
| **Minimum**      | 12.9         | 12.9         | 3.5      | 3.4   | 3.6      | 0.8   | 12.9  | 12.9  | 11.9   | 11.9   |
| **Std. Dev.**    | 4.96         | 5.92         | 1.50     | 1.56  | 1.89     | 0.74  | 3.46  | 3.28  | 3.40   | 3.34   |

| Unit root tests | Panel unit root test | Phillips-Perron test |
|-----------------|----------------------|----------------------|
| Level           | 11.27 [0.94]         | 19.04 [0.64]         |
| First-difference| 297.27 [0.00]        | 385.74 [0.00]        |
| Integrated of Order | I(1)  | I(1)  | I(0)  | I(0)  | I(1)  | I(1)  | I(1)  | I(1)  | I(1)  |

| Correlation Matrix |
|--------------------|
| Storerate_OR       | 0.98     | 1       |
| Baserate           | 0.22     | 0.19    | 1      |
| Libor              | 0.20     | 0.18    | 0.99   | 1      |
| Conscred           | −0.19    | −0.11   | −0.64  | −0.62  | 1      |
| Unemp              | 0.22     | 0.17    | 0.58   | 0.58   | −0.94  | 1      |
| RBS-v              | 0.28     | 0.23    | 0.77   | 0.75   | −0.82  | 0.85   | 1      |
| RBS-m              | 0.09     | 0.16    | 0.49   | 0.48   | 0.00   | 0.46   | 0.42   | 1      |
| Barc-v             | 0.26     | 0.22    | 0.79   | 0.77   | −0.76  | 0.77   | 0.90   | 0.46   | 1      |
| Barc-m             | 0.26     | 0.21    | 0.79   | 0.78   | −0.74  | 0.74   | 0.88   | 0.42   | 1      |

Notes: The figures in squared brackets are p-values. Storerate_DD = the direct debit rates for store cards; Storerate_OR = the other rates than direct debit rates for store cards; Baserate = the base rate of Bank of England; Libor = the 3-month UK inter-bank lending rates; Conscred = consumer credit; Unemp = unemployment rate; RBS-v and RBS-m = visa credit card rate and master credit card rate used by the Royal Bank of Scotland respectively; Barc-v and Barc-m = visa credit card rate and master credit card rate used by Barclays respectively.
3.2 Econometric Methodology

In order to examine the impact of these intervention dummies on store card interest rates, we specify a panel data econometric equation. The store card interest rates for an individual firm \( i \) at time \( t \) can be expressed as follows:

\[
y_{it} = D'_{it} \beta + x_{it}' \gamma + \mu_i + \epsilon_{it}
\]

where \( \beta \) and \( \gamma \) are vectors of coefficients. \( D_{it} \) is a set of dummy variables to capture the impact of investigations. \( x \) is a vector of control variables affecting store card interest rates. The dependent variable, store card interest rates, is arguably truncated, typically being between the Bank of England base rate and 100%. Consequently, Ordinary Least Squares estimation methods may be unsuitable, with the conditional mean placing inappropriate restrictions on the residuals, resulting in biased and inconsistent coefficient estimates. Hence, we first apply the two-limit Tobit model. This model is also appropriate as we only have a sample of store card interest rates. Store cards for inclusion were selected on the basis of the length of data available for each store card. The use of the Tobit model is justified if there is any doubt regarding the representativeness of the sample.

The data collected are of a panel nature based on individual store cards. We employ a fixed effects model to explore the cross-sectional variation between different store cards. \( \epsilon \) is the error term which is assumed to follow a normal distribution with zero mean and variance \( \sigma^2_{\epsilon} \). However, as pointed out by Arabmazer and Schmidt (1982), Tobit estimators are not consistent in the presence of heteroscedasticity and/or non-normality. A likelihood ratio test and Pagan and Vella (1989)’s conditional moment tests hence are used to detect whether errors are homoscedastic or follow a normal distribution, respectively.

Before presenting the empirical results, it is in order to mention two technical notes regarding the estimation of the model and the use of variables. Firstly, as part of the data analysis the order of integration of variables is examined in order to avoid possible spurious regression problems. For the macro variables and credit card interest rates, because they are time-series data, the Phillips-Perron unit root test is used. Given the short data span and the limited data variability of the store card interest rates, the panel unit root tests advocated by Maddala and Wu (MW) (1999) are employed for these data. Panel unit root tests provide additional power by combining the cross-section and time series data allowing for the heterogeneity across cross-sections. MW panel data unit-root tests confirmed that the store card interest rate series were I(1) (see Table 2). Table 2 also reports the results of the time series Phillips-Perron unit root tests which indicate a mix of I(1) and I(0) variables. Given this, panel cointegration tests are then performed for each set of time-series and panel data variables in the regression. It is possible for the variables to be integrated of different orders and still to be cointegrated (Charemza and Deadman, 1997: 126).

Pedroni (1999, 2004) employs two sets of tests for cointegration: one set is based on the within dimension approach (i.e. panel cointegration statistics) and the other is based on the between dimension approach (i.e. group mean panel cointegration statistics). The within-dimension-based statistics takes into account common time factors and heterogeneity across store cards. The between-dimension-based statistics are based on averages of the individual autoregressive coefficients associated with the unit root tests of the residuals for each store card.
in the panel. In other words, between-dimension-based statistics are just the group mean approach extensions of the within-dimension-based ones. In this study, we use both the panel $\rho$-statistic (a within-dimension-based statistic) which is an extension of the non-parametric Phillips-Perron $\rho$-statistic, and the group $\rho$-statistic (a between-dimension-based statistic). Gutierrez (2002) has found out that group $\rho$-statistic has the best power among the test statistics of Pedroni (1999), Larsson et al. (2001) and Kao (1999).

4. Results

4.1 Results Discussion

Table 3 reports the results when direct debit interest rates of store cards are used as the dependent variable and the Royal Bank of Scotland Visa rate is used to measure the credit card interest rate. Specification (I) is the result for the panel data Tobit model.

Before proceeding to the estimated results, we first examine the panel cointegration test results. As panel and group $\rho$-statistics are all statistically significant at the 1% level, the null hypothesis of no cointegration can be rejected. Having established that the variables of a time series nature are cointegrated, we proceed to estimate all variables in levels.

As argued above, Tobit regressions are not robust to departures from homoskedasticity and normality. Statistical tests are therefore examined. As none of the likelihood ratio test statistics are statistically significant, this indicates that the claim that errors are heteroscedastic can be rejected. This result was expected as firms are grouped by issuing companies. However, the Pagan and Vella statistic strongly rejects the normality claim for the errors. Therefore, different distributions are considered including Weibull, Logistic, Inverse Gauss and Gamma distributions. Nevertheless, these models provide similar estimation results to the Tobit model.

Turning to the explanatory variables, results in Table 3 indicate that, store card interest rates are partly determined by macroeconomic factors, with the coefficients on each of these explanatory variables having the expected signs. A very robust result is that the Bank of England base rate and the numbers of unemployed have significant impacts on store card interest rates, but that the amount of consumer credit in the economy does not. In addition, lagged credit card interest rates impact significantly upon store card rates, regardless of the measure used. The CC final report into the UK store card industry concludes that

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credit cards did not provide competitive constraints on store card APRs sufficient for us to consider them to be in the same market.

(Competition Commission Store cards market investigation, Final Report, 2006: 81)

However, the statistical analysis above indicates that store card interest rates are positively and significantly related to credit card interest rates. This challenges the CC’s conclusion that store cards and credit cards can be considered as distinct markets, instead potentially supporting the evidence provided to the CC by both UK stores operating store cards, and the store card issuing companies.
Crucially, the coefficients associated with the intervention dummy variables D2, D3, D4 and D5 are all negative, and significantly different from zero. This implies that store card interest rates fell in response to key stages of the regulatory investigation and intervention by the OFT and the CC, and even before the final report was published. Interestingly, the coefficient on D1 is not

### Table 3. Intervention analysis: panel data models

| Explanatory variables | Tobit   | Weibull | Logistic | Inverse Gauss | Gamma  |
|-----------------------|---------|---------|----------|---------------|--------|
| D1                    | −0.316  | −0.345  | −0.290   | −0.398        | −0.312 |
|                       | (0.336) | (0.464) | (0.384)  | (0.467)       | (0.531) |
| D2                    | −1.637***| −2.371***| −1.009***| −1.829***     | −1.702***|
|                       | (0.223) | (0.281) | (0.245)  | (0.249)       | (0.369) |
| D3                    | −2.911***| −4.434***| −1.653***| −3.615***     | −3.058***|
|                       | (0.446) | (0.328) | (0.378)  | (0.320)       | (0.402) |
| D4                    | −3.496***| −4.979***| −2.154***| −4.240***     | −3.696***|
|                       | (0.459) | (0.368) | (0.343)  | (0.333)       | (0.389) |
| D5                    | −3.827***| −5.341***| −2.577***| −4.759***     | −4.032***|
|                       | (0.225) | (0.249) | (0.209)  | (0.229)       | (0.274) |
| Baserate              | 0.236** | 0.189   | 0.226**  | 0.191*        | 0.237* |
|                       | (0.111) | (0.120) | (0.107)  | (0.116)       | (0.138) |
| Conscred              | 0.039   | 0.096   | −0.005   | 0.114         | 0.039  |
|                       | (0.139) | (0.142) | (0.134)  | (0.142)       | (0.168) |
| Unemp                 | −1.298***| −1.318***| −1.295***| −1.199***     | −1.298***|
|                       | (0.372) | (0.402) | (0.357)  | (0.383)       | (0.475) |
| Lagged RBS-v          | 0.207***| 0.244***| 0.172*** | 0.168***      | 0.212***|
|                       | (0.049) | (0.051) | (0.042)  | (0.046)       | (0.054) |
| G1                    | 4.230***| 7.738***| 2.108*** | 4.306***      | 4.460***|
|                       | (0.265) | (0.276) | (0.289)  | (0.238)       | (0.320) |
| G2                    | 3.684***| 7.323***| 2.293*** | 4.324***      | 3.930***|
|                       | (0.275) | (0.265) | (0.263)  | (0.221)       | (0.301) |
| G3                    | −8.746***| −5.124***| −10.759***| −8.537***     | −8.504***|
|                       | (0.301) | (0.349) | (0.303)  | (0.671)       | (0.411) |
| Sigma                 | 2.436***| 0.229***| 0.122*** | 0.780***      | 2.787  |
|                       | (0.041) | (0.006) | (0.003)  | (0.028)       | (2.783) |
| Theta                 |         |         |         |               | 113.606 |
|                       |         |         |         |               | (229.970) |
| Firm fixed effects    | included| included| included| included      | included |
| Model fitness test statistic | 2515.95*** | 2931.30*** | 2703.56*** | 2710.58*** | 2486.28*** |
| Joint test of the regulatory dummies | 328.929*** | 483.372*** | 177.288*** | 28.009*** | 337.909*** |

Notes: Standard errors in parentheses. ***, ** and * indicates significance at the 1%, 5% and 10% levels respectively. Variable definitions as in Table 2. Fixed effects not reported for the sake of brevity.
significantly different from zero, indicating that the start of the OFT investigation did not affect store card interest rates, although the decision to refer the investigation to the CC for more detailed analysis did have a significant, negative impact on store card interest rates. Further, the coefficients on D3, D4 and D5 indicate an increasing impact of the regulatory intervention. This indicates interest rates fell immediately after the CC issued the remedies consultation notice, then they fell again during each stage of the CC’s provisional decisions being made and the CC’s final report publication. Towards the end of the OFT and CC investigations into the store card industry, the impact of this regulatory intervention has been to reduce store card interest rates by approximately 4%, as indicated by the magnitude of the negative coefficients on the intervention dummy variables.

The coefficients on the group dummy variables indicate that there are significant differences in the interest rates set on store cards issued by different issuing companies. GECF is identified in the CC ‘Store cards market investigation’ final report as controlling a ‘substantial part of the market’, and as expected, the store cards issued by this company are significantly higher.

4.2 Robustness of Results

A number of changes to the methodology adopted were introduced to test further the robustness of the results discussed above.5

- The analysis was repeated including monthly dummy variables. However, the coefficients on these additional explanatory variables were never significantly different from zero, while their presence had little impact on the results reported above, so they were not included in the final regression analysis.
- The results reported use data on the interest rates that the store cards charge customers who settle their accounts by direct debit. Data was also collected on store card interest rates for customers who do not pay using direct debit. These ‘other’ interest rates are a little different, and the use of these data do not affect any of the results reported above.
- The estimations were repeated, each time using another credit card interest rate, namely RBS’s Mastercard and the Visa and Mastercards issued by Barclays. Again, the results of using these ‘other’ rates are qualitatively similar to those of using RBS’s Visa rates.
- Given the state of flux in financial markets in many countries including the UK since the summer of 2007, it is suggested that the Bank of England base rate has not always since this time represented an accurate reflection of the cost to financial firms of obtaining credit themselves. As such, the analysis was repeated using the three month UK interbank lending rate (Libor) in place of the Bank of England base rate, but again there was little change to the results reported.
- Econometric estimation was repeated using the current, rather than lagged, credit card interest rates (each of the RBS and Barclaycard Visa and Mastercard rates) as the impact of changes in credit card interest rates on store card interest rates would be assumed to be very rapid under the efficient markets hypothesis. Again, there was little change to the results. Similarly, the analysis was repeated using Bank of England base rate values lagged by one period with the results little changed.
5. Conclusions

The late Professor Paul Geroski, former Chairman of the Competition Commission, in his address inaugurating the new Centre for Competition Policy (CCP) at the University of East Anglia, asked ‘Is Competition Policy worth it?’ and when discussing the store card industry he was only able to offer some anecdotal evidence to confirm the impact of the regulatory intervention in the UK store card industry in the early 2000s by the Office of Fair Trading, and then The Competition Commission (Geroski, 2004). This paper uses panel data Tobit regression methods, coupled with intervention analysis to evaluate empirically the impact of intervention. Results indicate that regulatory intervention has had a significant negative effect on store card interest rates, with an increasing impact during the period of the CC’s intervention. Other factors are also identified as having significant effects on store card interest rates. One such factor is credit card interest rates, but in so doing the CC’s conclusion of the separability of the UK store card and credit card markets is called into question.

It is interesting to note the impact on the store card industry of the final CC industry recommendations. The final CC report included the recommendation that greater prominence is given both in stores and on monthly statements to the interest rates charged on store cards. This, coupled with increased media attention to store card interest rates has given rise to a considerable shrinking in the store card market. While in 2002 there were 139.8 million transactions undertaken in the UK using store cards, with a value of £5,113.0 million, these figures have fallen in every year since, and in 2007 there were only 61.1 million store card transactions undertaken with a value of £3,029.4 million (Euromonitor, 2008). The store card market can be compared with the credit card market which has enjoyed a growth in the number of credit card transactions in the UK from 1,647.2 million in 2002 to 1,837.9 million in 2007, with the value of transactions increasing during this time from £96,353.0 million to £114,856.5 million (Euromonitor UK Credit Card Industry Report, 2008). This change in consumers’ use of credit and store cards in the UK reflects not just a greater unwillingness on the part of consumers to use store cards, but in the final CC report on the store card market, substantial evidence is offered that indicates that numerous stores themselves have moved away from offering store cards in favour of offering credit card provision. Hence, the impact of the CC investigation and final recommendations extends beyond the significant negative impact on store card interest rates that the analysis in this paper has identified of approximately 4%.

Notes

1. This will not be the focus of the current paper.
2. See Appendix 1 for details.
3. Excluding special offer interest rates.
4. Results are not reported for the sake of brevity but available on request.
5. All of the results mentioned below are available on request.

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Appendix 1: Details of the Store Card Interest Rate Data

| Firm                | Direct Debit Rates | Other Rates |
|---------------------|--------------------|-------------|
|                     | Number of observations | Mean (%) | Standard deviation | Minimum (%) | Maximum (%) | Number of observations | Mean (%) | Standard deviation | Minimum (%) | Maximum (%) |
| Creation            | 179                | 27.29       | 1.12          | 24.9         | 29.8        | 179                | 30.37     | 1.19            | 26.9         | 32.9         |
| Debenhams           | 207                | 26.79       | 3.65          | 18.9         | 34.4        | 207                | 28.96     | 4.40            | 18.9         | 36.8         |
| Fortnum & Mason     | 115                | 15.43       | 0.42          | 15.3         | 16.8        | 172                | 15.88     | 0.73            | 15.3         | 16.8         |
| House of Fraser     | 154                | 27.87       | 1.61          | 19.9         | 29.9        | 207                | 29.86     | 2.09            | 19.9         | 34.4         |
| Ikea                | 163                | 23.03       | 6.10          | 12.9         | 26.8        | 163                | 24.15     | 6.85            | 12.9         | 29           |
| Jaeger              | 167                | 27.13       | 1.48          | 24.9         | 29.8        | 167                | 27.95     | 1.56            | 24.9         | 29.8         |
| John Lewis          | 112                | 15.02       | 2.25          | 13           | 18          | 179                | 16.93     | 3.41            | 13           | 23.8         |
| Laura Ashley        | 207                | 28.19       | 2.51          | 19.9         | 34.4        | 207                | 30.65     | 3.05            | 19.9         | 37.6         |
| Marks & Spencer     | 154                | 26.73       | 3.82          | 18.9         | 29.8        | 154                | 28.51     | 4.67            | 18.9         | 31.8         |
| Monsoon             | 207                | 22.44       | 3.30          | 18.9         | 29.8        | 207                | 23.55     | 4.36            | 18.9         | 34.4         |
| Selfridges          | 207                | 26.46       | 1.83          | 21.8         | 27.7        | 207                | 27.58     | 1.48            | 24.9         | 32.9         |